TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Canton
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Tel: (330)497-9396

TestAmerica Job ID: 240-91483-1
Client Project/Site: Ford LTP Livonia MI - E203728

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

Attn: Kristoffer Hinskey

Denise Pohl

Authorized for release by:
2/26/2018 5:19:50 PM

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

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

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Qualifiers

GC/MS VOA

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)

Job ID: 240-91483-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-91483-1

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

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

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

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

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

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

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

RECEIPT

The samples were received on 2/14/2018 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.5º C and 2.9º C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-66_021218 (240-91483-1), DUP-01_021218 (240-91483-2), MW-70_021218 (240-91483-3), MW-45_021218 (240-91483-4), MW-9_021218 (240-91483-5), MW-14_021218 (240-91483-6), MW-20_021218 (240-91483-7), MW-48_021218 (240-91483-8), TRIP BLANK SH (240-91483-9), MW-21_021318 (240-91483-10), MW-49_021318 (240-91483-11), MW-25_021318 (240-91483-12), MW-30_021318 (240-91483-13), MW-41_021318 (240-91483-14) and DUP-02_021318 (240-91483-15) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/19/2018 and 02/20/2018.

1,2-Dibromoethane, 2-Butanone (MEK), Dibromochloromethane and Diethyl ether failed the recovery criteria high for LCS 240-315290/4. Methyl acetate failed the recovery criteria low for LCS 240-315439/4. Refer to the QC report for details.

Methyl tert-butyl ether failed the recovery criteria low for the MS of sample 240-91479-3 in batch 240-315290. 1,1,2-Trichloro-1,2,2-trifluoroethane, Bromomethane, Dichlorodifluoromethane and Trichlorofluoromethane failed the recovery criteria high. 1,1,2-Trichloro-1,2,2-trifluoroethane, Bromomethane and Diethyl ether failed the recovery criteria high for the MSD of sample

Job ID: 240-91483-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

240-91479-3 in batch 240-315290. 2-Hexanone exceeded the RPD limit. Several analytes exceeded the RPD limit for the MSD of sample MW-21_021318MSD (240-91483-10) in batch 240-315439. Refer to the QC report for details.

Samples MW-70_021218 (240-91483-3)[13.33X], MW-45_021218 (240-91483-4)[100X], MW-21_021318 (240-91483-10)[1000X] and MW-49_021318 (240-91483-11)[1666.67X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 240-315290 recovered outside control limits for multiple analytes: These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

MW-66_021218 (240-91483-1), DUP-01_021218 (240-91483-2), MW-70_021218 (240-91483-3), MW-45_021218 (240-91483-4), MW-9_021218 (240-91483-5), MW-14_021218 (240-91483-6), MW-20_021218 (240-91483-7), MW-48_021218 (240-91483-8), TRIP BLANK SH (240-91483-9), MW-49_021318 (240-91483-11), MW-25_021318 (240-91483-12), MW-30_021318 (240-91483-13), MW-41_021318 (240-91483-14), DUP-02_021318 (240-91483-15) and (LCS 240-315290/4)

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 240-315439 recovered outside control limits for the following analyte(s): Methyl acetate. Methyl acetate has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.
MW-21_021318 (240-91483-10) and (LCS 240-315439/4)

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

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-66_021218 (240-91483-1), DUP-01_021218 (240-91483-2), MW-70_021218 (240-91483-3), MW-45_021218 (240-91483-4), MW-9_021218 (240-91483-5), MW-14_021218 (240-91483-6), MW-20_021218 (240-91483-7), MW-48_021218 (240-91483-8), MW-21_021318 (240-91483-10), MW-49_021318 (240-91483-11), MW-25_021318 (240-91483-12), MW-30_021318 (240-91483-13), MW-41_021318 (240-91483-14) and DUP-02_021318 (240-91483-15) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 02/19/2018 and 02/21/2018.

Method(s) 8260B SIM: The pH is greater than 2 for the following samples: (240-91428-C-6 MSD)

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

Method Summary

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

TestAmerica Job ID: 240-91483-1

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

Protocol References:

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

Laboratory References:

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

Sample Summary

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

TestAmerica Job ID: 240-91483-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-91483-1	MW-66_021218	Water	02/12/18 18:35	02/14/18 09:00
240-91483-2	DUP-01_021218	Water	02/12/18 00:00	02/14/18 09:00
240-91483-3	MW-70_021218	Water	02/12/18 10:35	02/14/18 09:00
240-91483-4	MW-45_021218	Water	02/12/18 12:34	02/14/18 09:00
240-91483-5	MW-9_021218	Water	02/12/18 14:16	02/14/18 09:00
240-91483-6	MW-14_021218	Water	02/12/18 15:50	02/14/18 09:00
240-91483-7	MW-20_021218	Water	02/12/18 17:36	02/14/18 09:00
240-91483-8	MW-48_021218	Water	02/12/18 09:17	02/14/18 09:00
240-91483-9	TRIP BLANK SH	Water	02/13/18 00:00	02/14/18 09:00
240-91483-10	MW-21_021318	Water	02/13/18 11:11	02/14/18 09:00
240-91483-11	MW-49_021318	Water	02/13/18 12:35	02/14/18 09:00
240-91483-12	MW-25_021318	Water	02/13/18 13:05	02/14/18 09:00
240-91483-13	MW-30_021318	Water	02/13/18 14:26	02/14/18 09:00
240-91483-14	MW-41_021318	Water	02/13/18 14:10	02/14/18 09:00
240-91483-15	DUP-02_021318	Water	02/13/18 00:00	02/14/18 09:00

Detection Summary

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-66_021218 — Lab Sample ID: 240-91483-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.3	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	2.7		1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: DUP-01_021218 — Lab Sample ID: 240-91483-2

No Detections.

Client Sample ID: MW-70_021218 — Lab Sample ID: 240-91483-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.91	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	230		13	4.0	ug/L	13.33		8260B	Total/NA
trans-1,2-Dichloroethene	4.4	J	13	3.9	ug/L	13.33		8260B	Total/NA
Vinyl chloride	160		13	6.0	ug/L	13.33		8260B	Total/NA

Client Sample ID: MW-45_021218 — Lab Sample ID: 240-91483-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1800		100	30	ug/L	100		8260B	Total/NA
Vinyl chloride	1200		100	45	ug/L	100		8260B	Total/NA

Client Sample ID: MW-9_021218 — Lab Sample ID: 240-91483-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	12		2.0	0.24	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	4.6		1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: MW-14_021218 — Lab Sample ID: 240-91483-6

No Detections.

Client Sample ID: MW-20_021218 — Lab Sample ID: 240-91483-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	2.2	J	10	1.8	ug/L	1		8260B	Total/NA
4-Methyl-2-pentanone (MIBK)	0.81	J	10	0.71	ug/L	1		8260B	Total/NA

Client Sample ID: MW-48_021218 — Lab Sample ID: 240-91483-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	7.7		2.0	0.24	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	3.8		1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: TRIP BLANK SH — Lab Sample ID: 240-91483-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	4.1	J	10	1.8	ug/L	1		8260B	Total/NA

Client Sample ID: MW-21_021318 — Lab Sample ID: 240-91483-10

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-21_021318 (Continued) — Lab Sample ID: 240-91483-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	25		2.0	0.24	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	20000		1000	300	ug/L	1000		8260B	Total/NA
Trichloroethene	460	J F2	1000	330	ug/L	1000		8260B	Total/NA
Vinyl chloride	5400		1000	450	ug/L	1000		8260B	Total/NA

Client Sample ID: MW-49_021318 — Lab Sample ID: 240-91483-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	7.0		2.0	0.24	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	20000		1700	500	ug/L	1666.67		8260B	Total/NA
Vinyl chloride	8400		1700	750	ug/L	1666.67		8260B	Total/NA

Client Sample ID: MW-25_021318 — Lab Sample ID: 240-91483-12

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

Client Sample ID: MW-30_021318 — Lab Sample ID: 240-91483-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	12		2.0	0.24	ug/L	1		8260B SIM	Total/NA

Client Sample ID: MW-41_021318 — Lab Sample ID: 240-91483-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.77	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	2.1		1.0	0.30	ug/L	1		8260B	Total/NA
Vinyl chloride	2.1		1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: DUP-02_021318 — Lab Sample ID: 240-91483-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	9.4		2.0	0.24	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	3.4		1.0	0.45	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-66_021218
Date Collected: 02/12/18 18:35
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.3	J	2.0	0.24	ug/L			02/19/18 20:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*63 - 125*		*02/19/18 20:56*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/19/18 16:56	1
Benzene	1.0	U	1.0	0.28	ug/L			02/19/18 16:56	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/19/18 16:56	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/19/18 16:56	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/19/18 16:56	1
2-Butanone (MEK)	10	U *	10	1.0	ug/L			02/19/18 16:56	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/19/18 16:56	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/19/18 16:56	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 16:56	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/19/18 16:56	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/19/18 16:56	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/19/18 16:56	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 16:56	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/19/18 16:56	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/19/18 16:56	1
Dibromochloromethane	1.0	U *	1.0	0.25	ug/L			02/19/18 16:56	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/19/18 16:56	1
1,2-Dibromoethane	1.0	U *	1.0	0.23	ug/L			02/19/18 16:56	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/19/18 16:56	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 16:56	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/19/18 16:56	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 16:56	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/19/18 16:56	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/19/18 16:56	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/19/18 16:56	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/19/18 16:56	1
Diethyl ether	2.0	U *	2.0	0.35	ug/L			02/19/18 16:56	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/19/18 16:56	1
2-Hexanone	10	U	10	1.2	ug/L			02/19/18 16:56	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/19/18 16:56	1
Methyl acetate	10	U	10	1.4	ug/L			02/19/18 16:56	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/19/18 16:56	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/19/18 16:56	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/19/18 16:56	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/19/18 16:56	1
Styrene	1.0	U	1.0	0.23	ug/L			02/19/18 16:56	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/19/18 16:56	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 16:56	1
Toluene	1.0	U	1.0	0.23	ug/L			02/19/18 16:56	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/19/18 16:56	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/19/18 16:56	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/19/18 16:56	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/19/18 16:56	1

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-66_021218
Date Collected: 02/12/18 18:35
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/19/18 16:56	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/19/18 16:56	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 16:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/19/18 16:56	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/19/18 16:56	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 16:56	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 16:56	1
Vinyl chloride	**2.7**		1.0	0.45	ug/L			02/19/18 16:56	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/19/18 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*69 - 120*		*02/19/18 16:56*	*1*
Dibromofluoromethane (Surr)	*102*		*69 - 124*		*02/19/18 16:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*61 - 138*		*02/19/18 16:56*	*1*
Toluene-d8 (Surr)	*78*		*73 - 120*		*02/19/18 16:56*	*1*

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: DUP-01_021218
Date Collected: 02/12/18 00:00
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			02/21/18 16:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*63 - 125*		*02/21/18 16:58*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/19/18 17:19	1
Benzene	1.0	U	1.0	0.28	ug/L			02/19/18 17:19	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/19/18 17:19	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/19/18 17:19	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/19/18 17:19	1
2-Butanone (MEK)	10	U *	10	1.0	ug/L			02/19/18 17:19	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/19/18 17:19	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/19/18 17:19	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 17:19	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/19/18 17:19	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/19/18 17:19	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/19/18 17:19	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 17:19	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/19/18 17:19	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/19/18 17:19	1
Dibromochloromethane	1.0	U *	1.0	0.25	ug/L			02/19/18 17:19	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/19/18 17:19	1
1,2-Dibromoethane	1.0	U *	1.0	0.23	ug/L			02/19/18 17:19	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/19/18 17:19	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 17:19	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/19/18 17:19	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 17:19	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/19/18 17:19	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/19/18 17:19	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/19/18 17:19	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/19/18 17:19	1
Diethyl ether	2.0	U *	2.0	0.35	ug/L			02/19/18 17:19	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/19/18 17:19	1
2-Hexanone	10	U	10	1.2	ug/L			02/19/18 17:19	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/19/18 17:19	1
Methyl acetate	10	U	10	1.4	ug/L			02/19/18 17:19	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/19/18 17:19	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/19/18 17:19	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/19/18 17:19	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/19/18 17:19	1
Styrene	1.0	U	1.0	0.23	ug/L			02/19/18 17:19	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/19/18 17:19	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 17:19	1
Toluene	1.0	U	1.0	0.23	ug/L			02/19/18 17:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/19/18 17:19	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/19/18 17:19	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/19/18 17:19	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/19/18 17:19	1

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: DUP-01_021218
Date Collected: 02/12/18 00:00
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/19/18 17:19	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/19/18 17:19	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 17:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/19/18 17:19	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/19/18 17:19	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 17:19	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 17:19	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/19/18 17:19	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/19/18 17:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*69 - 120*		*02/19/18 17:19*	*1*
Dibromofluoromethane (Surr)	*104*		*69 - 124*		*02/19/18 17:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*61 - 138*		*02/19/18 17:19*	*1*
Toluene-d8 (Surr)	*80*		*73 - 120*		*02/19/18 17:19*	*1*

Client Sample ID: MW-70_021218
Date Collected: 02/12/18 10:35
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.91**	**J**	2.0	0.24	ug/L			02/21/18 17:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*63 - 125*		*02/21/18 17:24*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	130	U	130	23	ug/L			02/19/18 17:42	13.33
Benzene	13	U	13	3.7	ug/L			02/19/18 17:42	13.33
Bromodichloromethane	13	U	13	4.0	ug/L			02/19/18 17:42	13.33
Bromoform	13	U	13	5.7	ug/L			02/19/18 17:42	13.33
Bromomethane	13	U	13	5.6	ug/L			02/19/18 17:42	13.33
2-Butanone (MEK)	130	U *	130	14	ug/L			02/19/18 17:42	13.33
Carbon disulfide	67	U	67	4.5	ug/L			02/19/18 17:42	13.33
Carbon tetrachloride	13	U	13	4.7	ug/L			02/19/18 17:42	13.33
Chlorobenzene	13	U	13	4.3	ug/L			02/19/18 17:42	13.33
Chloroethane	13	U	13	5.5	ug/L			02/19/18 17:42	13.33
Chloroform	13	U	13	4.1	ug/L			02/19/18 17:42	13.33
Chloromethane	13	U	13	5.7	ug/L			02/19/18 17:42	13.33
cis-1,2-Dichloroethene	**230**		13	4.0	ug/L			02/19/18 17:42	13.33
cis-1,3-Dichloropropene	13	U	13	3.5	ug/L			02/19/18 17:42	13.33
Cyclohexane	13	U	13	5.9	ug/L			02/19/18 17:42	13.33
Dibromochloromethane	13	U *	13	3.3	ug/L			02/19/18 17:42	13.33
1,2-Dibromo-3-Chloropropane	13	U	13	6.3	ug/L			02/19/18 17:42	13.33
1,2-Dibromoethane	13	U *	13	3.1	ug/L			02/19/18 17:42	13.33
1,2-Dichlorobenzene	13	U	13	3.5	ug/L			02/19/18 17:42	13.33
1,3-Dichlorobenzene	13	U	13	4.3	ug/L			02/19/18 17:42	13.33
1,4-Dichlorobenzene	13	U	13	3.1	ug/L			02/19/18 17:42	13.33
Dichlorodifluoromethane	13	U	13	6.7	ug/L			02/19/18 17:42	13.33
1,1-Dichloroethane	13	U	13	3.3	ug/L			02/19/18 17:42	13.33
1,2-Dichloroethane	13	U	13	4.0	ug/L			02/19/18 17:42	13.33
1,1-Dichloroethene	13	U	13	3.6	ug/L			02/19/18 17:42	13.33
1,2-Dichloropropane	13	U	13	4.0	ug/L			02/19/18 17:42	13.33
Diethyl ether	27	U *	27	4.7	ug/L			02/19/18 17:42	13.33
Ethylbenzene	13	U	13	3.5	ug/L			02/19/18 17:42	13.33
2-Hexanone	130	U	130	16	ug/L			02/19/18 17:42	13.33
Isopropylbenzene	13	U	13	2.8	ug/L			02/19/18 17:42	13.33
Methyl acetate	130	U	130	19	ug/L			02/19/18 17:42	13.33
Methylcyclohexane	13	U	13	6.0	ug/L			02/19/18 17:42	13.33
Methylene Chloride	67	U	67	7.1	ug/L			02/19/18 17:42	13.33
4-Methyl-2-pentanone (MIBK)	130	U	130	9.5	ug/L			02/19/18 17:42	13.33
Methyl tert-butyl ether	13	U	13	3.6	ug/L			02/19/18 17:42	13.33
Styrene	13	U	13	3.1	ug/L			02/19/18 17:42	13.33
1,1,2,2-Tetrachloroethane	13	U	13	4.3	ug/L			02/19/18 17:42	13.33
Tetrachloroethene	13	U	13	4.0	ug/L			02/19/18 17:42	13.33
Toluene	13	U	13	3.1	ug/L			02/19/18 17:42	13.33
trans-1,2-Dichloroethene	**4.4**	**J**	13	3.9	ug/L			02/19/18 17:42	13.33
trans-1,3-Dichloropropene	13	U	13	4.1	ug/L			02/19/18 17:42	13.33
1,2,4-Trichlorobenzene	13	U	13	3.6	ug/L			02/19/18 17:42	13.33
1,1,1-Trichloroethane	13	U	13	3.1	ug/L			02/19/18 17:42	13.33

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-70_021218
Date Collected: 02/12/18 10:35
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	13	U	13	4.5	ug/L			02/19/18 17:42	13.33
Trichloroethene	13	U	13	4.4	ug/L			02/19/18 17:42	13.33
Trichlorofluoromethane	13	U	13	6.7	ug/L			02/19/18 17:42	13.33
1,1,2-Trichloro-1,2,2-trifluoroethane	13	U	13	5.5	ug/L			02/19/18 17:42	13.33
1,2,3-Trimethylbenzene	67	U	67	2.9	ug/L			02/19/18 17:42	13.33
1,2,4-Trimethylbenzene	13	U	13	3.2	ug/L			02/19/18 17:42	13.33
1,3,5-Trimethylbenzene	13	U	13	3.2	ug/L			02/19/18 17:42	13.33
Vinyl chloride	**160**		13	6.0	ug/L			02/19/18 17:42	13.33
Xylenes, Total	27	U	27	3.2	ug/L			02/19/18 17:42	13.33

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*69 - 120*		*02/19/18 17:42*	*13.33*
Dibromofluoromethane (Surr)	*106*		*69 - 124*		*02/19/18 17:42*	*13.33*
1,2-Dichloroethane-d4 (Surr)	*90*		*61 - 138*		*02/19/18 17:42*	*13.33*
Toluene-d8 (Surr)	*77*		*73 - 120*		*02/19/18 17:42*	*13.33*

Client Sample ID: MW-45_021218
Date Collected: 02/12/18 12:34
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			02/21/18 17:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*63 - 125*		*02/21/18 17:49*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1000	U	1000	180	ug/L			02/19/18 18:05	100
Benzene	100	U	100	28	ug/L			02/19/18 18:05	100
Bromodichloromethane	100	U	100	30	ug/L			02/19/18 18:05	100
Bromoform	100	U	100	43	ug/L			02/19/18 18:05	100
Bromomethane	100	U	100	42	ug/L			02/19/18 18:05	100
2-Butanone (MEK)	1000	U *	1000	100	ug/L			02/19/18 18:05	100
Carbon disulfide	500	U	500	34	ug/L			02/19/18 18:05	100
Carbon tetrachloride	100	U	100	35	ug/L			02/19/18 18:05	100
Chlorobenzene	100	U	100	32	ug/L			02/19/18 18:05	100
Chloroethane	100	U	100	41	ug/L			02/19/18 18:05	100
Chloroform	100	U	100	31	ug/L			02/19/18 18:05	100
Chloromethane	100	U	100	43	ug/L			02/19/18 18:05	100
cis-1,2-Dichloroethene	**1800**		100	30	ug/L			02/19/18 18:05	100
cis-1,3-Dichloropropene	100	U	100	26	ug/L			02/19/18 18:05	100
Cyclohexane	100	U	100	44	ug/L			02/19/18 18:05	100
Dibromochloromethane	100	U *	100	25	ug/L			02/19/18 18:05	100
1,2-Dibromo-3-Chloropropane	100	U	100	47	ug/L			02/19/18 18:05	100
1,2-Dibromoethane	100	U *	100	23	ug/L			02/19/18 18:05	100
1,2-Dichlorobenzene	100	U	100	26	ug/L			02/19/18 18:05	100
1,3-Dichlorobenzene	100	U	100	32	ug/L			02/19/18 18:05	100
1,4-Dichlorobenzene	100	U	100	23	ug/L			02/19/18 18:05	100
Dichlorodifluoromethane	100	U	100	50	ug/L			02/19/18 18:05	100
1,1-Dichloroethane	100	U	100	25	ug/L			02/19/18 18:05	100
1,2-Dichloroethane	100	U	100	30	ug/L			02/19/18 18:05	100
1,1-Dichloroethene	100	U	100	27	ug/L			02/19/18 18:05	100
1,2-Dichloropropane	100	U	100	30	ug/L			02/19/18 18:05	100
Diethyl ether	200	U *	200	35	ug/L			02/19/18 18:05	100
Ethylbenzene	100	U	100	26	ug/L			02/19/18 18:05	100
2-Hexanone	1000	U	1000	120	ug/L			02/19/18 18:05	100
Isopropylbenzene	100	U	100	21	ug/L			02/19/18 18:05	100
Methyl acetate	1000	U	1000	140	ug/L			02/19/18 18:05	100
Methylcyclohexane	100	U	100	45	ug/L			02/19/18 18:05	100
Methylene Chloride	500	U	500	53	ug/L			02/19/18 18:05	100
4-Methyl-2-pentanone (MIBK)	1000	U	1000	71	ug/L			02/19/18 18:05	100
Methyl tert-butyl ether	100	U	100	27	ug/L			02/19/18 18:05	100
Styrene	100	U	100	23	ug/L			02/19/18 18:05	100
1,1,2,2-Tetrachloroethane	100	U	100	32	ug/L			02/19/18 18:05	100
Tetrachloroethene	100	U	100	30	ug/L			02/19/18 18:05	100
Toluene	100	U	100	23	ug/L			02/19/18 18:05	100
trans-1,2-Dichloroethene	100	U	100	29	ug/L			02/19/18 18:05	100
trans-1,3-Dichloropropene	100	U	100	31	ug/L			02/19/18 18:05	100
1,2,4-Trichlorobenzene	100	U	100	27	ug/L			02/19/18 18:05	100
1,1,1-Trichloroethane	100	U	100	23	ug/L			02/19/18 18:05	100

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-45_021218
Date Collected: 02/12/18 12:34
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	100	U	100	34	ug/L			02/19/18 18:05	100
Trichloroethene	100	U	100	33	ug/L			02/19/18 18:05	100
Trichlorofluoromethane	100	U	100	50	ug/L			02/19/18 18:05	100
1,1,2-Trichloro-1,2,2-trifluoroethane	100	U	100	41	ug/L			02/19/18 18:05	100
1,2,3-Trimethylbenzene	500	U	500	22	ug/L			02/19/18 18:05	100
1,2,4-Trimethylbenzene	100	U	100	24	ug/L			02/19/18 18:05	100
1,3,5-Trimethylbenzene	100	U	100	24	ug/L			02/19/18 18:05	100
Vinyl chloride	**1200**		100	45	ug/L			02/19/18 18:05	100
Xylenes, Total	200	U	200	24	ug/L			02/19/18 18:05	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*69 - 120*		*02/19/18 18:05*	*100*
Dibromofluoromethane (Surr)	*105*		*69 - 124*		*02/19/18 18:05*	*100*
1,2-Dichloroethane-d4 (Surr)	*93*		*61 - 138*		*02/19/18 18:05*	*100*
Toluene-d8 (Surr)	*80*		*73 - 120*		*02/19/18 18:05*	*100*

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-9_021218
Date Collected: 02/12/18 14:16
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	12		2.0	0.24	ug/L			02/21/18 18:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*63 - 125*		*02/21/18 18:15*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/19/18 18:28	1
Benzene	1.0	U	1.0	0.28	ug/L			02/19/18 18:28	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/19/18 18:28	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/19/18 18:28	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/19/18 18:28	1
2-Butanone (MEK)	10	U *	10	1.0	ug/L			02/19/18 18:28	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/19/18 18:28	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/19/18 18:28	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 18:28	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/19/18 18:28	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/19/18 18:28	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/19/18 18:28	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 18:28	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/19/18 18:28	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/19/18 18:28	1
Dibromochloromethane	1.0	U *	1.0	0.25	ug/L			02/19/18 18:28	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/19/18 18:28	1
1,2-Dibromoethane	1.0	U *	1.0	0.23	ug/L			02/19/18 18:28	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/19/18 18:28	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 18:28	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/19/18 18:28	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 18:28	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/19/18 18:28	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/19/18 18:28	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/19/18 18:28	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/19/18 18:28	1
Diethyl ether	2.0	U *	2.0	0.35	ug/L			02/19/18 18:28	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/19/18 18:28	1
2-Hexanone	10	U	10	1.2	ug/L			02/19/18 18:28	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/19/18 18:28	1
Methyl acetate	10	U	10	1.4	ug/L			02/19/18 18:28	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/19/18 18:28	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/19/18 18:28	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/19/18 18:28	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/19/18 18:28	1
Styrene	1.0	U	1.0	0.23	ug/L			02/19/18 18:28	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/19/18 18:28	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 18:28	1
Toluene	1.0	U	1.0	0.23	ug/L			02/19/18 18:28	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/19/18 18:28	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/19/18 18:28	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/19/18 18:28	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/19/18 18:28	1

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-9_021218
Date Collected: 02/12/18 14:16
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/19/18 18:28	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/19/18 18:28	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 18:28	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/19/18 18:28	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/19/18 18:28	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 18:28	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 18:28	1
Vinyl chloride	**4.6**		1.0	0.45	ug/L			02/19/18 18:28	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/19/18 18:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*69 - 120*		*02/19/18 18:28*	*1*
Dibromofluoromethane (Surr)	*110*		*69 - 124*		*02/19/18 18:28*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*61 - 138*		*02/19/18 18:28*	*1*
Toluene-d8 (Surr)	*81*		*73 - 120*		*02/19/18 18:28*	*1*

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-14_021218
Date Collected: 02/12/18 15:50
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			02/21/18 18:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*63 - 125*		*02/21/18 18:40*	*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			02/19/18 18:51	1
Benzene	1.0	U	1.0	0.28	ug/L			02/19/18 18:51	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/19/18 18:51	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/19/18 18:51	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/19/18 18:51	1
2-Butanone (MEK)	10	U *	10	1.0	ug/L			02/19/18 18:51	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/19/18 18:51	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/19/18 18:51	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 18:51	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/19/18 18:51	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/19/18 18:51	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/19/18 18:51	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 18:51	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/19/18 18:51	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/19/18 18:51	1
Dibromochloromethane	1.0	U *	1.0	0.25	ug/L			02/19/18 18:51	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/19/18 18:51	1
1,2-Dibromoethane	1.0	U *	1.0	0.23	ug/L			02/19/18 18:51	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/19/18 18:51	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 18:51	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/19/18 18:51	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 18:51	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/19/18 18:51	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/19/18 18:51	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/19/18 18:51	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/19/18 18:51	1
Diethyl ether	2.0	U *	2.0	0.35	ug/L			02/19/18 18:51	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/19/18 18:51	1
2-Hexanone	10	U	10	1.2	ug/L			02/19/18 18:51	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/19/18 18:51	1
Methyl acetate	10	U	10	1.4	ug/L			02/19/18 18:51	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/19/18 18:51	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/19/18 18:51	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/19/18 18:51	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/19/18 18:51	1
Styrene	1.0	U	1.0	0.23	ug/L			02/19/18 18:51	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/19/18 18:51	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 18:51	1
Toluene	1.0	U	1.0	0.23	ug/L			02/19/18 18:51	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/19/18 18:51	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/19/18 18:51	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/19/18 18:51	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/19/18 18:51	1

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-14_021218
Date Collected: 02/12/18 15:50
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/19/18 18:51	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/19/18 18:51	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 18:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/19/18 18:51	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/19/18 18:51	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 18:51	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 18:51	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/19/18 18:51	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/19/18 18:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*69 - 120*		*02/19/18 18:51*	*1*
Dibromofluoromethane (Surr)	*105*		*69 - 124*		*02/19/18 18:51*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*61 - 138*		*02/19/18 18:51*	*1*
Toluene-d8 (Surr)	*77*		*73 - 120*		*02/19/18 18:51*	*1*

Client Sample ID: MW-20_021218
Date Collected: 02/12/18 17:36
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			02/21/18 19:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*63 - 125*		*02/21/18 19:06*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**2.2**	**J**	10	1.8	ug/L			02/19/18 19:14	1
Benzene	1.0	U	1.0	0.28	ug/L			02/19/18 19:14	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/19/18 19:14	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/19/18 19:14	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/19/18 19:14	1
2-Butanone (MEK)	10	U *	10	1.0	ug/L			02/19/18 19:14	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/19/18 19:14	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/19/18 19:14	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 19:14	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/19/18 19:14	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/19/18 19:14	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/19/18 19:14	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 19:14	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/19/18 19:14	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/19/18 19:14	1
Dibromochloromethane	1.0	U *	1.0	0.25	ug/L			02/19/18 19:14	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/19/18 19:14	1
1,2-Dibromoethane	1.0	U *	1.0	0.23	ug/L			02/19/18 19:14	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/19/18 19:14	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 19:14	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/19/18 19:14	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 19:14	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/19/18 19:14	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/19/18 19:14	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/19/18 19:14	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/19/18 19:14	1
Diethyl ether	2.0	U *	2.0	0.35	ug/L			02/19/18 19:14	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/19/18 19:14	1
2-Hexanone	10	U	10	1.2	ug/L			02/19/18 19:14	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/19/18 19:14	1
Methyl acetate	10	U	10	1.4	ug/L			02/19/18 19:14	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/19/18 19:14	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/19/18 19:14	1
4-Methyl-2-pentanone (MIBK)	**0.81**	**J**	10	0.71	ug/L			02/19/18 19:14	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/19/18 19:14	1
Styrene	1.0	U	1.0	0.23	ug/L			02/19/18 19:14	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/19/18 19:14	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 19:14	1
Toluene	1.0	U	1.0	0.23	ug/L			02/19/18 19:14	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/19/18 19:14	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/19/18 19:14	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/19/18 19:14	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/19/18 19:14	1

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-20_021218
Date Collected: 02/12/18 17:36
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/19/18 19:14	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/19/18 19:14	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 19:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/19/18 19:14	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/19/18 19:14	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 19:14	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 19:14	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/19/18 19:14	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/19/18 19:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*69 - 120*		*02/19/18 19:14*	*1*
Dibromofluoromethane (Surr)	*112*		*69 - 124*		*02/19/18 19:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*61 - 138*		*02/19/18 19:14*	*1*
Toluene-d8 (Surr)	*82*		*73 - 120*		*02/19/18 19:14*	*1*

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-48_021218
Date Collected: 02/12/18 09:17
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	7.7		2.0	0.24	ug/L			02/21/18 19:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*63 - 125*		*02/21/18 19:31*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/19/18 19:37	1
Benzene	1.0	U	1.0	0.28	ug/L			02/19/18 19:37	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/19/18 19:37	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/19/18 19:37	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/19/18 19:37	1
2-Butanone (MEK)	10	U *	10	1.0	ug/L			02/19/18 19:37	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/19/18 19:37	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/19/18 19:37	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 19:37	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/19/18 19:37	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/19/18 19:37	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/19/18 19:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 19:37	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/19/18 19:37	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/19/18 19:37	1
Dibromochloromethane	1.0	U *	1.0	0.25	ug/L			02/19/18 19:37	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/19/18 19:37	1
1,2-Dibromoethane	1.0	U *	1.0	0.23	ug/L			02/19/18 19:37	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/19/18 19:37	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 19:37	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/19/18 19:37	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 19:37	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/19/18 19:37	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/19/18 19:37	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/19/18 19:37	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/19/18 19:37	1
Diethyl ether	2.0	U *	2.0	0.35	ug/L			02/19/18 19:37	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/19/18 19:37	1
2-Hexanone	10	U	10	1.2	ug/L			02/19/18 19:37	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/19/18 19:37	1
Methyl acetate	10	U	10	1.4	ug/L			02/19/18 19:37	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/19/18 19:37	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/19/18 19:37	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/19/18 19:37	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/19/18 19:37	1
Styrene	1.0	U	1.0	0.23	ug/L			02/19/18 19:37	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/19/18 19:37	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 19:37	1
Toluene	1.0	U	1.0	0.23	ug/L			02/19/18 19:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/19/18 19:37	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/19/18 19:37	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/19/18 19:37	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/19/18 19:37	1

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-48_021218
Date Collected: 02/12/18 09:17
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/19/18 19:37	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/19/18 19:37	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 19:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/19/18 19:37	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/19/18 19:37	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 19:37	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 19:37	1
Vinyl chloride	**3.8**		1.0	0.45	ug/L			02/19/18 19:37	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/19/18 19:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*69 - 120*		*02/19/18 19:37*	*1*
Dibromofluoromethane (Surr)	*106*		*69 - 124*		*02/19/18 19:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*61 - 138*		*02/19/18 19:37*	*1*
Toluene-d8 (Surr)	*78*		*73 - 120*		*02/19/18 19:37*	*1*

Client Sample ID: TRIP BLANK SH
Date Collected: 02/13/18 00:00
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**4.1**	**J**	10	1.8	ug/L			02/19/18 20:00	1
Benzene	1.0	U	1.0	0.28	ug/L			02/19/18 20:00	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/19/18 20:00	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/19/18 20:00	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/19/18 20:00	1
2-Butanone (MEK)	10	U *	10	1.0	ug/L			02/19/18 20:00	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/19/18 20:00	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/19/18 20:00	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 20:00	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/19/18 20:00	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/19/18 20:00	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/19/18 20:00	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 20:00	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/19/18 20:00	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/19/18 20:00	1
Dibromochloromethane	1.0	U *	1.0	0.25	ug/L			02/19/18 20:00	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/19/18 20:00	1
1,2-Dibromoethane	1.0	U *	1.0	0.23	ug/L			02/19/18 20:00	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/19/18 20:00	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 20:00	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/19/18 20:00	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 20:00	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/19/18 20:00	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/19/18 20:00	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/19/18 20:00	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/19/18 20:00	1
Diethyl ether	2.0	U *	2.0	0.35	ug/L			02/19/18 20:00	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/19/18 20:00	1
2-Hexanone	10	U	10	1.2	ug/L			02/19/18 20:00	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/19/18 20:00	1
Methyl acetate	10	U	10	1.4	ug/L			02/19/18 20:00	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/19/18 20:00	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/19/18 20:00	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/19/18 20:00	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/19/18 20:00	1
Styrene	1.0	U	1.0	0.23	ug/L			02/19/18 20:00	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/19/18 20:00	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 20:00	1
Toluene	1.0	U	1.0	0.23	ug/L			02/19/18 20:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/19/18 20:00	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/19/18 20:00	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/19/18 20:00	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/19/18 20:00	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/19/18 20:00	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/19/18 20:00	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 20:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/19/18 20:00	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/19/18 20:00	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 20:00	1

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: TRIP BLANK SH
Date Collected: 02/13/18 00:00
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 20:00	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/19/18 20:00	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/19/18 20:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*69 - 120*		*02/19/18 20:00*	*1*
Dibromofluoromethane (Surr)	*108*		*69 - 124*		*02/19/18 20:00*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*61 - 138*		*02/19/18 20:00*	*1*
Toluene-d8 (Surr)	*79*		*73 - 120*		*02/19/18 20:00*	*1*

Client Sample ID: MW-21_021318

Date Collected: 02/13/18 11:11
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-10

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**25**		2.0	0.24	ug/L			02/21/18 19:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*81*		*63 - 125*		*02/21/18 19:56*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10000	U	10000	1800	ug/L			02/20/18 13:42	1000
Benzene	1000	U F2	1000	280	ug/L			02/20/18 13:42	1000
Bromodichloromethane	1000	U F2	1000	300	ug/L			02/20/18 13:42	1000
Bromoform	1000	U F2	1000	430	ug/L			02/20/18 13:42	1000
Bromomethane	1000	U	1000	420	ug/L			02/20/18 13:42	1000
2-Butanone (MEK)	10000	U F2	10000	1000	ug/L			02/20/18 13:42	1000
Carbon disulfide	5000	U	5000	340	ug/L			02/20/18 13:42	1000
Carbon tetrachloride	1000	U	1000	350	ug/L			02/20/18 13:42	1000
Chlorobenzene	1000	U F2	1000	320	ug/L			02/20/18 13:42	1000
Chloroethane	1000	U	1000	410	ug/L			02/20/18 13:42	1000
Chloroform	1000	U F2	1000	310	ug/L			02/20/18 13:42	1000
Chloromethane	1000	U	1000	430	ug/L			02/20/18 13:42	1000
cis-1,2-Dichloroethene	**20000**		1000	300	ug/L			02/20/18 13:42	1000
cis-1,3-Dichloropropene	1000	U F2	1000	260	ug/L			02/20/18 13:42	1000
Cyclohexane	1000	U	1000	440	ug/L			02/20/18 13:42	1000
Dibromochloromethane	1000	U F2	1000	250	ug/L			02/20/18 13:42	1000
1,2-Dibromo-3-Chloropropane	1000	U	1000	470	ug/L			02/20/18 13:42	1000
1,2-Dibromoethane	1000	U F2	1000	230	ug/L			02/20/18 13:42	1000
1,2-Dichlorobenzene	1000	U	1000	260	ug/L			02/20/18 13:42	1000
1,3-Dichlorobenzene	1000	U	1000	320	ug/L			02/20/18 13:42	1000
1,4-Dichlorobenzene	1000	U	1000	230	ug/L			02/20/18 13:42	1000
Dichlorodifluoromethane	1000	U	1000	500	ug/L			02/20/18 13:42	1000
1,1-Dichloroethane	1000	U F2	1000	250	ug/L			02/20/18 13:42	1000
1,2-Dichloroethane	1000	U F2	1000	300	ug/L			02/20/18 13:42	1000
1,1-Dichloroethene	1000	U	1000	270	ug/L			02/20/18 13:42	1000
1,2-Dichloropropane	1000	U F2	1000	300	ug/L			02/20/18 13:42	1000
Diethyl ether	2000	U F2	2000	350	ug/L			02/20/18 13:42	1000
Ethylbenzene	1000	U F2	1000	260	ug/L			02/20/18 13:42	1000
2-Hexanone	10000	U F2	10000	1200	ug/L			02/20/18 13:42	1000
Isopropylbenzene	1000	U	1000	210	ug/L			02/20/18 13:42	1000
Methyl acetate	10000	U *	10000	1400	ug/L			02/20/18 13:42	1000
Methylcyclohexane	1000	U	1000	450	ug/L			02/20/18 13:42	1000
Methylene Chloride	5000	U F2	5000	530	ug/L			02/20/18 13:42	1000
4-Methyl-2-pentanone (MIBK)	10000	U	10000	710	ug/L			02/20/18 13:42	1000
Methyl tert-butyl ether	1000	U F2	1000	270	ug/L			02/20/18 13:42	1000
Styrene	1000	U F2	1000	230	ug/L			02/20/18 13:42	1000
1,1,2,2-Tetrachloroethane	1000	U	1000	320	ug/L			02/20/18 13:42	1000
Tetrachloroethene	1000	U	1000	300	ug/L			02/20/18 13:42	1000
Toluene	1000	U F2	1000	230	ug/L			02/20/18 13:42	1000
trans-1,2-Dichloroethene	1000	U F2	1000	290	ug/L			02/20/18 13:42	1000
trans-1,3-Dichloropropene	1000	U F2	1000	310	ug/L			02/20/18 13:42	1000
1,2,4-Trichlorobenzene	1000	U	1000	270	ug/L			02/20/18 13:42	1000
1,1,1-Trichloroethane	1000	U	1000	230	ug/L			02/20/18 13:42	1000

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-21_021318
Date Collected: 02/13/18 11:11
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-10
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1000	U F2	1000	340	ug/L			02/20/18 13:42	1000
Trichloroethene	**460**	**J F2**	1000	330	ug/L			02/20/18 13:42	1000
Trichlorofluoromethane	1000	U	1000	500	ug/L			02/20/18 13:42	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	1000	U	1000	410	ug/L			02/20/18 13:42	1000
1,2,3-Trimethylbenzene	5000	U	5000	220	ug/L			02/20/18 13:42	1000
1,2,4-Trimethylbenzene	1000	U	1000	240	ug/L			02/20/18 13:42	1000
1,3,5-Trimethylbenzene	1000	U	1000	240	ug/L			02/20/18 13:42	1000
Vinyl chloride	**5400**		1000	450	ug/L			02/20/18 13:42	1000
Xylenes, Total	2000	U F2	2000	240	ug/L			02/20/18 13:42	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*69 - 120*		*02/20/18 13:42*	*1000*
Dibromofluoromethane (Surr)	*95*		*69 - 124*		*02/20/18 13:42*	*1000*
1,2-Dichloroethane-d4 (Surr)	*96*		*61 - 138*		*02/20/18 13:42*	*1000*
Toluene-d8 (Surr)	*96*		*73 - 120*		*02/20/18 13:42*	*1000*

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-49_021318
Date Collected: 02/13/18 12:35
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-11
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**7.0**		2.0	0.24	ug/L			02/21/18 21:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*81*		*63 - 125*		*02/21/18 21:12*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	17000	U	17000	2900	ug/L			02/19/18 20:23	1666.67
Benzene	1700	U	1700	470	ug/L			02/19/18 20:23	1666.67
Bromodichloromethane	1700	U	1700	500	ug/L			02/19/18 20:23	1666.67
Bromoform	1700	U	1700	720	ug/L			02/19/18 20:23	1666.67
Bromomethane	1700	U	1700	700	ug/L			02/19/18 20:23	1666.67
2-Butanone (MEK)	17000	U *	17000	1700	ug/L			02/19/18 20:23	1666.67
Carbon disulfide	8300	U	8300	570	ug/L			02/19/18 20:23	1666.67
Carbon tetrachloride	1700	U	1700	580	ug/L			02/19/18 20:23	1666.67
Chlorobenzene	1700	U	1700	530	ug/L			02/19/18 20:23	1666.67
Chloroethane	1700	U	1700	680	ug/L			02/19/18 20:23	1666.67
Chloroform	1700	U	1700	520	ug/L			02/19/18 20:23	1666.67
Chloromethane	1700	U	1700	720	ug/L			02/19/18 20:23	1666.67
cis-1,2-Dichloroethene	**20000**		1700	500	ug/L			02/19/18 20:23	1666.67
cis-1,3-Dichloropropene	1700	U	1700	430	ug/L			02/19/18 20:23	1666.67
Cyclohexane	1700	U	1700	730	ug/L			02/19/18 20:23	1666.67
Dibromochloromethane	1700	U *	1700	420	ug/L			02/19/18 20:23	1666.67
1,2-Dibromo-3-Chloropropane	1700	U	1700	780	ug/L			02/19/18 20:23	1666.67
1,2-Dibromoethane	1700	U *	1700	380	ug/L			02/19/18 20:23	1666.67
1,2-Dichlorobenzene	1700	U	1700	430	ug/L			02/19/18 20:23	1666.67
1,3-Dichlorobenzene	1700	U	1700	530	ug/L			02/19/18 20:23	1666.67
1,4-Dichlorobenzene	1700	U	1700	380	ug/L			02/19/18 20:23	1666.67
Dichlorodifluoromethane	1700	U	1700	830	ug/L			02/19/18 20:23	1666.67
1,1-Dichloroethane	1700	U	1700	420	ug/L			02/19/18 20:23	1666.67
1,2-Dichloroethane	1700	U	1700	500	ug/L			02/19/18 20:23	1666.67
1,1-Dichloroethene	1700	U	1700	450	ug/L			02/19/18 20:23	1666.67
1,2-Dichloropropane	1700	U	1700	500	ug/L			02/19/18 20:23	1666.67
Diethyl ether	3300	U *	3300	580	ug/L			02/19/18 20:23	1666.67
Ethylbenzene	1700	U	1700	430	ug/L			02/19/18 20:23	1666.67
2-Hexanone	17000	U	17000	2100	ug/L			02/19/18 20:23	1666.67
Isopropylbenzene	1700	U	1700	350	ug/L			02/19/18 20:23	1666.67
Methyl acetate	17000	U	17000	2400	ug/L			02/19/18 20:23	1666.67
Methylcyclohexane	1700	U	1700	750	ug/L			02/19/18 20:23	1666.67
Methylene Chloride	8300	U	8300	880	ug/L			02/19/18 20:23	1666.67
4-Methyl-2-pentanone (MIBK)	17000	U	17000	1200	ug/L			02/19/18 20:23	1666.67
Methyl tert-butyl ether	1700	U	1700	450	ug/L			02/19/18 20:23	1666.67
Styrene	1700	U	1700	380	ug/L			02/19/18 20:23	1666.67
1,1,2,2-Tetrachloroethane	1700	U	1700	530	ug/L			02/19/18 20:23	1666.67
Tetrachloroethene	1700	U	1700	500	ug/L			02/19/18 20:23	1666.67
Toluene	1700	U	1700	380	ug/L			02/19/18 20:23	1666.67
trans-1,2-Dichloroethene	1700	U	1700	480	ug/L			02/19/18 20:23	1666.67
trans-1,3-Dichloropropene	1700	U	1700	520	ug/L			02/19/18 20:23	1666.67
1,2,4-Trichlorobenzene	1700	U	1700	450	ug/L			02/19/18 20:23	1666.67
1,1,1-Trichloroethane	1700	U	1700	380	ug/L			02/19/18 20:23	1666.67

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-49_021318
Date Collected: 02/13/18 12:35
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-11
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1700	U	1700	570	ug/L			02/19/18 20:23	1666.67
Trichloroethene	1700	U	1700	550	ug/L			02/19/18 20:23	1666.67
Trichlorofluoromethane	1700	U	1700	830	ug/L			02/19/18 20:23	1666.67
1,1,2-Trichloro-1,2,2-trifluoroethane	1700	U	1700	680	ug/L			02/19/18 20:23	1666.67
1,2,3-Trimethylbenzene	8300	U	8300	370	ug/L			02/19/18 20:23	1666.67
1,2,4-Trimethylbenzene	1700	U	1700	400	ug/L			02/19/18 20:23	1666.67
1,3,5-Trimethylbenzene	1700	U	1700	400	ug/L			02/19/18 20:23	1666.67
Vinyl chloride	**8400**		1700	750	ug/L			02/19/18 20:23	1666.67
Xylenes, Total	3300	U	3300	400	ug/L			02/19/18 20:23	1666.67

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*69 - 120*		*02/19/18 20:23*	*1666.67*
Dibromofluoromethane (Surr)	*104*		*69 - 124*		*02/19/18 20:23*	*1666.67*
1,2-Dichloroethane-d4 (Surr)	*92*		*61 - 138*		*02/19/18 20:23*	*1666.67*
Toluene-d8 (Surr)	*77*		*73 - 120*		*02/19/18 20:23*	*1666.67*

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-25_021318
Date Collected: 02/13/18 13:05
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-12
Matrix: Water

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			02/21/18 21:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*63 - 125*		*02/21/18 21:37*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/19/18 20:46	1
Benzene	1.0	U	1.0	0.28	ug/L			02/19/18 20:46	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/19/18 20:46	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/19/18 20:46	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/19/18 20:46	1
2-Butanone (MEK)	10	U *	10	1.0	ug/L			02/19/18 20:46	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/19/18 20:46	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/19/18 20:46	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 20:46	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/19/18 20:46	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/19/18 20:46	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/19/18 20:46	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 20:46	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/19/18 20:46	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/19/18 20:46	1
Dibromochloromethane	1.0	U *	1.0	0.25	ug/L			02/19/18 20:46	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/19/18 20:46	1
1,2-Dibromoethane	1.0	U *	1.0	0.23	ug/L			02/19/18 20:46	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/19/18 20:46	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 20:46	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/19/18 20:46	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 20:46	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/19/18 20:46	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/19/18 20:46	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/19/18 20:46	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/19/18 20:46	1
Diethyl ether	2.0	U *	2.0	0.35	ug/L			02/19/18 20:46	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/19/18 20:46	1
2-Hexanone	10	U	10	1.2	ug/L			02/19/18 20:46	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/19/18 20:46	1
Methyl acetate	10	U	10	1.4	ug/L			02/19/18 20:46	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/19/18 20:46	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/19/18 20:46	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/19/18 20:46	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/19/18 20:46	1
Styrene	1.0	U	1.0	0.23	ug/L			02/19/18 20:46	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/19/18 20:46	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 20:46	1
Toluene	1.0	U	1.0	0.23	ug/L			02/19/18 20:46	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/19/18 20:46	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/19/18 20:46	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/19/18 20:46	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/19/18 20:46	1

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-25_021318
Date Collected: 02/13/18 13:05
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-12
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/19/18 20:46	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/19/18 20:46	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 20:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/19/18 20:46	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/19/18 20:46	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 20:46	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 20:46	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/19/18 20:46	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/19/18 20:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*69 - 120*		*02/19/18 20:46*	*1*
Dibromofluoromethane (Surr)	*107*		*69 - 124*		*02/19/18 20:46*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*61 - 138*		*02/19/18 20:46*	*1*
Toluene-d8 (Surr)	*80*		*73 - 120*		*02/19/18 20:46*	*1*

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-30_021318
Date Collected: 02/13/18 14:26
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-13
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	12		2.0	0.24	ug/L			02/21/18 22:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*63 - 125*		*02/21/18 22:02*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/19/18 21:10	1
Benzene	1.0	U	1.0	0.28	ug/L			02/19/18 21:10	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/19/18 21:10	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/19/18 21:10	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/19/18 21:10	1
2-Butanone (MEK)	10	U *	10	1.0	ug/L			02/19/18 21:10	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/19/18 21:10	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/19/18 21:10	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 21:10	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/19/18 21:10	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/19/18 21:10	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/19/18 21:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 21:10	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/19/18 21:10	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/19/18 21:10	1
Dibromochloromethane	1.0	U *	1.0	0.25	ug/L			02/19/18 21:10	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/19/18 21:10	1
1,2-Dibromoethane	1.0	U *	1.0	0.23	ug/L			02/19/18 21:10	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/19/18 21:10	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 21:10	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/19/18 21:10	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 21:10	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/19/18 21:10	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/19/18 21:10	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/19/18 21:10	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/19/18 21:10	1
Diethyl ether	2.0	U *	2.0	0.35	ug/L			02/19/18 21:10	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/19/18 21:10	1
2-Hexanone	10	U	10	1.2	ug/L			02/19/18 21:10	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/19/18 21:10	1
Methyl acetate	10	U	10	1.4	ug/L			02/19/18 21:10	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/19/18 21:10	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/19/18 21:10	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/19/18 21:10	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/19/18 21:10	1
Styrene	1.0	U	1.0	0.23	ug/L			02/19/18 21:10	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/19/18 21:10	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 21:10	1
Toluene	1.0	U	1.0	0.23	ug/L			02/19/18 21:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/19/18 21:10	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/19/18 21:10	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/19/18 21:10	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/19/18 21:10	1

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-30_021318
Date Collected: 02/13/18 14:26
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-13
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/19/18 21:10	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/19/18 21:10	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 21:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/19/18 21:10	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/19/18 21:10	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 21:10	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 21:10	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/19/18 21:10	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/19/18 21:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*69 - 120*		*02/19/18 21:10*	*1*
Dibromofluoromethane (Surr)	*109*		*69 - 124*		*02/19/18 21:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*61 - 138*		*02/19/18 21:10*	*1*
Toluene-d8 (Surr)	*79*		*73 - 120*		*02/19/18 21:10*	*1*

Client Sample ID: MW-41_021318

Date Collected: 02/13/18 14:10
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-14

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.77**	**J**	2.0	0.24	ug/L			02/21/18 22:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*63 - 125*		*02/21/18 22:27*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/19/18 21:33	1
Benzene	1.0	U	1.0	0.28	ug/L			02/19/18 21:33	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/19/18 21:33	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/19/18 21:33	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/19/18 21:33	1
2-Butanone (MEK)	10	U *	10	1.0	ug/L			02/19/18 21:33	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/19/18 21:33	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/19/18 21:33	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 21:33	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/19/18 21:33	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/19/18 21:33	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/19/18 21:33	1
cis-1,2-Dichloroethene	**2.1**		1.0	0.30	ug/L			02/19/18 21:33	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/19/18 21:33	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/19/18 21:33	1
Dibromochloromethane	1.0	U *	1.0	0.25	ug/L			02/19/18 21:33	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/19/18 21:33	1
1,2-Dibromoethane	1.0	U *	1.0	0.23	ug/L			02/19/18 21:33	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/19/18 21:33	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 21:33	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/19/18 21:33	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 21:33	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/19/18 21:33	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/19/18 21:33	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/19/18 21:33	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/19/18 21:33	1
Diethyl ether	2.0	U *	2.0	0.35	ug/L			02/19/18 21:33	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/19/18 21:33	1
2-Hexanone	10	U	10	1.2	ug/L			02/19/18 21:33	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/19/18 21:33	1
Methyl acetate	10	U	10	1.4	ug/L			02/19/18 21:33	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/19/18 21:33	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/19/18 21:33	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/19/18 21:33	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/19/18 21:33	1
Styrene	1.0	U	1.0	0.23	ug/L			02/19/18 21:33	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/19/18 21:33	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 21:33	1
Toluene	1.0	U	1.0	0.23	ug/L			02/19/18 21:33	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/19/18 21:33	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/19/18 21:33	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/19/18 21:33	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/19/18 21:33	1

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-41_021318
Date Collected: 02/13/18 14:10
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-14
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/19/18 21:33	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/19/18 21:33	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 21:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/19/18 21:33	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/19/18 21:33	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 21:33	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 21:33	1
Vinyl chloride	**2.1**		1.0	0.45	ug/L			02/19/18 21:33	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/19/18 21:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*69*		*69 - 120*		*02/19/18 21:33*	*1*
Dibromofluoromethane (Surr)	*110*		*69 - 124*		*02/19/18 21:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*61 - 138*		*02/19/18 21:33*	*1*
Toluene-d8 (Surr)	*83*		*73 - 120*		*02/19/18 21:33*	*1*

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: DUP-02_021318
Date Collected: 02/13/18 00:00
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-15
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	9.4		2.0	0.24	ug/L			02/21/18 22:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*63 - 125*		*02/21/18 22:53*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/19/18 21:56	1
Benzene	1.0	U	1.0	0.28	ug/L			02/19/18 21:56	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/19/18 21:56	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/19/18 21:56	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/19/18 21:56	1
2-Butanone (MEK)	10	U *	10	1.0	ug/L			02/19/18 21:56	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/19/18 21:56	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/19/18 21:56	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 21:56	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/19/18 21:56	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/19/18 21:56	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/19/18 21:56	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 21:56	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/19/18 21:56	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/19/18 21:56	1
Dibromochloromethane	1.0	U *	1.0	0.25	ug/L			02/19/18 21:56	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/19/18 21:56	1
1,2-Dibromoethane	1.0	U *	1.0	0.23	ug/L			02/19/18 21:56	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/19/18 21:56	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 21:56	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/19/18 21:56	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 21:56	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/19/18 21:56	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/19/18 21:56	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/19/18 21:56	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/19/18 21:56	1
Diethyl ether	2.0	U *	2.0	0.35	ug/L			02/19/18 21:56	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/19/18 21:56	1
2-Hexanone	10	U	10	1.2	ug/L			02/19/18 21:56	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/19/18 21:56	1
Methyl acetate	10	U	10	1.4	ug/L			02/19/18 21:56	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/19/18 21:56	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/19/18 21:56	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/19/18 21:56	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/19/18 21:56	1
Styrene	1.0	U	1.0	0.23	ug/L			02/19/18 21:56	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/19/18 21:56	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 21:56	1
Toluene	1.0	U	1.0	0.23	ug/L			02/19/18 21:56	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/19/18 21:56	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/19/18 21:56	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/19/18 21:56	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/19/18 21:56	1

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: DUP-02_021318
Date Collected: 02/13/18 00:00
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-15
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/19/18 21:56	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/19/18 21:56	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 21:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/19/18 21:56	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/19/18 21:56	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 21:56	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 21:56	1
Vinyl chloride	**3.4**		1.0	0.45	ug/L			02/19/18 21:56	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/19/18 21:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*69 - 120*		*02/19/18 21:56*	*1*
Dibromofluoromethane (Surr)	*104*		*69 - 124*		*02/19/18 21:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*61 - 138*		*02/19/18 21:56*	*1*
Toluene-d8 (Surr)	*80*		*73 - 120*		*02/19/18 21:56*	*1*

Surrogate Summary

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

TestAmerica Job ID: 240-91483-1

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(69-120)	(69-124)	(61-138)	(73-120)
240-91479-E-3 MS	Matrix Spike	92	89	83	84
240-91479-F-3 MSD	Matrix Spike Duplicate	93	93	85	86
240-91483-1	MW-66_021218	74	102	93	78
240-91483-2	DUP-01_021218	74	104	93	80
240-91483-3	MW-70_021218	71	106	90	77
240-91483-4	MW-45_021218	74	105	93	80
240-91483-5	MW-9_021218	75	110	100	81
240-91483-6	MW-14_021218	77	105	99	77
240-91483-7	MW-20_021218	75	112	99	82
240-91483-8	MW-48_021218	73	106	98	78
240-91483-9	TRIP BLANK SH	73	108	95	79
240-91483-10	MW-21_021318	84	95	96	96
240-91483-10 MS	MW-21_021318	92	98	96	98
240-91483-10 MSD	MW-21_021318	94	99	97	100
240-91483-11	MW-49_021318	75	104	92	77
240-91483-12	MW-25_021318	74	107	96	80
240-91483-13	MW-30_021318	73	109	100	79
240-91483-14	MW-41_021318	69	110	100	83
240-91483-15	DUP-02_021318	75	104	97	80
LCS 240-315290/4	Lab Control Sample	92	92	84	86
LCS 240-315439/4	Lab Control Sample	91	95	94	97
MB 240-315290/6	Method Blank	78	102	91	82
MB 240-315439/6	Method Blank	86	93	97	95

Surrogate Legend

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

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		DCA
Lab Sample ID	Client Sample ID	(63-125)
240-91428-C-6 MS	Matrix Spike	94
240-91428-C-6 MSD	Matrix Spike Duplicate	103
240-91483-1	MW-66_021218	103
240-91483-2	DUP-01_021218	98
240-91483-3	MW-70_021218	96
240-91483-4	MW-45_021218	91
240-91483-5	MW-9_021218	92
240-91483-6	MW-14_021218	99
240-91483-7	MW-20_021218	92
240-91483-8	MW-48_021218	88
240-91483-10	MW-21_021318	81
240-91483-10 MS	MW-21_021318	87
240-91483-10 MSD	MW-21_021318	82

Surrogate Summary

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

TestAmerica Job ID: 240-91483-1

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)						
240-91483-11	MW-49_021318	81						
240-91483-12	MW-25_021318	90						
240-91483-13	MW-30_021318	88						
240-91483-14	MW-41_021318	93						
240-91483-15	DUP-02_021318	83						
LCS 240-315270/4	Lab Control Sample	104						
LCS 240-315654/4	Lab Control Sample	90						
MB 240-315270/5	Method Blank	92						
MB 240-315654/5	Method Blank	90						

Surrogate Legend

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

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

Lab Sample ID: MB 240-315290/6
Matrix: Water
Analysis Batch: 315290

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/19/18 14:37	1
Benzene	1.0	U	1.0	0.28	ug/L			02/19/18 14:37	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/19/18 14:37	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/19/18 14:37	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/19/18 14:37	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/19/18 14:37	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/19/18 14:37	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/19/18 14:37	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 14:37	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/19/18 14:37	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/19/18 14:37	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/19/18 14:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 14:37	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/19/18 14:37	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/19/18 14:37	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/19/18 14:37	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/19/18 14:37	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/19/18 14:37	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/19/18 14:37	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/19/18 14:37	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/19/18 14:37	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 14:37	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/19/18 14:37	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/19/18 14:37	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/19/18 14:37	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/19/18 14:37	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/19/18 14:37	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/19/18 14:37	1
2-Hexanone	10	U	10	1.2	ug/L			02/19/18 14:37	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/19/18 14:37	1
Methyl acetate	10	U	10	1.4	ug/L			02/19/18 14:37	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/19/18 14:37	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/19/18 14:37	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/19/18 14:37	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/19/18 14:37	1
Styrene	1.0	U	1.0	0.23	ug/L			02/19/18 14:37	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/19/18 14:37	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/19/18 14:37	1
Toluene	1.0	U	1.0	0.23	ug/L			02/19/18 14:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/19/18 14:37	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/19/18 14:37	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/19/18 14:37	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/19/18 14:37	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/19/18 14:37	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/19/18 14:37	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/19/18 14:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/19/18 14:37	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/19/18 14:37	1

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

Lab Sample ID: MB 240-315290/6
Matrix: Water
Analysis Batch: 315290

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 14:37	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/19/18 14:37	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/19/18 14:37	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/19/18 14:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*69 - 120*		*02/19/18 14:37*	*1*
Dibromofluoromethane (Surr)	*102*		*69 - 124*		*02/19/18 14:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*61 - 138*		*02/19/18 14:37*	*1*
Toluene-d8 (Surr)	*82*		*73 - 120*		*02/19/18 14:37*	*1*

Lab Sample ID: LCS 240-315290/4
Matrix: Water
Analysis Batch: 315290

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	20.9		ug/L		104	35 - 131
Benzene	10.0	10.4		ug/L		104	79 - 120
Bromodichloromethane	10.0	11.5		ug/L		115	79 - 125
Bromoform	10.0	13.3		ug/L		133	55 - 145
Bromomethane	10.0	14.1		ug/L		141	17 - 158
2-Butanone (MEK)	20.0	31.5	*	ug/L		158	43 - 149
Carbon disulfide	10.0	11.0		ug/L		110	49 - 141
Carbon tetrachloride	10.0	13.8		ug/L		138	55 - 171
Chlorobenzene	10.0	11.5		ug/L		115	80 - 120
Chloroethane	10.0	11.0		ug/L		110	10 - 149
Chloroform	10.0	11.3		ug/L		113	80 - 120
Chloromethane	10.0	8.67		ug/L		87	59 - 124
cis-1,2-Dichloroethene	10.0	11.0		ug/L		110	77 - 120
cis-1,3-Dichloropropene	10.0	9.55		ug/L		95	75 - 120
Cyclohexane	10.0	13.0		ug/L		130	66 - 135
Dibromochloromethane	10.0	13.5	*	ug/L		135	64 - 129
1,2-Dibromo-3-Chloropropane	10.0	9.97		ug/L		100	50 - 130
1,2-Dibromoethane	10.0	12.1	*	ug/L		121	80 - 120
1,2-Dichlorobenzene	10.0	9.78		ug/L		98	80 - 120
1,3-Dichlorobenzene	10.0	9.91		ug/L		99	80 - 120
1,4-Dichlorobenzene	10.0	9.88		ug/L		99	80 - 120
Dichlorodifluoromethane	10.0	11.8		ug/L		118	42 - 141
1,1-Dichloroethane	10.0	11.2		ug/L		112	74 - 120
1,2-Dichloroethane	10.0	11.7		ug/L		117	68 - 133
1,1-Dichloroethene	10.0	11.1		ug/L		111	65 - 127
1,2-Dichloropropane	10.0	11.0		ug/L		110	78 - 127
Diethyl ether	10.0	14.0	*	ug/L		140	72 - 125
Ethylbenzene	10.0	11.2		ug/L		112	80 - 120
2-Hexanone	20.0	28.5		ug/L		143	28 - 169
Isopropylbenzene	10.0	10.6		ug/L		106	80 - 128
Methyl acetate	20.0	27.1		ug/L		136	63 - 137
Methylcyclohexane	10.0	10.6		ug/L		106	63 - 141

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

Lab Sample ID: LCS 240-315290/4
Matrix: Water
Analysis Batch: 315290

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	10.0	11.5		ug/L		115	64 - 140
4-Methyl-2-pentanone (MIBK)	20.0	23.3		ug/L		116	53 - 144
Methyl tert-butyl ether	10.0	7.75		ug/L		77	73 - 120
Styrene	10.0	11.4		ug/L		114	80 - 121
1,1,2,2-Tetrachloroethane	10.0	11.1		ug/L		111	58 - 122
Tetrachloroethene	10.0	11.9		ug/L		119	80 - 122
Toluene	10.0	11.2		ug/L		112	78 - 120
trans-1,2-Dichloroethene	10.0	11.8		ug/L		118	74 - 124
trans-1,3-Dichloropropene	10.0	9.81		ug/L		98	67 - 120
1,2,4-Trichlorobenzene	10.0	6.20		ug/L		62	34 - 141
1,1,1-Trichloroethane	10.0	11.7		ug/L		117	64 - 147
1,1,2-Trichloroethane	10.0	12.1		ug/L		121	76 - 121
Trichloroethene	10.0	11.6		ug/L		116	76 - 124
Trichlorofluoromethane	10.0	16.6		ug/L		166	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	14.1		ug/L		141	65 - 144
1,2,4-Trimethylbenzene	10.0	9.90		ug/L		99	80 - 120
1,3,5-Trimethylbenzene	10.0	10.3		ug/L		103	79 - 120
Vinyl chloride	10.0	9.21		ug/L		92	65 - 124
Xylenes, Total	20.0	21.6		ug/L		108	80 - 120
1,4-Dioxane	200	125		ug/L		63	35 - 134

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*69 - 120*
Dibromofluoromethane (Surr)	*92*		*69 - 124*
1,2-Dichloroethane-d4 (Surr)	*84*		*61 - 138*
Toluene-d8 (Surr)	*86*		*73 - 120*

Lab Sample ID: 240-91479-E-3 MS
Matrix: Water
Analysis Batch: 315290

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	18.1		ug/L		91	19 - 133
Benzene	1.0	U	10.0	9.88		ug/L		99	69 - 127
Bromodichloromethane	1.0	U	10.0	10.8		ug/L		108	75 - 128
Bromoform	1.0	U	10.0	12.0		ug/L		120	61 - 135
Bromomethane	1.0	U F1	10.0	17.6	F1	ug/L		176	10 - 148
2-Butanone (MEK)	10	U *	20.0	21.8		ug/L		109	34 - 153
Carbon disulfide	5.0	U	10.0	11.6		ug/L		116	46 - 143
Carbon tetrachloride	1.0	U	10.0	13.7		ug/L		137	53 - 175
Chlorobenzene	1.0	U	10.0	10.7		ug/L		107	76 - 120
Chloroethane	1.0	U	10.0	13.5		ug/L		135	10 - 141
Chloroform	1.0	U	10.0	10.3		ug/L		103	74 - 125
Chloromethane	1.0	U	10.0	9.20		ug/L		92	34 - 127
cis-1,2-Dichloroethene	0.37	J	10.0	10.9		ug/L		105	69 - 127
cis-1,3-Dichloropropene	1.0	U	10.0	8.56		ug/L		86	68 - 120
Cyclohexane	1.0	U	10.0	13.2		ug/L		132	56 - 135

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

Lab Sample ID: 240-91479-E-3 MS
Matrix: Water
Analysis Batch: 315290

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromochloromethane	1.0	U *	10.0	12.0		ug/L		120	62 - 131
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	8.61		ug/L		86	48 - 130
1,2-Dibromoethane	1.0	U *	10.0	10.5		ug/L		105	73 - 121
1,2-Dichlorobenzene	1.0	U	10.0	9.72		ug/L		97	70 - 120
1,3-Dichlorobenzene	1.0	U	10.0	9.48		ug/L		95	71 - 120
1,4-Dichlorobenzene	1.0	U	10.0	9.43		ug/L		94	72 - 120
Dichlorodifluoromethane	1.0	U F1	10.0	13.9	F1	ug/L		139	45 - 130
1,1-Dichloroethane	1.0	U	10.0	10.1		ug/L		101	69 - 122
1,2-Dichloroethane	1.0	U	10.0	10.3		ug/L		103	64 - 138
1,1-Dichloroethene	1.0	U	10.0	11.2		ug/L		112	62 - 127
1,2-Dichloropropane	1.0	U	10.0	10.5		ug/L		105	72 - 131
Diethyl ether	2.0	U * F1	10.0	12.2		ug/L		122	65 - 124
Ethylbenzene	1.0	U	10.0	10.0		ug/L		100	72 - 121
2-Hexanone	10	U F2	20.0	21.2		ug/L		106	21 - 184
Isopropylbenzene	1.0	U	10.0	10.3		ug/L		103	70 - 132
Methyl acetate	10	U	20.0	19.6		ug/L		98	52 - 139
Methylcyclohexane	1.0	U	10.0	10.6		ug/L		106	46 - 139
Methylene Chloride	5.0	U	10.0	9.78		ug/L		98	52 - 137
4-Methyl-2-pentanone (MIBK)	10	U	20.0	18.4		ug/L		92	53 - 147
Methyl tert-butyl ether	1.0	U F1	10.0	6.49	F1	ug/L		65	67 - 125
Styrene	1.0	U	10.0	10.6		ug/L		106	74 - 125
1,1,2,2-Tetrachloroethane	1.0	U	10.0	8.59		ug/L		86	51 - 123
Tetrachloroethene	1.0	U	10.0	11.9		ug/L		119	69 - 126
Toluene	1.0	U	10.0	10.3		ug/L		103	69 - 125
trans-1,2-Dichloroethene	1.0	U	10.0	11.4		ug/L		114	66 - 131
trans-1,3-Dichloropropene	1.0	U	10.0	8.36		ug/L		84	59 - 120
1,2,4-Trichlorobenzene	1.0	U	10.0	7.90		ug/L		79	26 - 138
1,1,1-Trichloroethane	1.0	U	10.0	11.3		ug/L		113	57 - 156
1,1,2-Trichloroethane	1.0	U	10.0	11.2		ug/L		112	68 - 127
Trichloroethene	1.0	U	10.0	10.6		ug/L		106	68 - 129
Trichlorofluoromethane	1.0	U F1	10.0	18.4	F1	ug/L		184	28 - 172
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U F1	10.0	15.4	F1	ug/L		154	58 - 137
1,2,4-Trimethylbenzene	1.0	U	10.0	9.27		ug/L		93	64 - 120
1,3,5-Trimethylbenzene	1.0	U	10.0	9.58		ug/L		96	67 - 120
Vinyl chloride	0.59	J	10.0	10.8		ug/L		102	55 - 123
Xylenes, Total	2.0	U	20.0	20.6		ug/L		103	71 - 122
1,4-Dioxane	50	U	200	155		ug/L		77	13 - 155

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*69 - 120*
Dibromofluoromethane (Surr)	*89*		*69 - 124*
1,2-Dichloroethane-d4 (Surr)	*83*		*61 - 138*
Toluene-d8 (Surr)	*84*		*73 - 120*

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

Lab Sample ID: 240-91479-F-3 MSD
Matrix: Water
Analysis Batch: 315290

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	20.9		ug/L		105	19 - 133	14	35
Benzene	1.0	U	10.0	9.94		ug/L		99	69 - 127	1	10
Bromodichloromethane	1.0	U	10.0	10.6		ug/L		106	75 - 128	2	13
Bromoform	1.0	U	10.0	12.0		ug/L		120	61 - 135	0	13
Bromomethane	1.0	U F1	10.0	15.3	F1	ug/L		153	10 - 148	14	35
2-Butanone (MEK)	10	U *	20.0	25.6		ug/L		128	34 - 153	16	23
Carbon disulfide	5.0	U	10.0	11.0		ug/L		110	46 - 143	5	18
Carbon tetrachloride	1.0	U	10.0	13.0		ug/L		130	53 - 175	5	17
Chlorobenzene	1.0	U	10.0	10.5		ug/L		105	76 - 120	2	12
Chloroethane	1.0	U	10.0	12.7		ug/L		127	10 - 141	6	35
Chloroform	1.0	U	10.0	10.5		ug/L		105	74 - 125	2	11
Chloromethane	1.0	U	10.0	8.62		ug/L		86	34 - 127	6	25
cis-1,2-Dichloroethene	0.37	J	10.0	11.1		ug/L		107	69 - 127	2	11
cis-1,3-Dichloropropene	1.0	U	10.0	8.18		ug/L		82	68 - 120	5	13
Cyclohexane	1.0	U	10.0	12.5		ug/L		125	56 - 135	5	35
Dibromochloromethane	1.0	U *	10.0	12.3		ug/L		123	62 - 131	2	15
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	9.30		ug/L		93	48 - 130	8	31
1,2-Dibromoethane	1.0	U *	10.0	10.8		ug/L		108	73 - 121	3	12
1,2-Dichlorobenzene	1.0	U	10.0	9.51		ug/L		95	70 - 120	2	19
1,3-Dichlorobenzene	1.0	U	10.0	9.36		ug/L		94	71 - 120	1	18
1,4-Dichlorobenzene	1.0	U	10.0	9.42		ug/L		94	72 - 120	0	17
Dichlorodifluoromethane	1.0	U F1	10.0	13.0		ug/L		130	45 - 130	6	34
1,1-Dichloroethane	1.0	U	10.0	10.4		ug/L		104	69 - 122	3	11
1,2-Dichloroethane	1.0	U	10.0	10.5		ug/L		105	64 - 138	2	11
1,1-Dichloroethene	1.0	U	10.0	11.0		ug/L		110	62 - 127	2	14
1,2-Dichloropropane	1.0	U	10.0	10.1		ug/L		101	72 - 131	4	12
Diethyl ether	2.0	U * F1	10.0	12.9	F1	ug/L		129	65 - 124	6	11
Ethylbenzene	1.0	U	10.0	10.3		ug/L		103	72 - 121	2	15
2-Hexanone	10	U F2	20.0	24.9	F2	ug/L		124	21 - 184	16	12
Isopropylbenzene	1.0	U	10.0	10.0		ug/L		100	70 - 132	2	16
Methyl acetate	10	U	20.0	21.8		ug/L		109	52 - 139	10	14
Methylcyclohexane	1.0	U	10.0	10.2		ug/L		102	46 - 139	4	35
Methylene Chloride	5.0	U	10.0	10.2		ug/L		102	52 - 137	4	12
4-Methyl-2-pentanone (MIBK)	10	U	20.0	20.0		ug/L		100	53 - 147	8	16
Methyl tert-butyl ether	1.0	U F1	10.0	6.94		ug/L		69	67 - 125	7	12
Styrene	1.0	U	10.0	10.7		ug/L		107	74 - 125	0	14
1,1,2,2-Tetrachloroethane	1.0	U	10.0	9.34		ug/L		93	51 - 123	8	17
Tetrachloroethene	1.0	U	10.0	11.7		ug/L		117	69 - 126	1	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	11.1		ug/L		111	66 - 131	2	11
trans-1,3-Dichloropropene	1.0	U	10.0	8.70		ug/L		87	59 - 120	4	14
1,2,4-Trichlorobenzene	1.0	U	10.0	8.30		ug/L		83	26 - 138	5	35
1,1,1-Trichloroethane	1.0	U	10.0	11.2		ug/L		112	57 - 156	0	13
1,1,2-Trichloroethane	1.0	U	10.0	10.8		ug/L		108	68 - 127	4	11
Trichloroethene	1.0	U	10.0	10.3		ug/L		103	68 - 129	3	12
Trichlorofluoromethane	1.0	U F1	10.0	17.2		ug/L		172	28 - 172	7	26
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U F1	10.0	14.6	F1	ug/L		146	58 - 137	5	35

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

Lab Sample ID: 240-91479-F-3 MSD
Matrix: Water
Analysis Batch: 315290

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	9.45		ug/L		95	64 - 120	2	22
1,3,5-Trimethylbenzene	1.0	U	10.0	9.41		ug/L		94	67 - 120	2	25
Vinyl chloride	0.59	J	10.0	9.94		ug/L		94	55 - 123	8	12
Xylenes, Total	2.0	U	20.0	20.1		ug/L		100	71 - 122	3	14
1,4-Dioxane	50	U	200	172		ug/L		86	13 - 155	11	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*69 - 120*
Dibromofluoromethane (Surr)	*93*		*69 - 124*
1,2-Dichloroethane-d4 (Surr)	*85*		*61 - 138*
Toluene-d8 (Surr)	*86*		*73 - 120*

Lab Sample ID: MB 240-315439/6
Matrix: Water
Analysis Batch: 315439

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/20/18 12:58	1
Benzene	1.0	U	1.0	0.28	ug/L			02/20/18 12:58	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/20/18 12:58	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/20/18 12:58	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/20/18 12:58	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/20/18 12:58	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/20/18 12:58	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/20/18 12:58	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/20/18 12:58	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/20/18 12:58	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/20/18 12:58	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/20/18 12:58	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/20/18 12:58	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/20/18 12:58	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/20/18 12:58	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/20/18 12:58	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/20/18 12:58	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/20/18 12:58	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/20/18 12:58	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/20/18 12:58	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/20/18 12:58	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/20/18 12:58	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/20/18 12:58	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/20/18 12:58	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/20/18 12:58	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/20/18 12:58	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/20/18 12:58	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/20/18 12:58	1
2-Hexanone	10	U	10	1.2	ug/L			02/20/18 12:58	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/20/18 12:58	1
Methyl acetate	10	U	10	1.4	ug/L			02/20/18 12:58	1

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

Lab Sample ID: MB 240-315439/6
Matrix: Water
Analysis Batch: 315439

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/20/18 12:58	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/20/18 12:58	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/20/18 12:58	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/20/18 12:58	1
Styrene	1.0	U	1.0	0.23	ug/L			02/20/18 12:58	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/20/18 12:58	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/20/18 12:58	1
Toluene	1.0	U	1.0	0.23	ug/L			02/20/18 12:58	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/20/18 12:58	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/20/18 12:58	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/20/18 12:58	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/20/18 12:58	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/20/18 12:58	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/20/18 12:58	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/20/18 12:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/20/18 12:58	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/20/18 12:58	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/20/18 12:58	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/20/18 12:58	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/20/18 12:58	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/20/18 12:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*69 - 120*		*02/20/18 12:58*	*1*
Dibromofluoromethane (Surr)	*93*		*69 - 124*		*02/20/18 12:58*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*61 - 138*		*02/20/18 12:58*	*1*
Toluene-d8 (Surr)	*95*		*73 - 120*		*02/20/18 12:58*	*1*

Lab Sample ID: LCS 240-315439/4
Matrix: Water
Analysis Batch: 315439

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	8.26	J	ug/L		41	35 - 131
Benzene	10.0	9.27		ug/L		93	79 - 120
Bromodichloromethane	10.0	9.70		ug/L		97	79 - 125
Bromoform	10.0	8.28		ug/L		83	55 - 145
Bromomethane	10.0	9.37		ug/L		94	17 - 158
2-Butanone (MEK)	20.0	11.7		ug/L		59	43 - 149
Carbon disulfide	10.0	10.4		ug/L		104	49 - 141
Carbon tetrachloride	10.0	11.5		ug/L		115	55 - 171
Chlorobenzene	10.0	10.4		ug/L		104	80 - 120
Chloroethane	10.0	4.42		ug/L		44	10 - 149
Chloroform	10.0	10.6		ug/L		106	80 - 120
Chloromethane	10.0	7.42		ug/L		74	59 - 124
cis-1,2-Dichloroethene	10.0	10.2		ug/L		102	77 - 120
cis-1,3-Dichloropropene	10.0	9.00		ug/L		90	75 - 120
Cyclohexane	10.0	8.63		ug/L		86	66 - 135

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

Lab Sample ID: LCS 240-315439/4
Matrix: Water
Analysis Batch: 315439

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromochloromethane	10.0	9.61		ug/L		96	64 - 129
1,2-Dibromo-3-Chloropropane	10.0	6.27		ug/L		63	50 - 130
1,2-Dibromoethane	10.0	8.86		ug/L		89	80 - 120
1,2-Dichlorobenzene	10.0	9.59		ug/L		96	80 - 120
1,3-Dichlorobenzene	10.0	9.37		ug/L		94	80 - 120
1,4-Dichlorobenzene	10.0	9.36		ug/L		94	80 - 120
Dichlorodifluoromethane	10.0	9.01		ug/L		90	42 - 141
1,1-Dichloroethane	10.0	10.1		ug/L		101	74 - 120
1,2-Dichloroethane	10.0	10.6		ug/L		106	68 - 133
1,1-Dichloroethene	10.0	10.8		ug/L		108	65 - 127
1,2-Dichloropropane	10.0	9.50		ug/L		95	78 - 127
Diethyl ether	10.0	9.65		ug/L		97	72 - 125
Ethylbenzene	10.0	10.4		ug/L		104	80 - 120
2-Hexanone	20.0	14.6		ug/L		73	28 - 169
Isopropylbenzene	10.0	10.4		ug/L		104	80 - 128
Methyl acetate	20.0	12.0	*	ug/L		60	63 - 137
Methylcyclohexane	10.0	8.85		ug/L		89	63 - 141
Methylene Chloride	10.0	9.48		ug/L		95	64 - 140
4-Methyl-2-pentanone (MIBK)	20.0	13.2		ug/L		66	53 - 144
Methyl tert-butyl ether	10.0	8.88		ug/L		89	73 - 120
Styrene	10.0	9.56		ug/L		96	80 - 121
1,1,2,2-Tetrachloroethane	10.0	8.33		ug/L		83	58 - 122
Tetrachloroethene	10.0	10.2		ug/L		102	80 - 122
Toluene	10.0	9.91		ug/L		99	78 - 120
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 124
trans-1,3-Dichloropropene	10.0	8.29		ug/L		83	67 - 120
1,2,4-Trichlorobenzene	10.0	7.88		ug/L		79	34 - 141
1,1,1-Trichloroethane	10.0	11.4		ug/L		114	64 - 147
1,1,2-Trichloroethane	10.0	9.42		ug/L		94	76 - 121
Trichloroethene	10.0	9.85		ug/L		98	76 - 124
Trichlorofluoromethane	10.0	14.8		ug/L		148	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	13.0		ug/L		130	65 - 144
1,2,4-Trimethylbenzene	10.0	9.69		ug/L		97	80 - 120
1,3,5-Trimethylbenzene	10.0	9.80		ug/L		98	79 - 120
Vinyl chloride	10.0	9.42		ug/L		94	65 - 124
Xylenes, Total	20.0	20.2		ug/L		101	80 - 120
1,4-Dioxane	200	79.9		ug/L		40	35 - 134

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*69 - 120*
Dibromofluoromethane (Surr)	*95*		*69 - 124*
1,2-Dichloroethane-d4 (Surr)	*94*		*61 - 138*
Toluene-d8 (Surr)	*97*		*73 - 120*

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

Lab Sample ID: 240-91483-10 MS
Matrix: Water
Analysis Batch: 315439

Client Sample ID: MW-21_021318
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	10000	U	20000	9210	J	ug/L		46	19 - 133
Benzene	1000	U F2	10000	9220		ug/L		92	69 - 127
Bromodichloromethane	1000	U F2	10000	9620		ug/L		96	75 - 128
Bromoform	1000	U F2	10000	8330		ug/L		83	61 - 135
Bromomethane	1000	U	10000	8340		ug/L		83	10 - 148
2-Butanone (MEK)	10000	U F2	20000	13900		ug/L		69	34 - 153
Carbon disulfide	5000	U	10000	9950		ug/L		100	46 - 143
Carbon tetrachloride	1000	U	10000	10600		ug/L		106	53 - 175
Chlorobenzene	1000	U F2	10000	10200		ug/L		102	76 - 120
Chloroethane	1000	U	10000	3270		ug/L		33	10 - 141
Chloroform	1000	U F2	10000	10700		ug/L		107	74 - 125
Chloromethane	1000	U	10000	7050		ug/L		71	34 - 127
cis-1,2-Dichloroethene	20000		10000	29400		ug/L		96	69 - 127
cis-1,3-Dichloropropene	1000	U F2	10000	8500		ug/L		85	68 - 120
Cyclohexane	1000	U	10000	8600		ug/L		86	56 - 135
Dibromochloromethane	1000	U F2	10000	9580		ug/L		96	62 - 131
1,2-Dibromo-3-Chloropropane	1000	U	10000	6320		ug/L		63	48 - 130
1,2-Dibromoethane	1000	U F2	10000	9860		ug/L		99	73 - 121
1,2-Dichlorobenzene	1000	U	10000	9090		ug/L		91	70 - 120
1,3-Dichlorobenzene	1000	U	10000	8970		ug/L		90	71 - 120
1,4-Dichlorobenzene	1000	U	10000	8970		ug/L		90	72 - 120
Dichlorodifluoromethane	1000	U	10000	7850		ug/L		78	45 - 130
1,1-Dichloroethane	1000	U F2	10000	10100		ug/L		101	69 - 122
1,2-Dichloroethane	1000	U F2	10000	11000		ug/L		110	64 - 138
1,1-Dichloroethene	1000	U	10000	10000		ug/L		100	62 - 127
1,2-Dichloropropane	1000	U F2	10000	9220		ug/L		92	72 - 131
Diethyl ether	2000	U F2	10000	10400		ug/L		104	65 - 124
Ethylbenzene	1000	U F2	10000	10100		ug/L		101	72 - 121
2-Hexanone	10000	U F2	20000	17600		ug/L		88	21 - 184
Isopropylbenzene	1000	U	10000	9750		ug/L		98	70 - 132
Methyl acetate	10000	U *	20000	13100		ug/L		65	52 - 139
Methylcyclohexane	1000	U	10000	8200		ug/L		82	46 - 139
Methylene Chloride	5000	U F2	10000	9660		ug/L		97	52 - 137
4-Methyl-2-pentanone (MIBK)	10000	U	20000	16300		ug/L		82	53 - 147
Methyl tert-butyl ether	1000	U F2	10000	9210		ug/L		92	67 - 125
Styrene	1000	U F2	10000	9560		ug/L		96	74 - 125
1,1,2,2-Tetrachloroethane	1000	U	10000	8820		ug/L		88	51 - 123
Tetrachloroethene	1000	U	10000	9880		ug/L		99	69 - 126
Toluene	1000	U F2	10000	9850		ug/L		99	69 - 125
trans-1,2-Dichloroethene	1000	U F2	10000	10400		ug/L		104	66 - 131
trans-1,3-Dichloropropene	1000	U F2	10000	8250		ug/L		83	59 - 120
1,2,4-Trichlorobenzene	1000	U	10000	7670		ug/L		77	26 - 138
1,1,1-Trichloroethane	1000	U	10000	10900		ug/L		109	57 - 156
1,1,2-Trichloroethane	1000	U F2	10000	9340		ug/L		93	68 - 127
Trichloroethene	460	J F2	10000	10100		ug/L		96	68 - 129
Trichlorofluoromethane	1000	U	10000	13100		ug/L		131	28 - 172
1,1,2-Trichloro-1,2,2-trifluoroethane	1000	U	10000	11400		ug/L		114	58 - 137

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

Lab Sample ID: 240-91483-10 MS
Matrix: Water
Analysis Batch: 315439

Client Sample ID: MW-21_021318
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trimethylbenzene	1000	U	10000	9080		ug/L		91	64 - 120
1,3,5-Trimethylbenzene	1000	U	10000	9000		ug/L		90	67 - 120
Vinyl chloride	5400		10000	13400		ug/L		81	55 - 123
Xylenes, Total	2000	U F2	20000	19700		ug/L		99	71 - 122
1,4-Dioxane	50000	U F2	200000	107000		ug/L		54	13 - 155

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

Lab Sample ID: 240-91483-10 MSD
Matrix: Water
Analysis Batch: 315439

Client Sample ID: MW-21_021318
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	10000	U	20000	10500		ug/L		52	19 - 133	13	35
Benzene	1000	U F2	10000	7760	F2	ug/L		78	69 - 127	17	10
Bromodichloromethane	1000	U F2	10000	8220	F2	ug/L		82	75 - 128	16	13
Bromoform	1000	U F2	10000	7200	F2	ug/L		72	61 - 135	15	13
Bromomethane	1000	U	10000	8420		ug/L		84	10 - 148	1	35
2-Butanone (MEK)	10000	U F2	20000	10500	F2	ug/L		53	34 - 153	27	23
Carbon disulfide	5000	U	10000	9090		ug/L		91	46 - 143	9	18
Carbon tetrachloride	1000	U	10000	9940		ug/L		99	53 - 175	7	17
Chlorobenzene	1000	U F2	10000	8450	F2	ug/L		85	76 - 120	19	12
Chloroethane	1000	U	10000	3880		ug/L		39	10 - 141	17	35
Chloroform	1000	U F2	10000	9230	F2	ug/L		92	74 - 125	14	11
Chloromethane	1000	U	10000	6530		ug/L		65	34 - 127	8	25
cis-1,2-Dichloroethene	20000		10000	28000		ug/L		83	69 - 127	5	11
cis-1,3-Dichloropropene	1000	U F2	10000	7200	F2	ug/L		72	68 - 120	17	13
Cyclohexane	1000	U	10000	8270		ug/L		83	56 - 135	4	35
Dibromochloromethane	1000	U F2	10000	8180	F2	ug/L		82	62 - 131	16	15
1,2-Dibromo-3-Chloropropane	1000	U	10000	6760		ug/L		68	48 - 130	7	31
1,2-Dibromoethane	1000	U F2	10000	8020	F2	ug/L		80	73 - 121	21	12
1,2-Dichlorobenzene	1000	U	10000	7970		ug/L		80	70 - 120	13	19
1,3-Dichlorobenzene	1000	U	10000	7480		ug/L		75	71 - 120	18	18
1,4-Dichlorobenzene	1000	U	10000	7620		ug/L		76	72 - 120	16	17
Dichlorodifluoromethane	1000	U	10000	8730		ug/L		87	45 - 130	11	34
1,1-Dichloroethane	1000	U F2	10000	8890	F2	ug/L		89	69 - 122	13	11
1,2-Dichloroethane	1000	U F2	10000	9110	F2	ug/L		91	64 - 138	19	11
1,1-Dichloroethene	1000	U	10000	9730		ug/L		97	62 - 127	3	14
1,2-Dichloropropane	1000	U F2	10000	7910	F2	ug/L		79	72 - 131	15	12
Diethyl ether	2000	U F2	10000	8730	F2	ug/L		87	65 - 124	17	11
Ethylbenzene	1000	U F2	10000	8370	F2	ug/L		84	72 - 121	19	15
2-Hexanone	10000	U F2	20000	15200	F2	ug/L		76	21 - 184	15	12
Isopropylbenzene	1000	U	10000	8410		ug/L		84	70 - 132	15	16
Methyl acetate	10000	U *	20000	11700		ug/L		59	52 - 139	11	14

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

Lab Sample ID: 240-91483-10 MSD
Matrix: Water
Analysis Batch: 315439

Client Sample ID: MW-21_021318
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylcyclohexane	1000	U	10000	8260		ug/L		83	46 - 139	1	35
Methylene Chloride	5000	U F2	10000	8080	F2	ug/L		81	52 - 137	18	12
4-Methyl-2-pentanone (MIBK)	10000	U	20000	13900		ug/L		69	53 - 147	16	16
Methyl tert-butyl ether	1000	U F2	10000	8020	F2	ug/L		80	67 - 125	14	12
Styrene	1000	U F2	10000	7890	F2	ug/L		79	74 - 125	19	14
1,1,2,2-Tetrachloroethane	1000	U	10000	7780		ug/L		78	51 - 123	12	17
Tetrachloroethene	1000	U	10000	8620		ug/L		86	69 - 126	14	18
Toluene	1000	U F2	10000	8280	F2	ug/L		83	69 - 125	17	14
trans-1,2-Dichloroethene	1000	U F2	10000	9110	F2	ug/L		91	66 - 131	13	11
trans-1,3-Dichloropropene	1000	U F2	10000	6840	F2	ug/L		68	59 - 120	19	14
1,2,4-Trichlorobenzene	1000	U	10000	7060		ug/L		71	26 - 138	8	35
1,1,1-Trichloroethane	1000	U	10000	9810		ug/L		98	57 - 156	10	13
1,1,2-Trichloroethane	1000	U F2	10000	8180	F2	ug/L		82	68 - 127	13	11
Trichloroethene	460	J F2	10000	8750	F2	ug/L		83	68 - 129	14	12
Trichlorofluoromethane	1000	U	10000	14100		ug/L		141	28 - 172	7	26
1,1,2-Trichloro-1,2,2-trifluoroethane	1000	U	10000	12400		ug/L		124	58 - 137	8	35
1,2,4-Trimethylbenzene	1000	U	10000	7750		ug/L		78	64 - 120	16	22
1,3,5-Trimethylbenzene	1000	U	10000	7720		ug/L		77	67 - 120	15	25
Vinyl chloride	5400		10000	13900		ug/L		85	55 - 123	3	12
Xylenes, Total	2000	U F2	20000	16600	F2	ug/L		83	71 - 122	17	14
1,4-Dioxane	50000	U F2	200000	164000	F2	ug/L		82	13 - 155	42	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*69 - 120*
Dibromofluoromethane (Surr)	*99*		*69 - 124*
1,2-Dichloroethane-d4 (Surr)	*97*		*61 - 138*
Toluene-d8 (Surr)	*100*		*73 - 120*

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

Lab Sample ID: MB 240-315270/5
Matrix: Water
Analysis Batch: 315270

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			02/19/18 11:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*63 - 125*		*02/19/18 11:14*	*1*

Lab Sample ID: LCS 240-315270/4
Matrix: Water
Analysis Batch: 315270

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	8.86		ug/L		89	59 - 131

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

Lab Sample ID: LCS 240-315270/4
Matrix: Water
Analysis Batch: 315270

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		63 - 125

Lab Sample ID: 240-91428-C-6 MS
Matrix: Water
Analysis Batch: 315270

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	0.41	J	10.0	10.5		ug/L		101	52 - 129		

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		63 - 125

Lab Sample ID: 240-91428-C-6 MSD
Matrix: Water
Analysis Batch: 315270

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	0.41	J	10.0	9.34		ug/L		89	52 - 129	12	13

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

Lab Sample ID: MB 240-315654/5
Matrix: Water
Analysis Batch: 315654

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			02/21/18 14:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		63 - 125		02/21/18 14:48	1

Lab Sample ID: LCS 240-315654/4
Matrix: Water
Analysis Batch: 315654

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane	10.0	8.72		ug/L		87	59 - 131		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	90		63 - 125

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

Lab Sample ID: 240-91483-10 MS
Matrix: Water
Analysis Batch: 315654

Client Sample ID: MW-21_021318
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane	25		10.0	35.0		ug/L		102	52 - 129		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*87*		*63 - 125*

Lab Sample ID: 240-91483-10 MSD
Matrix: Water
Analysis Batch: 315654

Client Sample ID: MW-21_021318
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	25		10.0	32.3		ug/L		76	52 - 129	8	13

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*82*		*63 - 125*

GC/MS VOA

Analysis Batch: 315270

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91483-1	MW-66_021218	Total/NA	Water	8260B SIM	
MB 240-315270/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-315270/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-91428-C-6 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-91428-C-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 315290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91483-1	MW-66_021218	Total/NA	Water	8260B	
240-91483-2	DUP-01_021218	Total/NA	Water	8260B	
240-91483-3	MW-70_021218	Total/NA	Water	8260B	
240-91483-4	MW-45_021218	Total/NA	Water	8260B	
240-91483-5	MW-9_021218	Total/NA	Water	8260B	
240-91483-6	MW-14_021218	Total/NA	Water	8260B	
240-91483-7	MW-20_021218	Total/NA	Water	8260B	
240-91483-8	MW-48_021218	Total/NA	Water	8260B	
240-91483-9	TRIP BLANK SH	Total/NA	Water	8260B	
240-91483-11	MW-49_021318	Total/NA	Water	8260B	
240-91483-12	MW-25_021318	Total/NA	Water	8260B	
240-91483-13	MW-30_021318	Total/NA	Water	8260B	
240-91483-14	MW-41_021318	Total/NA	Water	8260B	
240-91483-15	DUP-02_021318	Total/NA	Water	8260B	
MB 240-315290/6	Method Blank	Total/NA	Water	8260B	
LCS 240-315290/4	Lab Control Sample	Total/NA	Water	8260B	
240-91479-E-3 MS	Matrix Spike	Total/NA	Water	8260B	
240-91479-F-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 315439

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91483-10	MW-21_021318	Total/NA	Water	8260B	
MB 240-315439/6	Method Blank	Total/NA	Water	8260B	
LCS 240-315439/4	Lab Control Sample	Total/NA	Water	8260B	
240-91483-10 MS	MW-21_021318	Total/NA	Water	8260B	
240-91483-10 MSD	MW-21_021318	Total/NA	Water	8260B	

Analysis Batch: 315654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91483-2	DUP-01_021218	Total/NA	Water	8260B SIM	
240-91483-3	MW-70_021218	Total/NA	Water	8260B SIM	
240-91483-4	MW-45_021218	Total/NA	Water	8260B SIM	
240-91483-5	MW-9_021218	Total/NA	Water	8260B SIM	
240-91483-6	MW-14_021218	Total/NA	Water	8260B SIM	
240-91483-7	MW-20_021218	Total/NA	Water	8260B SIM	
240-91483-8	MW-48_021218	Total/NA	Water	8260B SIM	
240-91483-10	MW-21_021318	Total/NA	Water	8260B SIM	
240-91483-11	MW-49_021318	Total/NA	Water	8260B SIM	
240-91483-12	MW-25_021318	Total/NA	Water	8260B SIM	
240-91483-13	MW-30_021318	Total/NA	Water	8260B SIM	
240-91483-14	MW-41_021318	Total/NA	Water	8260B SIM	
240-91483-15	DUP-02_021318	Total/NA	Water	8260B SIM	
MB 240-315654/5	Method Blank	Total/NA	Water	8260B SIM	

GC/MS VOA (Continued)

Analysis Batch: 315654 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-315654/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-91483-10 MS	MW-21_021318	Total/NA	Water	8260B SIM	
240-91483-10 MSD	MW-21_021318	Total/NA	Water	8260B SIM	

Client Sample ID: MW-66_021218

Lab Sample ID: 240-91483-1
Matrix: Water
Date Collected: 02/12/18 18:35
Date Received: 02/14/18 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315290	02/19/18 16:56	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	315270	02/19/18 20:56	SAM	TAL CAN

Client Sample ID: DUP-01_021218

Lab Sample ID: 240-91483-2
Matrix: Water
Date Collected: 02/12/18 00:00
Date Received: 02/14/18 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315290	02/19/18 17:19	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	315654	02/21/18 16:58	SAM	TAL CAN

Client Sample ID: MW-70_021218

Lab Sample ID: 240-91483-3
Matrix: Water
Date Collected: 02/12/18 10:35
Date Received: 02/14/18 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		13.33	315290	02/19/18 17:42	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	315654	02/21/18 17:24	SAM	TAL CAN

Client Sample ID: MW-45_021218

Lab Sample ID: 240-91483-4
Matrix: Water
Date Collected: 02/12/18 12:34
Date Received: 02/14/18 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	315290	02/19/18 18:05	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	315654	02/21/18 17:49	SAM	TAL CAN

Client Sample ID: MW-9_021218

Lab Sample ID: 240-91483-5
Matrix: Water
Date Collected: 02/12/18 14:16
Date Received: 02/14/18 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315290	02/19/18 18:28	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	315654	02/21/18 18:15	SAM	TAL CAN

Client Sample ID: MW-14_021218

Lab Sample ID: 240-91483-6
Matrix: Water
Date Collected: 02/12/18 15:50
Date Received: 02/14/18 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315290	02/19/18 18:51	LRW	TAL CAN

Lab Chronicle

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-14_021218
Date Collected: 02/12/18 15:50
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	315654	02/21/18 18:40	SAM	TAL CAN

Client Sample ID: MW-20_021218
Date Collected: 02/12/18 17:36
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315290	02/19/18 19:14	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	315654	02/21/18 19:06	SAM	TAL CAN

Client Sample ID: MW-48_021218
Date Collected: 02/12/18 09:17
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315290	02/19/18 19:37	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	315654	02/21/18 19:31	SAM	TAL CAN

Client Sample ID: TRIP BLANK SH
Date Collected: 02/13/18 00:00
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315290	02/19/18 20:00	LRW	TAL CAN

Client Sample ID: MW-21_021318
Date Collected: 02/13/18 11:11
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	315439	02/20/18 13:42	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	315654	02/21/18 19:56	SAM	TAL CAN

Client Sample ID: MW-49_021318
Date Collected: 02/13/18 12:35
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1666.67	315290	02/19/18 20:23	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	315654	02/21/18 21:12	SAM	TAL CAN

Lab Chronicle

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

TestAmerica Job ID: 240-91483-1

Client Sample ID: MW-25_021318
Date Collected: 02/13/18 13:05
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315290	02/19/18 20:46	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	315654	02/21/18 21:37	SAM	TAL CAN

Client Sample ID: MW-30_021318
Date Collected: 02/13/18 14:26
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315290	02/19/18 21:10	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	315654	02/21/18 22:02	SAM	TAL CAN

Client Sample ID: MW-41_021318
Date Collected: 02/13/18 14:10
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-14
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315290	02/19/18 21:33	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	315654	02/21/18 22:27	SAM	TAL CAN

Client Sample ID: DUP-02_021318
Date Collected: 02/13/18 00:00
Date Received: 02/14/18 09:00

Lab Sample ID: 240-91483-15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315290	02/19/18 21:56	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	315654	02/21/18 22:53	SAM	TAL CAN

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 240-91483-1

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

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

Chain of Custody Record

MICHIGAN 190

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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

Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc.

Client Contact	Client Project Manager: Kris Hinskey	Site Contact: Angela DeGrandis	Lab Contact: Denise Pohl	COC No: (KD) 2 1
Company Name: Arcadis	Telephone: 248-994-2240	Telephone: 734-320-0065	Telephone: 330-966-9789	(KD) 2 of 2 COCs
Address: 28550 Cabot Drive, Suite 500	Email: kristoffer.hinskey@arcadis.com	Analysis Turnaround Time		For lab use only
City/State/Zip: Novi, MI, 48377		TAT if different from below: ☐ 3 weeks ☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Walk-in client:
Phone: 248-994-2240		10 day (☑ 2 weeks)		Lab sampling:
Project Name: Ford LTP	Method of Shipment/Carrier:			Job/SDG No:
Project Number: MI001386.0001.20000	Shipping/Tracking No:			
PO # MI001386.0001.20000				

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other:	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other:	Filtered Sample (Y/N)	Composite=C / Grab=G	Analyses: VOCs 8260B	1,4-Dioxane 8260B SIM	MATRIX SPIKE	MATRIX SPIKE DUP	Sample Specific Notes / Special Instructions:
MW-66_021218	02/12/18	1835		X						6					N	G	X	X			
DUP-01_021218		—		X						6					N	G	X	X			
MW-70_021218		1835		X						6					N	G	X	X			
MW-45_021218		1234		X						6					N	G	X	X			
MW-9_021218		1416		X						6					N	G	X	X			
MW-14_021218		1550		X						6					N	G	X	X			
MW-20_021218	↓	1736		X						6					N	G	X	X			
MW-48_021318	02/13/18	917		X						6					N	G	X	X			
TRIP BLANK SH	—	—		X									1		-	-	X	X			
MW-21_021318	02/13/18	1111		X						18					N	G	X	X	X	X	

240-91483 Chain of Custody

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return to Client ☑ Disposal By Lab ☐ Archive For ☐ Months

Special Instructions/QC Requirements & Comments:

LEVEL IV REPORTING

Submit all results through Cadena at jim.tomalia@cadena.com. Cadena #E203728

Lab#:

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
KALAN BRIGGS / Kalan M Briggs	ARCADIS	2-13-18 1430	Jeri Hall	TA	2/13/18 1430
Jeri Hall	TA	2/13/18 1532	Terry Burns	TA Can	2/14/18 0900
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

2/26/2018

Chain of Custody Record

MICHIGAN 190

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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

Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc.

Client Contact	Client Project Manager: Kris Hinskey	Site Contact: Angela DeGrandis	Lab Contact: Denise Pohl	COC No: 3 2 (KB) (KB) 32 of 2 COCs
Company Name: Arcadis	Telephone: 248-994-2240	Telephone: 734-320-0065	Telephone: 330-966-9789	
Address: 28550 Cabot Drive, Suite 500	Email: kristoffer.hinskey@arcadis.com	Analysis Turnaround Time	Analyses	For lab use only
City/State/Zip: Novi, MI, 48377		TAT if different from below: ☐ 3 weeks ☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Walk-in client:
Phone: 248-994-2240		10 day		Lab sampling:
Project Name: Ford LTP	Method of Shipment/Carrier:			Job/SDG No.
Project Number: MI001386.0001.20000	Shipping/Tracking No:			
PO # MI001386.0001.20000				

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other:	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other:	Filtered Sample (Y/N)	Composite=C / Grab=G	VOCs 8260B	1,4-Dioxane 8260B SIM	Sample Specific Notes / Special Instructions:
MW-49_021318	2/13/18	1235		X						6					N	G	X	X	
MW-25_021318	2/13/18	1305		X						6					N	G	X	X	
MW-30_021318	2/13/18	1426		X						6					N	G	X	X	
MW-41_021318	2/13/18	1410		X						6					N	G	X	X	

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return to Client ☑ Disposal By Lab ☐ Archive For ☐ Months

Special Instructions/QC Requirements & Comments: LEVEL IV REPORTING

Submit all results through Cadena at jim.tomalia@cadena.com, Cadena #E203728

Lab#:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
KAGAN BRIGGS /	ARCADIS	2-13-18 1430		TAL	2/13/18 1430
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	TA	2/13/18 1532		TA Can	2/14/18 0900
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica Canton Sample Receipt Form/Narrative **Login # : 41483**
Canton Facility

Client Arcadis Site Name

Cooler unpacked by: Terry Burns

Cooler Received on 2/14/18 Opened on 2/14/18

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

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

TestAmerica Cooler # Foam Box Client Cooler Box Other Multiple

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 -0.3 °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 each	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3. Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5. Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7. Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels be reconciled with the COC?	Yes	No
9. Were correct bottle(s) used for the test(s) indicated?	Yes	No
10. Sufficient quantity received to perform indicated analyses?	Yes	No
11. Are these work share samples?	Yes	No
If yes, Questions 12-16 have been checked at the originating laboratory.		
12. Were all preserved sample(s) at the correct pH upon receipt?	Yes No	NA pH Strip Lot# HC730269
13. Were VOAs on the COC?	Yes	No
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes	No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #B729401UB	Yes	No
16. Was a LL Hg or Me Hg trip blank present?	Yes	No

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

Contacted PM Date by via Verbal Voice Mail Other

Concerning

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

COC = MW-67-021218 @ 1647, Label on 1x40 = MW-63-021218 @ 1647
Redd 6x40 Dup-02-021318 no time not on COC - will log

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):

WI-NC-099

TestAmerica Multiple Cooler Receipt Form/Narrative
Canton Facility

Login # : 91483

Cooler #	IR Gun #	Observed Temp °C	Corrected Temp °C	Coolant
Client	8	3.2	2.9	ICE
1	1	1.8	1.5	1