TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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

TestAmerica Job ID: 240-108762-1
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

Authorized for release by:
3/14/2019 10:57:00 AM

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	LCS or LCSD is outside acceptance limits.
X	Surrogate is outside control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: 240-108762-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-108762-1

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 3/1/2019 8:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.8º C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-33_022719 (240-108762-1), MW-37_022719 (240-108762-2), MW-71_022719 (240-108762-3), MW-68_022719 (240-108762-4), MW-62_022719 (240-108762-5), MW-55_022719 (240-108762-6), MW-56_022719 (240-108762-7) and TRIP BLANK (240-108762-8) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 03/11/2019 and 03/12/2019.

Tetrachloroethene and Trichloroethene were detected in method blank MB 240-371207/6 at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

1,2-Dichloroethane-d4 (Surr) failed the surrogate recovery criteria high for MW-37_022719 (240-108762-2). Refer to the QC report for details.

Several analytes failed the recovery criteria high for LCS 240-371049/4. Refer to the QC report for details.

The continuing calibration verification (CCV) associated with batch 371049 recovered above the upper control limit for Vinyl Chloride. The

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Laboratory: TestAmerica Canton (Continued)

samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported. The following samples are impacted: MW-33_022719 (240-108762-1), MW-37_022719 (240-108762-2), MW-71_022719 (240-108762-3), MW-55_022719 (240-108762-6), MW-56_022719 (240-108762-7) and TRIP BLANK (240-108762-8).

The laboratory control sample (LCS) for 371049 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-33_022719 (240-108762-1), MW-37_022719 (240-108762-2), MW-71_022719 (240-108762-3), MW-55_022719 (240-108762-6), MW-56_022719 (240-108762-7), TRIP BLANK (240-108762-8) and (LCS 240-371049/4).

Surrogate recovery for the following sample was outside the upper control limit: MW-37_022719 (240-108762-2). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

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-33_022719 (240-108762-1), MW-37_022719 (240-108762-2), MW-71_022719 (240-108762-3), MW-68_022719 (240-108762-4), MW-62_022719 (240-108762-5), MW-55_022719 (240-108762-6) and MW-56_022719 (240-108762-7) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 03/06/2019.

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

Method Summary

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

TestAmerica Job ID: 240-108762-1

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

Protocol References:

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

Laboratory References:

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

Sample Summary

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

TestAmerica Job ID: 240-108762-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-108762-1	MW-33_022719	Water	02/27/19 11:55	03/01/19 08:15
240-108762-2	MW-37_022719	Water	02/27/19 14:25	03/01/19 08:15
240-108762-3	MW-71_022719	Water	02/27/19 11:17	03/01/19 08:15
240-108762-4	MW-68_022719	Water	02/27/19 14:08	03/01/19 08:15
240-108762-5	MW-62_022719	Water	02/27/19 15:30	03/01/19 08:15
240-108762-6	MW-55_022719	Water	02/27/19 13:35	03/01/19 08:15
240-108762-7	MW-56_022719	Water	02/27/19 10:50	03/01/19 08:15
240-108762-8	TRIP BLANK	Water	02/27/19 00:00	03/01/19 08:15

Detection Summary

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

TestAmerica Job ID: 240-108762-1

Client Sample ID: MW-33_022719 — Lab Sample ID: 240-108762-1

No Detections.

Client Sample ID: MW-37_022719 — Lab Sample ID: 240-108762-2

No Detections.

Client Sample ID: MW-71_022719 — Lab Sample ID: 240-108762-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.30	J	1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	0.40	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-68_022719 — Lab Sample ID: 240-108762-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	31		1.0	0.16	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	1.4		1.0	0.17	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	3.6		1.0	0.19	ug/L	1		8260B	Total/NA
Trichloroethene	0.20	J B	1.0	0.10	ug/L	1		8260B	Total/NA
Vinyl chloride	17		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-62_022719 — Lab Sample ID: 240-108762-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.4		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.33	J	1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	0.73	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-55_022719 — Lab Sample ID: 240-108762-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.54	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-56_022719 — Lab Sample ID: 240-108762-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.9		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.26	J	1.0	0.16	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	0.12	J	1.0	0.070	ug/L	1		8260B	Total/NA
Vinyl chloride	0.38	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: TRIP BLANK — Lab Sample ID: 240-108762-8

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-33_022719
Date Collected: 02/27/19 11:55
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/06/19 17:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*63 - 125*		*03/06/19 17:08*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			03/11/19 14:39	1
Benzene	1.0	U	1.0	0.13	ug/L			03/11/19 14:39	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			03/11/19 14:39	1
Bromoform	1.0	U	1.0	0.76	ug/L			03/11/19 14:39	1
Bromomethane	1.0	U	1.0	0.42	ug/L			03/11/19 14:39	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			03/11/19 14:39	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			03/11/19 14:39	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			03/11/19 14:39	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			03/11/19 14:39	1
Chloroethane	1.0	U	1.0	0.83	ug/L			03/11/19 14:39	1
Chloroform	1.0	U	1.0	0.13	ug/L			03/11/19 14:39	1
Chloromethane	1.0	U *	1.0	0.20	ug/L			03/11/19 14:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/11/19 14:39	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			03/11/19 14:39	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			03/11/19 14:39	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			03/11/19 14:39	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			03/11/19 14:39	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			03/11/19 14:39	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/11/19 14:39	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/11/19 14:39	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			03/11/19 14:39	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			03/11/19 14:39	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			03/11/19 14:39	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			03/11/19 14:39	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/11/19 14:39	1
1,2-Dichloropropane	1.0	U *	1.0	0.15	ug/L			03/11/19 14:39	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			03/11/19 14:39	1
2-Hexanone	10	U *	10	0.54	ug/L			03/11/19 14:39	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			03/11/19 14:39	1
Methyl acetate	10	U *	10	1.7	ug/L			03/11/19 14:39	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			03/11/19 14:39	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			03/11/19 14:39	1
4-Methyl-2-pentanone (MIBK)	10	U *	10	0.42	ug/L			03/11/19 14:39	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			03/11/19 14:39	1
Styrene	1.0	U	1.0	0.10	ug/L			03/11/19 14:39	1
1,1,2,2-Tetrachloroethane	1.0	U *	1.0	0.13	ug/L			03/11/19 14:39	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/11/19 14:39	1
Toluene	1.0	U	1.0	0.14	ug/L			03/11/19 14:39	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/11/19 14:39	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			03/11/19 14:39	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			03/11/19 14:39	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/11/19 14:39	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			03/11/19 14:39	1

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

TestAmerica Job ID: 240-108762-1

Client Sample ID: MW-33_022719
Date Collected: 02/27/19 11:55
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/11/19 14:39	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			03/11/19 14:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			03/11/19 14:39	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			03/11/19 14:39	1
1,2,4-Trimethylbenzene	1.0	U *	1.0	0.070	ug/L			03/11/19 14:39	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.12	ug/L			03/11/19 14:39	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/11/19 14:39	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			03/11/19 14:39	1
Diethyl ether	2.0	U *	2.0	0.19	ug/L			03/11/19 14:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*59 - 120*		*03/11/19 14:39*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 128*		*03/11/19 14:39*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*70 - 121*		*03/11/19 14:39*	*1*
Toluene-d8 (Surr)	*109*		*70 - 123*		*03/11/19 14:39*	*1*

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

TestAmerica Job ID: 240-108762-1

Client Sample ID: MW-37_022719
Date Collected: 02/27/19 14:25
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-2
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	0.86	ug/L			03/06/19 17:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*85*		*63 - 125*		*03/06/19 17:33*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			03/11/19 15:01	1
Benzene	1.0	U	1.0	0.13	ug/L			03/11/19 15:01	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			03/11/19 15:01	1
Bromoform	1.0	U	1.0	0.76	ug/L			03/11/19 15:01	1
Bromomethane	1.0	U	1.0	0.42	ug/L			03/11/19 15:01	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			03/11/19 15:01	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			03/11/19 15:01	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			03/11/19 15:01	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			03/11/19 15:01	1
Chloroethane	1.0	U	1.0	0.83	ug/L			03/11/19 15:01	1
Chloroform	1.0	U	1.0	0.13	ug/L			03/11/19 15:01	1
Chloromethane	1.0	U *	1.0	0.20	ug/L			03/11/19 15:01	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/11/19 15:01	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			03/11/19 15:01	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			03/11/19 15:01	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			03/11/19 15:01	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			03/11/19 15:01	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			03/11/19 15:01	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/11/19 15:01	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/11/19 15:01	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			03/11/19 15:01	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			03/11/19 15:01	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			03/11/19 15:01	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			03/11/19 15:01	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/11/19 15:01	1
1,2-Dichloropropane	1.0	U *	1.0	0.15	ug/L			03/11/19 15:01	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			03/11/19 15:01	1
2-Hexanone	10	U *	10	0.54	ug/L			03/11/19 15:01	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			03/11/19 15:01	1
Methyl acetate	10	U *	10	1.7	ug/L			03/11/19 15:01	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			03/11/19 15:01	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			03/11/19 15:01	1
4-Methyl-2-pentanone (MIBK)	10	U *	10	0.42	ug/L			03/11/19 15:01	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			03/11/19 15:01	1
Styrene	1.0	U	1.0	0.10	ug/L			03/11/19 15:01	1
1,1,2,2-Tetrachloroethane	1.0	U *	1.0	0.13	ug/L			03/11/19 15:01	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/11/19 15:01	1
Toluene	1.0	U	1.0	0.14	ug/L			03/11/19 15:01	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/11/19 15:01	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			03/11/19 15:01	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			03/11/19 15:01	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/11/19 15:01	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			03/11/19 15:01	1

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

TestAmerica Job ID: 240-108762-1

Client Sample ID: MW-37_022719
Date Collected: 02/27/19 14:25
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/11/19 15:01	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			03/11/19 15:01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			03/11/19 15:01	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			03/11/19 15:01	1
1,2,4-Trimethylbenzene	1.0	U *	1.0	0.070	ug/L			03/11/19 15:01	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.12	ug/L			03/11/19 15:01	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/11/19 15:01	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			03/11/19 15:01	1
Diethyl ether	2.0	U *	2.0	0.19	ug/L			03/11/19 15:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*59 - 120*		*03/11/19 15:01*	*1*
Dibromofluoromethane (Surr)	*111*		*75 - 128*		*03/11/19 15:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*123*	*X*	*70 - 121*		*03/11/19 15:01*	*1*
Toluene-d8 (Surr)	*117*		*70 - 123*		*03/11/19 15:01*	*1*

Client Sample ID: MW-71_022719

Date Collected: 02/27/19 11:17
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/06/19 17:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*85*		*63 - 125*		*03/06/19 17:58*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			03/11/19 15:23	1
Benzene	1.0	U	1.0	0.13	ug/L			03/11/19 15:23	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			03/11/19 15:23	1
Bromoform	1.0	U	1.0	0.76	ug/L			03/11/19 15:23	1
Bromomethane	1.0	U	1.0	0.42	ug/L			03/11/19 15:23	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			03/11/19 15:23	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			03/11/19 15:23	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			03/11/19 15:23	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			03/11/19 15:23	1
Chloroethane	1.0	U	1.0	0.83	ug/L			03/11/19 15:23	1
Chloroform	1.0	U	1.0	0.13	ug/L			03/11/19 15:23	1
Chloromethane	1.0	U *	1.0	0.20	ug/L			03/11/19 15:23	1
cis-1,2-Dichloroethene	**0.30**	**J**	1.0	0.16	ug/L			03/11/19 15:23	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			03/11/19 15:23	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			03/11/19 15:23	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			03/11/19 15:23	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			03/11/19 15:23	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			03/11/19 15:23	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/11/19 15:23	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/11/19 15:23	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			03/11/19 15:23	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			03/11/19 15:23	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			03/11/19 15:23	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			03/11/19 15:23	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/11/19 15:23	1
1,2-Dichloropropane	1.0	U *	1.0	0.15	ug/L			03/11/19 15:23	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			03/11/19 15:23	1
2-Hexanone	10	U *	10	0.54	ug/L			03/11/19 15:23	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			03/11/19 15:23	1
Methyl acetate	10	U *	10	1.7	ug/L			03/11/19 15:23	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			03/11/19 15:23	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			03/11/19 15:23	1
4-Methyl-2-pentanone (MIBK)	10	U *	10	0.42	ug/L			03/11/19 15:23	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			03/11/19 15:23	1
Styrene	1.0	U	1.0	0.10	ug/L			03/11/19 15:23	1
1,1,2,2-Tetrachloroethane	1.0	U *	1.0	0.13	ug/L			03/11/19 15:23	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/11/19 15:23	1
Toluene	1.0	U	1.0	0.14	ug/L			03/11/19 15:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/11/19 15:23	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			03/11/19 15:23	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			03/11/19 15:23	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/11/19 15:23	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			03/11/19 15:23	1

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

TestAmerica Job ID: 240-108762-1

Client Sample ID: MW-71_022719
Date Collected: 02/27/19 11:17
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/11/19 15:23	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			03/11/19 15:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			03/11/19 15:23	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			03/11/19 15:23	1
1,2,4-Trimethylbenzene	1.0	U *	1.0	0.070	ug/L			03/11/19 15:23	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.12	ug/L			03/11/19 15:23	1
Vinyl chloride	**0.40**	**J**	1.0	0.20	ug/L			03/11/19 15:23	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			03/11/19 15:23	1
Diethyl ether	2.0	U *	2.0	0.19	ug/L			03/11/19 15:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*59 - 120*		*03/11/19 15:23*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 128*		*03/11/19 15:23*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*70 - 121*		*03/11/19 15:23*	*1*
Toluene-d8 (Surr)	*113*		*70 - 123*		*03/11/19 15:23*	*1*

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

TestAmerica Job ID: 240-108762-1

Client Sample ID: MW-68_022719
Date Collected: 02/27/19 14:08
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-4
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	0.86	ug/L			03/06/19 18:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*63 - 125*		*03/06/19 18:24*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			03/12/19 11:54	1
Benzene	1.0	U	1.0	0.13	ug/L			03/12/19 11:54	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			03/12/19 11:54	1
Bromoform	1.0	U	1.0	0.76	ug/L			03/12/19 11:54	1
Bromomethane	1.0	U	1.0	0.42	ug/L			03/12/19 11:54	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			03/12/19 11:54	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			03/12/19 11:54	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			03/12/19 11:54	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			03/12/19 11:54	1
Chloroethane	1.0	U	1.0	0.83	ug/L			03/12/19 11:54	1
Chloroform	1.0	U	1.0	0.13	ug/L			03/12/19 11:54	1
Chloromethane	1.0	U	1.0	0.20	ug/L			03/12/19 11:54	1
cis-1,2-Dichloroethene	**31**		1.0	0.16	ug/L			03/12/19 11:54	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			03/12/19 11:54	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			03/12/19 11:54	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			03/12/19 11:54	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			03/12/19 11:54	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			03/12/19 11:54	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/12/19 11:54	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/12/19 11:54	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			03/12/19 11:54	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			03/12/19 11:54	1
1,1-Dichloroethane	**1.4**		1.0	0.17	ug/L			03/12/19 11:54	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			03/12/19 11:54	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/12/19 11:54	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			03/12/19 11:54	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			03/12/19 11:54	1
2-Hexanone	10	U	10	0.54	ug/L			03/12/19 11:54	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			03/12/19 11:54	1
Methyl acetate	10	U	10	1.7	ug/L			03/12/19 11:54	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			03/12/19 11:54	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			03/12/19 11:54	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			03/12/19 11:54	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			03/12/19 11:54	1
Styrene	1.0	U	1.0	0.10	ug/L			03/12/19 11:54	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			03/12/19 11:54	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/12/19 11:54	1
Toluene	1.0	U	1.0	0.14	ug/L			03/12/19 11:54	1
trans-1,2-Dichloroethene	**3.6**		1.0	0.19	ug/L			03/12/19 11:54	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			03/12/19 11:54	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			03/12/19 11:54	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/12/19 11:54	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			03/12/19 11:54	1

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

TestAmerica Job ID: 240-108762-1

Client Sample ID: MW-68_022719
Date Collected: 02/27/19 14:08
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**0.20**	**J B**	1.0	0.10	ug/L			03/12/19 11:54	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			03/12/19 11:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			03/12/19 11:54	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			03/12/19 11:54	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			03/12/19 11:54	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			03/12/19 11:54	1
Vinyl chloride	**17**		1.0	0.20	ug/L			03/12/19 11:54	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			03/12/19 11:54	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			03/12/19 11:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*59 - 120*		*03/12/19 11:54*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 128*		*03/12/19 11:54*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 121*		*03/12/19 11:54*	*1*
Toluene-d8 (Surr)	*82*		*70 - 123*		*03/12/19 11:54*	*1*

Client Sample ID: MW-62_022719
Date Collected: 02/27/19 15:30
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.4		2.0	0.86	ug/L			03/06/19 18:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*63 - 125*		*03/06/19 18:49*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			03/12/19 12:16	1
Benzene	1.0	U	1.0	0.13	ug/L			03/12/19 12:16	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			03/12/19 12:16	1
Bromoform	1.0	U	1.0	0.76	ug/L			03/12/19 12:16	1
Bromomethane	1.0	U	1.0	0.42	ug/L			03/12/19 12:16	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			03/12/19 12:16	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			03/12/19 12:16	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			03/12/19 12:16	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			03/12/19 12:16	1
Chloroethane	1.0	U	1.0	0.83	ug/L			03/12/19 12:16	1
Chloroform	1.0	U	1.0	0.13	ug/L			03/12/19 12:16	1
Chloromethane	1.0	U	1.0	0.20	ug/L			03/12/19 12:16	1
cis-1,2-Dichloroethene	0.33	J	1.0	0.16	ug/L			03/12/19 12:16	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			03/12/19 12:16	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			03/12/19 12:16	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			03/12/19 12:16	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			03/12/19 12:16	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			03/12/19 12:16	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/12/19 12:16	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/12/19 12:16	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			03/12/19 12:16	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			03/12/19 12:16	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			03/12/19 12:16	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			03/12/19 12:16	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/12/19 12:16	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			03/12/19 12:16	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			03/12/19 12:16	1
2-Hexanone	10	U	10	0.54	ug/L			03/12/19 12:16	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			03/12/19 12:16	1
Methyl acetate	10	U	10	1.7	ug/L			03/12/19 12:16	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			03/12/19 12:16	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			03/12/19 12:16	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			03/12/19 12:16	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			03/12/19 12:16	1
Styrene	1.0	U	1.0	0.10	ug/L			03/12/19 12:16	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			03/12/19 12:16	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/12/19 12:16	1
Toluene	1.0	U	1.0	0.14	ug/L			03/12/19 12:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/12/19 12:16	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			03/12/19 12:16	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			03/12/19 12:16	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/12/19 12:16	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			03/12/19 12:16	1

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

TestAmerica Job ID: 240-108762-1

Client Sample ID: MW-62_022719
Date Collected: 02/27/19 15:30
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/12/19 12:16	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			03/12/19 12:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			03/12/19 12:16	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			03/12/19 12:16	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			03/12/19 12:16	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			03/12/19 12:16	1
Vinyl chloride	**0.73**	**J**	1.0	0.20	ug/L			03/12/19 12:16	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			03/12/19 12:16	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			03/12/19 12:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*65*		*59 - 120*		*03/12/19 12:16*	*1*
Dibromofluoromethane (Surr)	*89*		*75 - 128*		*03/12/19 12:16*	*1*
1,2-Dichloroethane-d4 (Surr)	*85*		*70 - 121*		*03/12/19 12:16*	*1*
Toluene-d8 (Surr)	*78*		*70 - 123*		*03/12/19 12:16*	*1*

Client Sample ID: MW-55_022719

Date Collected: 02/27/19 13:35
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-6

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	0.86	ug/L			03/06/19 19:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*63 - 125*		*03/06/19 19:15*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			03/11/19 16:29	1
Benzene	1.0	U	1.0	0.13	ug/L			03/11/19 16:29	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			03/11/19 16:29	1
Bromoform	1.0	U	1.0	0.76	ug/L			03/11/19 16:29	1
Bromomethane	1.0	U	1.0	0.42	ug/L			03/11/19 16:29	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			03/11/19 16:29	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			03/11/19 16:29	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			03/11/19 16:29	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			03/11/19 16:29	1
Chloroethane	1.0	U	1.0	0.83	ug/L			03/11/19 16:29	1
Chloroform	1.0	U	1.0	0.13	ug/L			03/11/19 16:29	1
Chloromethane	1.0	U *	1.0	0.20	ug/L			03/11/19 16:29	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/11/19 16:29	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			03/11/19 16:29	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			03/11/19 16:29	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			03/11/19 16:29	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			03/11/19 16:29	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			03/11/19 16:29	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/11/19 16:29	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/11/19 16:29	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			03/11/19 16:29	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			03/11/19 16:29	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			03/11/19 16:29	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			03/11/19 16:29	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/11/19 16:29	1
1,2-Dichloropropane	1.0	U *	1.0	0.15	ug/L			03/11/19 16:29	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			03/11/19 16:29	1
2-Hexanone	10	U *	10	0.54	ug/L			03/11/19 16:29	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			03/11/19 16:29	1
Methyl acetate	10	U *	10	1.7	ug/L			03/11/19 16:29	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			03/11/19 16:29	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			03/11/19 16:29	1
4-Methyl-2-pentanone (MIBK)	10	U *	10	0.42	ug/L			03/11/19 16:29	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			03/11/19 16:29	1
Styrene	1.0	U	1.0	0.10	ug/L			03/11/19 16:29	1
1,1,2,2-Tetrachloroethane	1.0	U *	1.0	0.13	ug/L			03/11/19 16:29	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/11/19 16:29	1
Toluene	1.0	U	1.0	0.14	ug/L			03/11/19 16:29	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/11/19 16:29	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			03/11/19 16:29	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			03/11/19 16:29	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/11/19 16:29	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			03/11/19 16:29	1

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

TestAmerica Job ID: 240-108762-1

Client Sample ID: MW-55_022719
Date Collected: 02/27/19 13:35
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/11/19 16:29	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			03/11/19 16:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			03/11/19 16:29	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			03/11/19 16:29	1
1,2,4-Trimethylbenzene	1.0	U *	1.0	0.070	ug/L			03/11/19 16:29	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.12	ug/L			03/11/19 16:29	1
Vinyl chloride	**0.54**	**J**	1.0	0.20	ug/L			03/11/19 16:29	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			03/11/19 16:29	1
Diethyl ether	2.0	U *	2.0	0.19	ug/L			03/11/19 16:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*59 - 120*		*03/11/19 16:29*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 128*		*03/11/19 16:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*70 - 121*		*03/11/19 16:29*	*1*
Toluene-d8 (Surr)	*110*		*70 - 123*		*03/11/19 16:29*	*1*

Client Sample ID: MW-56_022719
Date Collected: 02/27/19 10:50
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**2.9**		2.0	0.86	ug/L			03/06/19 19:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*63 - 125*		*03/06/19 19:44*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			03/11/19 16:51	1
Benzene	1.0	U	1.0	0.13	ug/L			03/11/19 16:51	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			03/11/19 16:51	1
Bromoform	1.0	U	1.0	0.76	ug/L			03/11/19 16:51	1
Bromomethane	1.0	U	1.0	0.42	ug/L			03/11/19 16:51	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			03/11/19 16:51	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			03/11/19 16:51	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			03/11/19 16:51	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			03/11/19 16:51	1
Chloroethane	1.0	U	1.0	0.83	ug/L			03/11/19 16:51	1
Chloroform	1.0	U	1.0	0.13	ug/L			03/11/19 16:51	1
Chloromethane	1.0	U *	1.0	0.20	ug/L			03/11/19 16:51	1
cis-1,2-Dichloroethene	**0.26**	**J**	1.0	0.16	ug/L			03/11/19 16:51	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			03/11/19 16:51	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			03/11/19 16:51	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			03/11/19 16:51	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			03/11/19 16:51	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			03/11/19 16:51	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/11/19 16:51	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/11/19 16:51	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			03/11/19 16:51	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			03/11/19 16:51	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			03/11/19 16:51	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			03/11/19 16:51	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/11/19 16:51	1
1,2-Dichloropropane	1.0	U *	1.0	0.15	ug/L			03/11/19 16:51	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			03/11/19 16:51	1
2-Hexanone	10	U *	10	0.54	ug/L			03/11/19 16:51	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			03/11/19 16:51	1
Methyl acetate	10	U *	10	1.7	ug/L			03/11/19 16:51	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			03/11/19 16:51	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			03/11/19 16:51	1
4-Methyl-2-pentanone (MIBK)	10	U *	10	0.42	ug/L			03/11/19 16:51	1
Methyl tert-butyl ether	**0.12**	**J**	1.0	0.070	ug/L			03/11/19 16:51	1
Styrene	1.0	U	1.0	0.10	ug/L			03/11/19 16:51	1
1,1,2,2-Tetrachloroethane	1.0	U *	1.0	0.13	ug/L			03/11/19 16:51	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/11/19 16:51	1
Toluene	1.0	U	1.0	0.14	ug/L			03/11/19 16:51	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/11/19 16:51	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			03/11/19 16:51	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			03/11/19 16:51	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/11/19 16:51	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			03/11/19 16:51	1

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

TestAmerica Job ID: 240-108762-1

Client Sample ID: MW-56_022719
Date Collected: 02/27/19 10:50
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/11/19 16:51	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			03/11/19 16:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			03/11/19 16:51	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			03/11/19 16:51	1
1,2,4-Trimethylbenzene	1.0	U *	1.0	0.070	ug/L			03/11/19 16:51	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.12	ug/L			03/11/19 16:51	1
Vinyl chloride	**0.38**	**J**	1.0	0.20	ug/L			03/11/19 16:51	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			03/11/19 16:51	1
Diethyl ether	2.0	U *	2.0	0.19	ug/L			03/11/19 16:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*59 - 120*		*03/11/19 16:51*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 128*		*03/11/19 16:51*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*70 - 121*		*03/11/19 16:51*	*1*
Toluene-d8 (Surr)	*110*		*70 - 123*		*03/11/19 16:51*	*1*

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

TestAmerica Job ID: 240-108762-1

Client Sample ID: TRIP BLANK
Date Collected: 02/27/19 00:00
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			03/11/19 17:13	1
Benzene	1.0	U	1.0	0.13	ug/L			03/11/19 17:13	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			03/11/19 17:13	1
Bromoform	1.0	U	1.0	0.76	ug/L			03/11/19 17:13	1
Bromomethane	1.0	U	1.0	0.42	ug/L			03/11/19 17:13	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			03/11/19 17:13	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			03/11/19 17:13	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			03/11/19 17:13	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			03/11/19 17:13	1
Chloroethane	1.0	U	1.0	0.83	ug/L			03/11/19 17:13	1
Chloroform	1.0	U	1.0	0.13	ug/L			03/11/19 17:13	1
Chloromethane	1.0	U *	1.0	0.20	ug/L			03/11/19 17:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/11/19 17:13	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			03/11/19 17:13	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			03/11/19 17:13	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			03/11/19 17:13	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			03/11/19 17:13	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			03/11/19 17:13	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/11/19 17:13	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/11/19 17:13	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			03/11/19 17:13	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			03/11/19 17:13	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			03/11/19 17:13	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			03/11/19 17:13	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/11/19 17:13	1
1,2-Dichloropropane	1.0	U *	1.0	0.15	ug/L			03/11/19 17:13	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			03/11/19 17:13	1
2-Hexanone	10	U *	10	0.54	ug/L			03/11/19 17:13	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			03/11/19 17:13	1
Methyl acetate	10	U *	10	1.7	ug/L			03/11/19 17:13	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			03/11/19 17:13	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			03/11/19 17:13	1
4-Methyl-2-pentanone (MIBK)	10	U *	10	0.42	ug/L			03/11/19 17:13	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			03/11/19 17:13	1
Styrene	1.0	U	1.0	0.10	ug/L			03/11/19 17:13	1
1,1,2,2-Tetrachloroethane	1.0	U *	1.0	0.13	ug/L			03/11/19 17:13	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/11/19 17:13	1
Toluene	1.0	U	1.0	0.14	ug/L			03/11/19 17:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/11/19 17:13	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			03/11/19 17:13	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			03/11/19 17:13	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/11/19 17:13	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			03/11/19 17:13	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/11/19 17:13	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			03/11/19 17:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			03/11/19 17:13	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			03/11/19 17:13	1
1,2,4-Trimethylbenzene	1.0	U *	1.0	0.070	ug/L			03/11/19 17:13	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.12	ug/L			03/11/19 17:13	1

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

TestAmerica Job ID: 240-108762-1

Client Sample ID: TRIP BLANK
Date Collected: 02/27/19 00:00
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/11/19 17:13	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			03/11/19 17:13	1
Diethyl ether	2.0	U *	2.0	0.19	ug/L			03/11/19 17:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*59 - 120*		*03/11/19 17:13*	*1*
Dibromofluoromethane (Surr)	*105*		*75 - 128*		*03/11/19 17:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*70 - 121*		*03/11/19 17:13*	*1*
Toluene-d8 (Surr)	*106*		*70 - 123*		*03/11/19 17:13*	*1*

Surrogate Summary

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

TestAmerica Job ID: 240-108762-1

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	(59-120)	(75-128)	(70-121)	(70-123)
240-108762-1	MW-33_022719	95	103	113	109
240-108762-2	MW-37_022719	101	111	123 X	117
240-108762-3	MW-71_022719	94	103	116	113
240-108762-4	MW-68_022719	74	102	95	82
240-108762-5	MW-62_022719	65	89	85	78
240-108762-6	MW-55_022719	94	104	115	110
240-108762-7	MW-56_022719	96	103	116	110
240-108762-8	TRIP BLANK	93	105	116	106
240-108820-C-1 MS	Matrix Spike	115	105	112	125 X
240-108820-C-1 MSD	Matrix Spike Duplicate	109	93	101	117
240-108876-E-4 MSD	Matrix Spike Duplicate	83	91	82	85
240-108876-H-4 MS	Matrix Spike	85	94	85	86
LCS 240-371049/4	Lab Control Sample	111	95	103	119
LCS 240-371207/4	Lab Control Sample	82	87	79	83
MB 240-371049/6	Method Blank	102	112	119	114
MB 240-371207/6	Method Blank	73	94	92	83

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)
240-108737-D-4 MS	Matrix Spike	83
240-108737-D-4 MSD	Matrix Spike Duplicate	84
240-108762-1	MW-33_022719	87
240-108762-2	MW-37_022719	85
240-108762-3	MW-71_022719	85
240-108762-4	MW-68_022719	87
240-108762-5	MW-62_022719	87
240-108762-6	MW-55_022719	88
240-108762-7	MW-56_022719	88
LCS 240-370526/4	Lab Control Sample	83
MB 240-370526/5	Method Blank	87

Surrogate Legend

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

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

Lab Sample ID: MB 240-371049/6
Matrix: Water
Analysis Batch: 371049

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			03/11/19 12:02	1
Benzene	1.0	U	1.0	0.13	ug/L			03/11/19 12:02	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			03/11/19 12:02	1
Bromoform	1.0	U	1.0	0.76	ug/L			03/11/19 12:02	1
Bromomethane	1.0	U	1.0	0.42	ug/L			03/11/19 12:02	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			03/11/19 12:02	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			03/11/19 12:02	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			03/11/19 12:02	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			03/11/19 12:02	1
Chloroethane	1.0	U	1.0	0.83	ug/L			03/11/19 12:02	1
Chloroform	1.0	U	1.0	0.13	ug/L			03/11/19 12:02	1
Chloromethane	1.0	U	1.0	0.20	ug/L			03/11/19 12:02	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/11/19 12:02	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			03/11/19 12:02	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			03/11/19 12:02	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			03/11/19 12:02	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			03/11/19 12:02	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			03/11/19 12:02	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/11/19 12:02	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/11/19 12:02	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			03/11/19 12:02	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			03/11/19 12:02	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			03/11/19 12:02	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			03/11/19 12:02	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/11/19 12:02	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			03/11/19 12:02	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			03/11/19 12:02	1
2-Hexanone	10	U	10	0.54	ug/L			03/11/19 12:02	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			03/11/19 12:02	1
Methyl acetate	10	U	10	1.7	ug/L			03/11/19 12:02	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			03/11/19 12:02	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			03/11/19 12:02	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			03/11/19 12:02	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			03/11/19 12:02	1
Styrene	1.0	U	1.0	0.10	ug/L			03/11/19 12:02	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			03/11/19 12:02	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/11/19 12:02	1
Toluene	1.0	U	1.0	0.14	ug/L			03/11/19 12:02	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/11/19 12:02	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			03/11/19 12:02	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			03/11/19 12:02	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/11/19 12:02	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			03/11/19 12:02	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/11/19 12:02	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			03/11/19 12:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			03/11/19 12:02	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			03/11/19 12:02	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			03/11/19 12:02	1

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

Lab Sample ID: MB 240-371049/6
Matrix: Water
Analysis Batch: 371049

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			03/11/19 12:02	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/11/19 12:02	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			03/11/19 12:02	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			03/11/19 12:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*59 - 120*		*03/11/19 12:02*	*1*
Dibromofluoromethane (Surr)	*112*		*75 - 128*		*03/11/19 12:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*119*		*70 - 121*		*03/11/19 12:02*	*1*
Toluene-d8 (Surr)	*114*		*70 - 123*		*03/11/19 12:02*	*1*

Lab Sample ID: LCS 240-371049/4
Matrix: Water
Analysis Batch: 371049

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	25.4		ug/L		127	21 - 162
Benzene	10.0	11.3		ug/L		113	80 - 123
Bromodichloromethane	10.0	10.0		ug/L		100	77 - 125
Bromoform	10.0	7.57		ug/L		76	49 - 141
Bromomethane	10.0	10.2		ug/L		102	41 - 175
2-Butanone (MEK)	20.0	31.8		ug/L		159	39 - 163
Carbon disulfide	10.0	10.8		ug/L		108	60 - 138
Carbon tetrachloride	10.0	8.53		ug/L		85	63 - 140
Chlorobenzene	10.0	9.89		ug/L		99	80 - 121
Chloroethane	10.0	13.1		ug/L		131	33 - 173
Chloroform	10.0	10.3		ug/L		103	79 - 127
Chloromethane	10.0	19.2	*	ug/L		192	54 - 143
cis-1,2-Dichloroethene	10.0	9.78		ug/L		98	76 - 128
cis-1,3-Dichloropropene	10.0	12.2		ug/L		122	64 - 132
Cyclohexane	10.0	13.7		ug/L		137	58 - 145
Dibromochloromethane	10.0	9.45		ug/L		95	70 - 132
1,2-Dibromo-3-Chloropropane	10.0	9.23		ug/L		92	46 - 132
1,2-Dibromoethane	10.0	10.4		ug/L		104	77 - 123
1,2-Dichlorobenzene	10.0	9.75		ug/L		97	78 - 120
1,3-Dichlorobenzene	10.0	9.58		ug/L		96	78 - 120
1,4-Dichlorobenzene	10.0	9.26		ug/L		93	78 - 120
Dichlorodifluoromethane	10.0	6.28		ug/L		63	29 - 148
1,1-Dichloroethane	10.0	12.2		ug/L		122	75 - 133
1,2-Dichloroethane	10.0	10.4		ug/L		104	71 - 135
1,1-Dichloroethene	10.0	10.2		ug/L		102	65 - 139
1,2-Dichloropropane	10.0	13.7	*	ug/L		137	78 - 133
Ethylbenzene	10.0	10.1		ug/L		101	80 - 120
2-Hexanone	20.0	33.5	*	ug/L		167	43 - 148
Isopropylbenzene	10.0	9.87		ug/L		99	74 - 120
Methyl acetate	20.0	30.5	*	ug/L		152	52 - 145
Methylcyclohexane	10.0	9.84		ug/L		98	60 - 125
Methylene Chloride	10.0	10.7		ug/L		107	70 - 134

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

Lab Sample ID: LCS 240-371049/4
Matrix: Water
Analysis Batch: 371049

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Methyl-2-pentanone (MIBK)	20.0	30.9	*	ug/L		154	49 - 143
Methyl tert-butyl ether	10.0	10.6		ug/L		106	51 - 133
Styrene	10.0	10.0		ug/L		100	79 - 120
1,1,2,2-Tetrachloroethane	10.0	14.8	*	ug/L		148	65 - 139
Tetrachloroethene	10.0	8.14		ug/L		81	74 - 130
Toluene	10.0	11.7		ug/L		117	78 - 129
trans-1,2-Dichloroethene	10.0	10.1		ug/L		101	78 - 133
trans-1,3-Dichloropropene	10.0	11.5		ug/L		115	55 - 128
1,2,4-Trichlorobenzene	10.0	7.54		ug/L		75	42 - 133
1,1,1-Trichloroethane	10.0	8.97		ug/L		90	69 - 134
1,1,2-Trichloroethane	10.0	11.5		ug/L		115	78 - 133
Trichloroethene	10.0	8.29		ug/L		83	76 - 125
Trichlorofluoromethane	10.0	7.00		ug/L		70	51 - 164
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	8.23		ug/L		82	50 - 156
1,2,4-Trimethylbenzene	10.0	12.4	*	ug/L		124	74 - 120
1,3,5-Trimethylbenzene	10.0	12.3	*	ug/L		123	75 - 121
Vinyl chloride	10.0	11.9		ug/L		119	58 - 143
Xylenes, Total	20.0	21.0		ug/L		105	80 - 120
Diethyl ether	10.0	14.7	*	ug/L		147	70 - 146

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*59 - 120*
Dibromofluoromethane (Surr)	*95*		*75 - 128*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 121*
Toluene-d8 (Surr)	*119*		*70 - 123*

Lab Sample ID: 240-108820-C-1 MS
Matrix: Water
Analysis Batch: 371049

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	1200		1000	2300		ug/L		108	10 - 168
Benzene	50	U	500	507		ug/L		101	71 - 122
Bromodichloromethane	50	U	500	468		ug/L		94	64 - 125
Bromoform	50	U	500	356		ug/L		71	44 - 129
Bromomethane	50	U	500	514		ug/L		103	19 - 187
2-Butanone (MEK)	1800		1000	2970		ug/L		118	37 - 156
Carbon disulfide	250	U	500	523		ug/L		105	43 - 144
Carbon tetrachloride	50	U	500	372		ug/L		74	41 - 143
Chlorobenzene	50	U	500	447		ug/L		89	70 - 123
Chloroethane	50	U	500	699		ug/L		140	11 - 189
Chloroform	50	U	500	497		ug/L		99	68 - 130
Chloromethane	50	U * F1	500	734		ug/L		147	31 - 154
cis-1,2-Dichloroethene	50	U	500	466		ug/L		93	64 - 130
cis-1,3-Dichloropropene	50	U	500	459		ug/L		92	48 - 127
Cyclohexane	50	U F1	500	576		ug/L		115	42 - 135
Dibromochloromethane	50	U	500	468		ug/L		94	60 - 129

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

Lab Sample ID: 240-108820-C-1 MS
Matrix: Water
Analysis Batch: 371049

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
1,2-Dibromo-3-Chloropropane	50	U	500	417		ug/L		83	38 - 124
1,2-Dibromoethane	50	U	500	461		ug/L		92	71 - 123
1,2-Dichlorobenzene	50	U	500	428		ug/L		86	64 - 120
1,3-Dichlorobenzene	50	U	500	413		ug/L		83	62 - 120
1,4-Dichlorobenzene	50	U	500	419		ug/L		84	63 - 120
Dichlorodifluoromethane	50	U	500	370		ug/L		74	28 - 136
1,1-Dichloroethane	50	U	500	577		ug/L		115	63 - 136
1,2-Dichloroethane	50	U	500	500		ug/L		100	65 - 135
1,1-Dichloroethene	50	U	500	495		ug/L		99	53 - 140
1,2-Dichloropropane	50	U * F1	500	606		ug/L		121	70 - 132
Ethylbenzene	50	U	500	437		ug/L		87	66 - 120
2-Hexanone	500	U * F1	1000	1240		ug/L		124	42 - 150
Isopropylbenzene	50	U	500	435		ug/L		87	59 - 120
Methyl acetate	500	U * F1	1000	1380		ug/L		138	41 - 142
Methylcyclohexane	50	U	500	392		ug/L		78	37 - 123
Methylene Chloride	250	U	500	540		ug/L		108	61 - 130
4-Methyl-2-pentanone (MIBK)	500	U * F1	1000	1230		ug/L		123	44 - 143
Methyl tert-butyl ether	50	U	500	501		ug/L		100	41 - 136
Styrene	50	U	500	447		ug/L		89	68 - 120
1,1,2,2-Tetrachloroethane	50	U * F1	500	619		ug/L		124	60 - 137
Tetrachloroethene	50	U	500	345		ug/L		69	51 - 136
Toluene	50	U	500	504		ug/L		101	62 - 132
trans-1,2-Dichloroethene	50	U	500	469		ug/L		94	68 - 133
trans-1,3-Dichloropropene	50	U	500	474		ug/L		95	40 - 125
1,2,4-Trichlorobenzene	50	U	500	296		ug/L		59	30 - 126
1,1,1-Trichloroethane	50	U	500	407		ug/L		81	51 - 138
1,1,2-Trichloroethane	50	U	500	486		ug/L		97	76 - 132
Trichloroethene	50	U	500	336		ug/L		67	55 - 131
Trichlorofluoromethane	50	U	500	401		ug/L		80	37 - 174
1,1,2-Trichloro-1,2,2-trifluoroethane	50	U	500	314		ug/L		63	31 - 156
Vinyl chloride	50	U	500	624		ug/L		125	43 - 154
Xylenes, Total	100	U	1000	926		ug/L		93	67 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*59 - 120*
Dibromofluoromethane (Surr)	*105*		*75 - 128*
1,2-Dichloroethane-d4 (Surr)	*112*		*70 - 121*
Toluene-d8 (Surr)	*125*	*X*	*70 - 123*

Lab Sample ID: 240-108820-C-1 MSD
Matrix: Water
Analysis Batch: 371049

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	1200		1000	2310		ug/L		108	10 - 168	0	35
Benzene	50	U	500	557		ug/L		111	71 - 122	9	22
Bromodichloromethane	50	U	500	517		ug/L		103	64 - 125	10	27

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

Lab Sample ID: 240-108820-C-1 MSD
Matrix: Water
Analysis Batch: 371049

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
Bromoform	50	U	500	382		ug/L		76	44 - 129	7	28
Bromomethane	50	U	500	573		ug/L		115	19 - 187	11	35
2-Butanone (MEK)	1800		1000	3310		ug/L		152	37 - 156	11	35
Carbon disulfide	250	U	500	581		ug/L		116	43 - 144	11	33
Carbon tetrachloride	50	U	500	450		ug/L		90	41 - 143	19	30
Chlorobenzene	50	U	500	495		ug/L		99	70 - 123	10	23
Chloroethane	50	U	500	763		ug/L		153	11 - 189	9	35
Chloroform	50	U	500	525		ug/L		105	68 - 130	6	23
Chloromethane	50	U * F1	500	774	F1	ug/L		155	31 - 154	5	35
cis-1,2-Dichloroethene	50	U	500	484		ug/L		97	64 - 130	4	21
cis-1,3-Dichloropropene	50	U	500	546		ug/L		109	48 - 127	17	30
Cyclohexane	50	U F1	500	767	F1	ug/L		153	42 - 135	28	35
Dibromochloromethane	50	U	500	490		ug/L		98	60 - 129	5	26
1,2-Dibromo-3-Chloropropane	50	U	500	462		ug/L		92	38 - 124	10	35
1,2-Dibromoethane	50	U	500	502		ug/L		100	71 - 123	9	27
1,2-Dichlorobenzene	50	U	500	459		ug/L		92	64 - 120	7	30
1,3-Dichlorobenzene	50	U	500	470		ug/L		94	62 - 120	13	31
1,4-Dichlorobenzene	50	U	500	476		ug/L		95	63 - 120	13	28
Dichlorodifluoromethane	50	U	500	525		ug/L		105	28 - 136	35	35
1,1-Dichloroethane	50	U	500	621		ug/L		124	63 - 136	7	23
1,2-Dichloroethane	50	U	500	528		ug/L		106	65 - 135	5	24
1,1-Dichloroethene	50	U	500	559		ug/L		112	53 - 140	12	35
1,2-Dichloropropane	50	U * F1	500	693	F1	ug/L		139	70 - 132	13	26
Ethylbenzene	50	U	500	507		ug/L		101	66 - 120	15	24
2-Hexanone	500	U * F1	1000	1610	F1	ug/L		161	42 - 150	26	35
Isopropylbenzene	50	U	500	501		ug/L		100	59 - 120	14	31
Methyl acetate	500	U * F1	1000	1520	F1	ug/L		152	41 - 142	10	35
Methylcyclohexane	50	U	500	532		ug/L		106	37 - 123	30	35
Methylene Chloride	250	U	500	557		ug/L		111	61 - 130	3	29
4-Methyl-2-pentanone (MIBK)	500	U * F1	1000	1480	F1	ug/L		148	44 - 143	19	35
Methyl tert-butyl ether	50	U	500	525		ug/L		105	41 - 136	5	29
Styrene	50	U	500	484		ug/L		97	68 - 120	8	26
1,1,2,2-Tetrachloroethane	50	U * F1	500	745	F1	ug/L		149	60 - 137	18	31
Tetrachloroethene	50	U	500	421		ug/L		84	51 - 136	20	23
Toluene	50	U	500	560		ug/L		112	62 - 132	11	23
trans-1,2-Dichloroethene	50	U	500	504		ug/L		101	68 - 133	7	24
trans-1,3-Dichloropropene	50	U	500	572		ug/L		114	40 - 125	19	27
1,2,4-Trichlorobenzene	50	U	500	334		ug/L		67	30 - 126	12	35
1,1,1-Trichloroethane	50	U	500	448		ug/L		90	51 - 138	10	27
1,1,2-Trichloroethane	50	U	500	524		ug/L		105	76 - 132	7	25
Trichloroethene	50	U	500	402		ug/L		80	55 - 131	18	23
Trichlorofluoromethane	50	U	500	520		ug/L		104	37 - 174	26	35
1,1,2-Trichloro-1,2,2-trifluoroethane	50	U	500	424		ug/L		85	31 - 156	30	35
Vinyl chloride	50	U	500	726		ug/L		145	43 - 154	15	29
Xylenes, Total	100	U	1000	1040		ug/L		104	67 - 120	12	25

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

Lab Sample ID: 240-108820-C-1 MSD
Matrix: Water
Analysis Batch: 371049

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

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*59 - 120*
Dibromofluoromethane (Surr)	*93*		*75 - 128*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 121*
Toluene-d8 (Surr)	*117*		*70 - 123*

Lab Sample ID: MB 240-371207/6
Matrix: Water
Analysis Batch: 371207

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			03/12/19 10:01	1
Benzene	1.0	U	1.0	0.13	ug/L			03/12/19 10:01	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			03/12/19 10:01	1
Bromoform	1.0	U	1.0	0.76	ug/L			03/12/19 10:01	1
Bromomethane	1.0	U	1.0	0.42	ug/L			03/12/19 10:01	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			03/12/19 10:01	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			03/12/19 10:01	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			03/12/19 10:01	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			03/12/19 10:01	1
Chloroethane	1.0	U	1.0	0.83	ug/L			03/12/19 10:01	1
Chloroform	1.0	U	1.0	0.13	ug/L			03/12/19 10:01	1
Chloromethane	1.0	U	1.0	0.20	ug/L			03/12/19 10:01	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/12/19 10:01	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			03/12/19 10:01	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			03/12/19 10:01	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			03/12/19 10:01	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			03/12/19 10:01	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			03/12/19 10:01	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/12/19 10:01	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/12/19 10:01	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			03/12/19 10:01	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			03/12/19 10:01	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			03/12/19 10:01	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			03/12/19 10:01	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/12/19 10:01	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			03/12/19 10:01	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			03/12/19 10:01	1
2-Hexanone	10	U	10	0.54	ug/L			03/12/19 10:01	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			03/12/19 10:01	1
Methyl acetate	10	U	10	1.7	ug/L			03/12/19 10:01	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			03/12/19 10:01	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			03/12/19 10:01	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			03/12/19 10:01	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			03/12/19 10:01	1
Styrene	1.0	U	1.0	0.10	ug/L			03/12/19 10:01	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			03/12/19 10:01	1
Tetrachloroethene	0.193	J	1.0	0.15	ug/L			03/12/19 10:01	1
Toluene	1.0	U	1.0	0.14	ug/L			03/12/19 10:01	1

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

Lab Sample ID: MB 240-371207/6
Matrix: Water
Analysis Batch: 371207

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/12/19 10:01	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			03/12/19 10:01	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			03/12/19 10:01	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/12/19 10:01	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			03/12/19 10:01	1
Trichloroethene	0.124	J	1.0	0.10	ug/L			03/12/19 10:01	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			03/12/19 10:01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			03/12/19 10:01	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			03/12/19 10:01	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			03/12/19 10:01	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			03/12/19 10:01	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/12/19 10:01	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			03/12/19 10:01	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			03/12/19 10:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*59 - 120*		*03/12/19 10:01*	*1*
Dibromofluoromethane (Surr)	*94*		*75 - 128*		*03/12/19 10:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 121*		*03/12/19 10:01*	*1*
Toluene-d8 (Surr)	*83*		*70 - 123*		*03/12/19 10:01*	*1*

Lab Sample ID: LCS 240-371207/4
Matrix: Water
Analysis Batch: 371207

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	14.0		ug/L		70	21 - 162
Benzene	10.0	10.0		ug/L		100	80 - 123
Bromodichloromethane	10.0	8.38		ug/L		84	77 - 125
Bromoform	10.0	5.99		ug/L		60	49 - 141
Bromomethane	10.0	7.38		ug/L		74	41 - 175
2-Butanone (MEK)	20.0	14.1		ug/L		70	39 - 163
Carbon disulfide	10.0	7.30		ug/L		73	60 - 138
Carbon tetrachloride	10.0	9.84		ug/L		98	63 - 140
Chlorobenzene	10.0	10.4		ug/L		104	80 - 121
Chloroethane	10.0	7.61		ug/L		76	33 - 173
Chloroform	10.0	10.6		ug/L		106	79 - 127
Chloromethane	10.0	7.99		ug/L		80	54 - 143
cis-1,2-Dichloroethene	10.0	10.5		ug/L		105	76 - 128
cis-1,3-Dichloropropene	10.0	7.64		ug/L		76	64 - 132
Cyclohexane	10.0	9.24		ug/L		92	58 - 145
Dibromochloromethane	10.0	8.12		ug/L		81	70 - 132
1,2-Dibromo-3-Chloropropane	10.0	4.88		ug/L		49	46 - 132
1,2-Dibromoethane	10.0	8.29		ug/L		83	77 - 123
1,2-Dichlorobenzene	10.0	10.0		ug/L		100	78 - 120
1,3-Dichlorobenzene	10.0	9.92		ug/L		99	78 - 120
1,4-Dichlorobenzene	10.0	9.94		ug/L		99	78 - 120
Dichlorodifluoromethane	10.0	8.57		ug/L		86	29 - 148

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

Lab Sample ID: LCS 240-371207/4
Matrix: Water
Analysis Batch: 371207

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	10.0	9.92		ug/L		99	75 - 133
1,2-Dichloroethane	10.0	9.62		ug/L		96	71 - 135
1,1-Dichloroethene	10.0	8.57		ug/L		86	65 - 139
1,2-Dichloropropane	10.0	9.37		ug/L		94	78 - 133
Ethylbenzene	10.0	10.0		ug/L		100	80 - 120
2-Hexanone	20.0	11.7		ug/L		59	43 - 148
Isopropylbenzene	10.0	10.2		ug/L		102	74 - 120
Methyl acetate	20.0	13.0		ug/L		65	52 - 145
Methylcyclohexane	10.0	9.13		ug/L		91	60 - 125
Methylene Chloride	10.0	9.38		ug/L		94	70 - 134
4-Methyl-2-pentanone (MIBK)	20.0	11.2		ug/L		56	49 - 143
Methyl tert-butyl ether	10.0	7.01		ug/L		70	51 - 133
Styrene	10.0	9.59		ug/L		96	79 - 120
1,1,2,2-Tetrachloroethane	10.0	7.50		ug/L		75	65 - 139
Tetrachloroethene	10.0	11.4		ug/L		114	74 - 130
Toluene	10.0	10.2		ug/L		102	78 - 129
trans-1,2-Dichloroethene	10.0	11.0		ug/L		110	78 - 133
trans-1,3-Dichloropropene	10.0	6.52		ug/L		65	55 - 128
1,2,4-Trichlorobenzene	10.0	8.93		ug/L		89	42 - 133
1,1,1-Trichloroethane	10.0	11.0		ug/L		110	69 - 134
1,1,2-Trichloroethane	10.0	9.41		ug/L		94	78 - 133
Trichloroethene	10.0	10.3		ug/L		103	76 - 125
Trichlorofluoromethane	10.0	9.04		ug/L		90	51 - 164
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	10.3		ug/L		103	50 - 156
1,2,4-Trimethylbenzene	10.0	9.67		ug/L		97	74 - 120
1,3,5-Trimethylbenzene	10.0	9.74		ug/L		97	75 - 121
Vinyl chloride	10.0	8.19		ug/L		82	58 - 143
Xylenes, Total	20.0	20.0		ug/L		100	80 - 120
Diethyl ether	10.0	8.66		ug/L		87	70 - 146

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*82*		*59 - 120*
Dibromofluoromethane (Surr)	*87*		*75 - 128*
1,2-Dichloroethane-d4 (Surr)	*79*		*70 - 121*
Toluene-d8 (Surr)	*83*		*70 - 123*

Lab Sample ID: 240-108876-E-4 MSD
Matrix: Water
Analysis Batch: 371207

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	17.9		ug/L		90	10 - 168	0	35
Benzene	1.0	U	10.0	9.28		ug/L		93	71 - 122	2	22
Bromodichloromethane	1.0	U	10.0	7.65		ug/L		77	64 - 125	1	27
Bromoform	1.0	U	10.0	5.67		ug/L		57	44 - 129	1	28
Bromomethane	1.0	U	10.0	6.37		ug/L		64	19 - 187	13	35
2-Butanone (MEK)	10	U	20.0	12.4		ug/L		62	37 - 156	0	35

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

Lab Sample ID: 240-108876-E-4 MSD
Matrix: Water
Analysis Batch: 371207

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
Carbon disulfide	5.0	U	10.0	8.75		ug/L		87	43 - 144	2	33
Carbon tetrachloride	1.0	U	10.0	8.70		ug/L		87	41 - 143	8	30
Chlorobenzene	1.0	U	10.0	9.48		ug/L		95	70 - 123	2	23
Chloroethane	1.0	U	10.0	7.08		ug/L		71	11 - 189	11	35
Chloroform	1.0	U	10.0	9.83		ug/L		98	68 - 130	2	23
Chloromethane	1.0	U	10.0	3.84		ug/L		38	31 - 154	12	35
cis-1,2-Dichloroethene	1.0	U	10.0	9.75		ug/L		97	64 - 130	2	21
cis-1,3-Dichloropropene	1.0	U	10.0	6.23		ug/L		62	48 - 127	4	30
Cyclohexane	1.0	U	10.0	7.84		ug/L		78	42 - 135	21	35
Dibromochloromethane	1.0	U	10.0	7.37		ug/L		74	60 - 129	2	26
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	4.45		ug/L		45	38 - 124	1	35
1,2-Dibromoethane	1.0	U	10.0	7.42		ug/L		74	71 - 123	0	27
1,2-Dichlorobenzene	1.0	U	10.0	9.33		ug/L		93	64 - 120	3	30
1,3-Dichlorobenzene	1.0	U	10.0	9.10		ug/L		91	62 - 120	5	31
1,4-Dichlorobenzene	1.0	U	10.0	9.14		ug/L		91	63 - 120	4	28
Dichlorodifluoromethane	1.0	U	10.0	8.59		ug/L		86	28 - 136	8	35
1,1-Dichloroethane	1.0	U	10.0	9.36		ug/L		94	63 - 136	0	23
1,2-Dichloroethane	1.0	U	10.0	8.94		ug/L		89	65 - 135	0	24
1,1-Dichloroethene	1.0	U	10.0	8.20		ug/L		82	53 - 140	3	35
1,2-Dichloropropane	1.0	U	10.0	8.64		ug/L		86	70 - 132	1	26
Ethylbenzene	1.0	U	10.0	9.16		ug/L		92	66 - 120	4	24
2-Hexanone	10	U	20.0	10.6		ug/L		53	42 - 150	0	35
Isopropylbenzene	1.0	U	10.0	9.30		ug/L		93	59 - 120	7	31
Methyl acetate	10	U	20.0	11.7		ug/L		59	41 - 142	5	35
Methylcyclohexane	1.0	U	10.0	7.84		ug/L		78	37 - 123	29	35
Methylene Chloride	5.0	U	10.0	8.20		ug/L		82	61 - 130	4	29
4-Methyl-2-pentanone (MIBK)	10	U	20.0	9.89	J	ug/L		49	44 - 143	1	35
Methyl tert-butyl ether	1.0	U	10.0	6.22		ug/L		62	41 - 136	3	29
Styrene	1.0	U	10.0	8.68		ug/L		87	68 - 120	0	26
1,1,2,2-Tetrachloroethane	1.0	U	10.0	6.86		ug/L		69	60 - 137	1	31
Tetrachloroethene	1.0	U	10.0	10.1		ug/L		101	51 - 136	9	23
Toluene	1.0	U	10.0	9.26		ug/L		93	62 - 132	1	23
trans-1,2-Dichloroethene	1.0	U	10.0	10.1		ug/L		101	68 - 133	1	24
trans-1,3-Dichloropropene	1.0	U	10.0	5.34		ug/L		53	40 - 125	4	27
1,2,4-Trichlorobenzene	1.0	U	10.0	7.98		ug/L		80	30 - 126	7	35
1,1,1-Trichloroethane	1.0	U	10.0	9.99		ug/L		100	51 - 138	2	27
1,1,2-Trichloroethane	1.0	U	10.0	8.58		ug/L		86	76 - 132	0	25
Trichloroethene	1.0	U	10.0	9.34		ug/L		93	55 - 131	2	23
Trichlorofluoromethane	1.0	U	10.0	8.81		ug/L		88	37 - 174	1	35
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	8.96		ug/L		90	31 - 156	18	35
1,2,4-Trimethylbenzene	1.0	U	10.0	8.96		ug/L		90	62 - 120	7	27
1,3,5-Trimethylbenzene	1.0	U	10.0	8.89		ug/L		89	64 - 120	9	23
Vinyl chloride	1.0	U	10.0	8.53		ug/L		85	43 - 154	6	29
Xylenes, Total	2.0	U	20.0	18.4		ug/L		92	67 - 120	2	25
Diethyl ether	2.0	U	10.0	7.85		ug/L		79	65 - 134	3	33

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

Lab Sample ID: 240-108876-E-4 MSD
Matrix: Water
Analysis Batch: 371207

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

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*83*		*59 - 120*
Dibromofluoromethane (Surr)	*91*		*75 - 128*
1,2-Dichloroethane-d4 (Surr)	*82*		*70 - 121*
Toluene-d8 (Surr)	*85*		*70 - 123*

Lab Sample ID: 240-108876-H-4 MS
Matrix: Water
Analysis Batch: 371207

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	17.9		ug/L		89	10 - 168
Benzene	1.0	U	10.0	9.42		ug/L		94	71 - 122
Bromodichloromethane	1.0	U	10.0	7.61		ug/L		76	64 - 125
Bromoform	1.0	U	10.0	5.63		ug/L		56	44 - 129
Bromomethane	1.0	U	10.0	7.29		ug/L		73	19 - 187
2-Butanone (MEK)	10	U	20.0	12.3		ug/L		62	37 - 156
Carbon disulfide	5.0	U	10.0	8.89		ug/L		89	43 - 144
Carbon tetrachloride	1.0	U	10.0	8.06		ug/L		81	41 - 143
Chlorobenzene	1.0	U	10.0	9.33		ug/L		93	70 - 123
Chloroethane	1.0	U	10.0	7.90		ug/L		79	11 - 189
Chloroform	1.0	U	10.0	9.99		ug/L		100	68 - 130
Chloromethane	1.0	U	10.0	3.39		ug/L		34	31 - 154
cis-1,2-Dichloroethene	1.0	U	10.0	9.90		ug/L		99	64 - 130
cis-1,3-Dichloropropene	1.0	U	10.0	5.98		ug/L		60	48 - 127
Cyclohexane	1.0	U	10.0	6.37		ug/L		64	42 - 135
Dibromochloromethane	1.0	U	10.0	7.20		ug/L		72	60 - 129
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	4.48		ug/L		45	38 - 124
1,2-Dibromoethane	1.0	U	10.0	7.45		ug/L		75	71 - 123
1,2-Dichlorobenzene	1.0	U	10.0	9.07		ug/L		91	64 - 120
1,3-Dichlorobenzene	1.0	U	10.0	8.67		ug/L		87	62 - 120
1,4-Dichlorobenzene	1.0	U	10.0	8.80		ug/L		88	63 - 120
Dichlorodifluoromethane	1.0	U	10.0	7.94		ug/L		79	28 - 136
1,1-Dichloroethane	1.0	U	10.0	9.40		ug/L		94	63 - 136
1,2-Dichloroethane	1.0	U	10.0	8.95		ug/L		89	65 - 135
1,1-Dichloroethene	1.0	U	10.0	8.00		ug/L		80	53 - 140
1,2-Dichloropropane	1.0	U	10.0	8.53		ug/L		85	70 - 132
Ethylbenzene	1.0	U	10.0	8.78		ug/L		88	66 - 120
2-Hexanone	10	U	20.0	10.7		ug/L		53	42 - 150
Isopropylbenzene	1.0	U	10.0	8.70		ug/L		87	59 - 120
Methyl acetate	10	U	20.0	12.3		ug/L		61	41 - 142
Methylcyclohexane	1.0	U	10.0	5.85		ug/L		58	37 - 123
Methylene Chloride	5.0	U	10.0	8.50		ug/L		85	61 - 130
4-Methyl-2-pentanone (MIBK)	10	U	20.0	10.0		ug/L		50	44 - 143
Methyl tert-butyl ether	1.0	U	10.0	6.39		ug/L		64	41 - 136
Styrene	1.0	U	10.0	8.64		ug/L		86	68 - 120
1,1,2,2-Tetrachloroethane	1.0	U	10.0	6.77		ug/L		68	60 - 137
Tetrachloroethene	1.0	U	10.0	9.30		ug/L		93	51 - 136
Toluene	1.0	U	10.0	9.16		ug/L		92	62 - 132

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

Lab Sample ID: 240-108876-H-4 MS
Matrix: Water
Analysis Batch: 371207

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
trans-1,2-Dichloroethene	1.0	U	10.0	10.2		ug/L		102	68 - 133
trans-1,3-Dichloropropene	1.0	U	10.0	5.13		ug/L		51	40 - 125
1,2,4-Trichlorobenzene	1.0	U	10.0	7.46		ug/L		75	30 - 126
1,1,1-Trichloroethane	1.0	U	10.0	9.78		ug/L		98	51 - 138
1,1,2-Trichloroethane	1.0	U	10.0	8.58		ug/L		86	76 - 132
Trichloroethene	1.0	U	10.0	9.17		ug/L		92	55 - 131
Trichlorofluoromethane	1.0	U	10.0	8.89		ug/L		89	37 - 174
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	7.47		ug/L		75	31 - 156
1,2,4-Trimethylbenzene	1.0	U	10.0	8.31		ug/L		83	62 - 120
1,3,5-Trimethylbenzene	1.0	U	10.0	8.16		ug/L		82	64 - 120
Vinyl chloride	1.0	U	10.0	9.09		ug/L		91	43 - 154
Xylenes, Total	2.0	U	20.0	17.9		ug/L		90	67 - 120
Diethyl ether	2.0	U	10.0	8.11		ug/L		81	65 - 134

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*85*		*59 - 120*
Dibromofluoromethane (Surr)	*94*		*75 - 128*
1,2-Dichloroethane-d4 (Surr)	*85*		*70 - 121*
Toluene-d8 (Surr)	*86*		*70 - 123*

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

Lab Sample ID: MB 240-370526/5
Matrix: Water
Analysis Batch: 370526

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/06/19 12:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*63 - 125*		*03/06/19 12:53*	*1*

Lab Sample ID: LCS 240-370526/4
Matrix: Water
Analysis Batch: 370526

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	11.9		ug/L		119	59 - 131

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*83*		*63 - 125*

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

Lab Sample ID: 240-108737-D-4 MS
Matrix: Water
Analysis Batch: 370526

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	11.1		ug/L		111	52 - 129

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*83*		*63 - 125*

Lab Sample ID: 240-108737-D-4 MSD
Matrix: Water
Analysis Batch: 370526

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	11.9		ug/L		119	52 - 129	7	13

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*84*		*63 - 125*

QC Association Summary

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

TestAmerica Job ID: 240-108762-1

GC/MS VOA

Analysis Batch: 370526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-108762-1	MW-33_022719	Total/NA	Water	8260B SIM	
240-108762-2	MW-37_022719	Total/NA	Water	8260B SIM	
240-108762-3	MW-71_022719	Total/NA	Water	8260B SIM	
240-108762-4	MW-68_022719	Total/NA	Water	8260B SIM	
240-108762-5	MW-62_022719	Total/NA	Water	8260B SIM	
240-108762-6	MW-55_022719	Total/NA	Water	8260B SIM	
240-108762-7	MW-56_022719	Total/NA	Water	8260B SIM	
MB 240-370526/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-370526/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-108737-D-4 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-108737-D-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 371049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-108762-1	MW-33_022719	Total/NA	Water	8260B	
240-108762-2	MW-37_022719	Total/NA	Water	8260B	
240-108762-3	MW-71_022719	Total/NA	Water	8260B	
240-108762-6	MW-55_022719	Total/NA	Water	8260B	
240-108762-7	MW-56_022719	Total/NA	Water	8260B	
240-108762-8	TRIP BLANK	Total/NA	Water	8260B	
MB 240-371049/6	Method Blank	Total/NA	Water	8260B	
LCS 240-371049/4	Lab Control Sample	Total/NA	Water	8260B	
240-108820-C-1 MS	Matrix Spike	Total/NA	Water	8260B	
240-108820-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 371207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-108762-4	MW-68_022719	Total/NA	Water	8260B	
240-108762-5	MW-62_022719	Total/NA	Water	8260B	
MB 240-371207/6	Method Blank	Total/NA	Water	8260B	
LCS 240-371207/4	Lab Control Sample	Total/NA	Water	8260B	
240-108876-E-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
240-108876-H-4 MS	Matrix Spike	Total/NA	Water	8260B	

Lab Chronicle

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

TestAmerica Job ID: 240-108762-1

Client Sample ID: MW-33_022719
Date Collected: 02/27/19 11:55
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	371049	03/11/19 14:39	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	370526	03/06/19 17:08	SAM	TAL CAN

Client Sample ID: MW-37_022719
Date Collected: 02/27/19 14:25
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	371049	03/11/19 15:01	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	370526	03/06/19 17:33	SAM	TAL CAN

Client Sample ID: MW-71_022719
Date Collected: 02/27/19 11:17
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	371049	03/11/19 15:23	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	370526	03/06/19 17:58	SAM	TAL CAN

Client Sample ID: MW-68_022719
Date Collected: 02/27/19 14:08
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	371207	03/12/19 11:54	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	370526	03/06/19 18:24	SAM	TAL CAN

Client Sample ID: MW-62_022719
Date Collected: 02/27/19 15:30
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	371207	03/12/19 12:16	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	370526	03/06/19 18:49	SAM	TAL CAN

Client Sample ID: MW-55_022719
Date Collected: 02/27/19 13:35
Date Received: 03/01/19 08:15

Lab Sample ID: 240-108762-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	371049	03/11/19 16:29	LEE	TAL CAN

Lab Chronicle

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

TestAmerica Job ID: 240-108762-1

Client Sample ID: MW-55_022719

Lab Sample ID: 240-108762-6

Date Collected: 02/27/19 13:35
Matrix: Water
Date Received: 03/01/19 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	370526	03/06/19 19:15	SAM	TAL CAN

Client Sample ID: MW-56_022719

Lab Sample ID: 240-108762-7

Date Collected: 02/27/19 10:50
Matrix: Water
Date Received: 03/01/19 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	371049	03/11/19 16:51	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	370526	03/06/19 19:44	SAM	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-108762-8

Date Collected: 02/27/19 00:00
Matrix: Water
Date Received: 03/01/19 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	371049	03/11/19 17:13	LEE	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: 240-108762-1

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	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-19 *
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

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

MICHIGAN 190

1.0 / CO.8

Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

TestAmerica Laboratories, Inc.

Client Contact	Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other			
Company Name: Arcadis	Client Project Manager: Kris Hinskey	Site Contact: Angela DeGrandis	Lab Contact: Mike DelMonico	COC No:
Address: 28550 Cabot Drive, Suite 500	Telephone: 248-994-2240	Telephone: 734-320-0065	Telephone: 330-497-9396	1 of 1 COCs
City/State/Zip: Novi, MI, 48377	Email: kristoffer.hinskey@arcadis.com	Analysis Turnaround Time	Analyses	For lab use only
Phone: 248-994-2240		TAT if different from below: ☐ 3 weeks ☑ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Walk-in client:
Project Name: Ford LTP		10 day		Lab sampling:
Project Number: ~~MI001454.0004.00001~~ MI001454.0006.00003	Method of Shipment/Carrier:			Job/SDG No:
PO # ~~MI001454.0004.00001~~ MI001454.0006.00003	Shipping/Tracking No:			

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-33_022719	2/27/19	1155		X						X					N	G	3	3	
MW-37_022719	2/27/19	1425		X						X					N	G	3	3	
MW-71_022719	2/27/19	1117		X						X					N	G	3	3	
MW-68_022719	2/27/19	1408		X						X					N	G	3	3	
MW-62_022719	2/27/19	1530		X						X					N	G	3	3	
MW-55_022719	2/27/19	1335		X						X					N	G	3	3	
MW-56_022719	2/27/19	1050		X						X					N	G	3	3	
TRIP BLANK				X													1		

240-108762 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:

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

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
RACHEL BIELAK	ARCADIS	2/27/19 1815	NOVI COLD STORAGE	ARCADIS	2/27/19 1815
Caitlin O'Neill	ARCADIS	02/28/19 13:45		TESTAMERICA	2/28/19 1345
	TESTAMERICA	2/28/19 16:10	Received in Laboratory by:	TA	3-1-19 815

TestAmerica Canton Sample Receipt Form/Narrative **Login # :** 108762
Canton Facility

Client Arcadis Site Name _____ Cooler unpacked by: Ryan Cribley

Cooler Received on 3-1-19 Opened on 3-1-19 815

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

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

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____

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

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-8 (CF **-0.2** °C) Observed Cooler Temp. 1.0 °C Corrected Cooler Temp. 0.8 °C
   IR GUN #36 (CF **+0.7**°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	(Yes)	No
-Were the seals on the outside of the cooler(s) signed & dated?	(Yes)	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	(No)
-Were tamper/custody seals intact and uncompromised?	(Yes)	No NA
3. Shippers' packing slip attached to the cooler(s)?	(Yes)	No
4. Did custody papers accompany the sample(s)?	(Yes)	No
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes)	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	(No)
7. Did all bottles arrive in good condition (Unbroken)?	(Yes)	No
8. Could all bottle labels be reconciled with the COC?	(Yes)	No
9. Were correct bottle(s) used for the test(s) indicated?	(Yes)	No
10. Sufficient quantity received to perform indicated analyses?	(Yes)	No
11. Are these work share samples?	Yes	(No)
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# **HC861525**
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 # B831701VB	(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 _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: RC

18. SAMPLE CONDITION

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

19. SAMPLE PRESERVATION

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

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099