

ANALYTICAL REPORT

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

Laboratory Job ID: 240-119301-1
Client Project/Site: Ford LTP Livonia MI - E203728

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

Attn: Kristoffer Hinskey



Authorized for release by:
10/8/2019 10:33:43 AM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

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

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

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Method Summary	6
Sample Summary	7
Detection Summary	8
Client Sample Results	9
Surrogate Summary	14
QC Sample Results	15
QC Association Summary	25
Lab Chronicle	26
Certification Summary	27
Chain of Custody	28



Definitions/Glossary

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

Job ID: 240-119301-1

Qualifiers

GC/MS VOA

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

Glossary

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

Case Narrative

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

Job ID: 240-119301-1

Job ID: 240-119301-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-119301-1

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.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins 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 Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 9/24/2019 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.3° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-66_091919 (240-119301-1), MW-44_091919 (240-119301-2), MW-22_091919 (240-119301-3), DUP-06 (240-119301-4) and TRIP BLANK (240-119301-5) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 10/01/2019 and 10/02/2019.

Samples MW-44_091919 (240-119301-2)[10X], MW-22_091919 (240-119301-3)[40X] and DUP-06 (240-119301-4)[40X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The laboratory control sample (LCS) for analytical batch 240-403410 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_091919 (240-119301-1), MW-44_091919 (240-119301-2), MW-22_091919 (240-119301-3), DUP-06 (240-119301-4), TRIP BLANK (240-119301-5) and (LCS 240-403410/4).

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

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Case Narrative

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

Job ID: 240-119301-1

Job ID: 240-119301-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

Samples MW-66_091919 (240-119301-1), MW-44_091919 (240-119301-2), MW-22_091919 (240-119301-3) and DUP-06 (240-119301-4) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 09/26/2019.

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

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

Method Summary

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

Job ID: 240-119301-1

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 = Eurofins 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

Job ID: 240-119301-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-119301-1	MW-66_091919	Water	09/19/19 11:30	09/24/19 09:50	
240-119301-2	MW-44_091919	Water	09/19/19 17:10	09/24/19 09:50	
240-119301-3	MW-22_091919	Water	09/19/19 15:08	09/24/19 09:50	
240-119301-4	DUP-06	Water	09/19/19 00:00	09/24/19 09:50	
240-119301-5	TRIP BLANK	Water	09/19/19 00:00	09/24/19 09:50	

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

Detection Summary

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

Job ID: 240-119301-1

Client Sample ID: MW-66_091919

Lab Sample ID: 240-119301-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.94	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-44_091919

Lab Sample ID: 240-119301-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	14		2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	270		10	2.0	ug/L	10		8260B	Total/NA

Client Sample ID: MW-22_091919

Lab Sample ID: 240-119301-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	3.0		2.0	0.86	ug/L	1		8260B SIM	Total/NA
1,1-Dichloroethene	1.6		1.0	0.19	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	390		40	6.4	ug/L	40		8260B	Total/NA
trans-1,2-Dichloroethene	2.5		1.0	0.19	ug/L	1		8260B	Total/NA
Trichloroethene	0.25	J	1.0	0.10	ug/L	1		8260B	Total/NA
Vinyl chloride	830		40	8.0	ug/L	40		8260B	Total/NA

Client Sample ID: DUP-06

Lab Sample ID: 240-119301-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	3.7		2.0	0.86	ug/L	1		8260B SIM	Total/NA
1,1-Dichloroethene	1.5		1.0	0.19	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	340		40	6.4	ug/L	40		8260B	Total/NA
trans-1,2-Dichloroethene	2.3		1.0	0.19	ug/L	1		8260B	Total/NA
Trichloroethene	0.20	J	1.0	0.10	ug/L	1		8260B	Total/NA
Vinyl chloride	850		40	8.0	ug/L	40		8260B	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-119301-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.34	J	1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	0.86	J	1.0	0.20	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

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

Job ID: 240-119301-1

Client Sample ID: MW-66_091919

Lab Sample ID: 240-119301-1

Date Collected: 09/19/19 11:30

Matrix: Water

Date Received: 09/24/19 09:50

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			09/26/19 21:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		63 - 125		09/26/19 21:08	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/01/19 20:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/01/19 20:39	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/01/19 20:39	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/01/19 20:39	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/01/19 20:39	1
Vinyl chloride	0.94	J	1.0	0.20	ug/L			10/01/19 20:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		59 - 120		10/01/19 20:39	1
Dibromofluoromethane (Surr)	105		75 - 128		10/01/19 20:39	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 121		10/01/19 20:39	1
Toluene-d8 (Surr)	93		70 - 123		10/01/19 20:39	1

Client Sample Results

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

Job ID: 240-119301-1

Client Sample ID: MW-44_091919

Lab Sample ID: 240-119301-2

Date Collected: 09/19/19 17:10

Matrix: Water

Date Received: 09/24/19 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	14		2.0	0.86	ug/L			09/26/19 21:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		09/26/19 21:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/01/19 21:04	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/01/19 21:04	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/01/19 21:04	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/01/19 21:04	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/01/19 21:04	1
Vinyl chloride	270		10	2.0	ug/L			10/02/19 22:05	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		59 - 120		10/01/19 21:04	1
4-Bromofluorobenzene (Surr)	82		59 - 120		10/02/19 22:05	10
Dibromofluoromethane (Surr)	108		75 - 128		10/01/19 21:04	1
Dibromofluoromethane (Surr)	105		75 - 128		10/02/19 22:05	10
1,2-Dichloroethane-d4 (Surr)	98		70 - 121		10/01/19 21:04	1
1,2-Dichloroethane-d4 (Surr)	100		70 - 121		10/02/19 22:05	10
Toluene-d8 (Surr)	95		70 - 123		10/01/19 21:04	1
Toluene-d8 (Surr)	95		70 - 123		10/02/19 22:05	10

Client Sample Results

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

Job ID: 240-119301-1

Client Sample ID: MW-22_091919

Lab Sample ID: 240-119301-3

Date Collected: 09/19/19 15:08

Matrix: Water

Date Received: 09/24/19 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	3.0		2.0	0.86	ug/L			09/26/19 21:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125					09/26/19 21:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.6		1.0	0.19	ug/L			10/01/19 21:29	1
cis-1,2-Dichloroethene	390		40	6.4	ug/L			10/02/19 22:31	40
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/01/19 21:29	1
trans-1,2-Dichloroethene	2.5		1.0	0.19	ug/L			10/01/19 21:29	1
Trichloroethene	0.25	J	1.0	0.10	ug/L			10/01/19 21:29	1
Vinyl chloride	830		40	8.0	ug/L			10/02/19 22:31	40
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	78		59 - 120					10/01/19 21:29	1
4-Bromofluorobenzene (Surr)	81		59 - 120					10/02/19 22:31	40
Dibromofluoromethane (Surr)	106		75 - 128					10/01/19 21:29	1
Dibromofluoromethane (Surr)	105		75 - 128					10/02/19 22:31	40
1,2-Dichloroethane-d4 (Surr)	101		70 - 121					10/01/19 21:29	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 121					10/02/19 22:31	40
Toluene-d8 (Surr)	93		70 - 123					10/01/19 21:29	1
Toluene-d8 (Surr)	95		70 - 123					10/02/19 22:31	40

Client Sample Results

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

Job ID: 240-119301-1

Client Sample ID: DUP-06

Lab Sample ID: 240-119301-4

Date Collected: 09/19/19 00:00

Matrix: Water

Date Received: 09/24/19 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	3.7		2.0	0.86	ug/L			09/26/19 22:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125					09/26/19 22:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.5		1.0	0.19	ug/L			10/01/19 21:53	1
cis-1,2-Dichloroethene	340		40	6.4	ug/L			10/02/19 22:56	40
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/01/19 21:53	1
trans-1,2-Dichloroethene	2.3		1.0	0.19	ug/L			10/01/19 21:53	1
Trichloroethene	0.20	J	1.0	0.10	ug/L			10/01/19 21:53	1
Vinyl chloride	850		40	8.0	ug/L			10/02/19 22:56	40
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	82		59 - 120					10/01/19 21:53	1
4-Bromofluorobenzene (Surr)	81		59 - 120					10/02/19 22:56	40
Dibromofluoromethane (Surr)	107		75 - 128					10/01/19 21:53	1
Dibromofluoromethane (Surr)	106		75 - 128					10/02/19 22:56	40
1,2-Dichloroethane-d4 (Surr)	100		70 - 121					10/01/19 21:53	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 121					10/02/19 22:56	40
Toluene-d8 (Surr)	96		70 - 123					10/01/19 21:53	1
Toluene-d8 (Surr)	96		70 - 123					10/02/19 22:56	40

Client Sample Results

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

Job ID: 240-119301-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-119301-5

Date Collected: 09/19/19 00:00

Matrix: Water

Date Received: 09/24/19 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/01/19 22:17	1
cis-1,2-Dichloroethene	0.34	J	1.0	0.16	ug/L			10/01/19 22:17	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/01/19 22:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/01/19 22:17	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/01/19 22:17	1
Vinyl chloride	0.86	J	1.0	0.20	ug/L			10/01/19 22:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		59 - 120		10/01/19 22:17	1
Dibromofluoromethane (Surr)	99		75 - 128		10/01/19 22:17	1
1,2-Dichloroethane-d4 (Surr)	93		70 - 121		10/01/19 22:17	1
Toluene-d8 (Surr)	100		70 - 123		10/01/19 22:17	1

Surrogate Summary

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

Job ID: 240-119301-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		BFB (59-120)	DBFM (75-128)	DCA (70-121)	TOL (70-123)
190-21071-B-1 MS	Matrix Spike	82	108	101	100
190-21071-C-1 MSD	Matrix Spike Duplicate	84	106	96	95
240-119301-1	MW-66_091919	79	105	101	93
240-119301-2	MW-44_091919	81	108	98	95
240-119301-2	MW-44_091919	82	105	100	95
240-119301-3	MW-22_091919	78	106	101	93
240-119301-3	MW-22_091919	81	105	103	95
240-119301-3 MS	MW-22_091919	85	105	106	97
240-119301-3 MSD	MW-22_091919	82	104	105	98
240-119301-4	DUP-06	82	107	100	96
240-119301-4	DUP-06	81	106	105	96
240-119301-5	TRIP BLANK	81	99	93	100
LCS 240-403410/4	Lab Control Sample	82	107	90	93
LCS 240-403676/4	Lab Control Sample	83	106	99	96
MB 240-403410/7	Method Blank	83	101	97	95
MB 240-403676/7	Method Blank	81	103	98	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)

Lab Sample ID	Client Sample ID	DCA
		(63-125)
240-119301-1	MW-66_091919	103
240-119301-2	MW-44_091919	102
240-119301-3	MW-22_091919	102
240-119301-4	DUP-06	101
240-119306-A-4 MS	Matrix Spike	101
240-119306-A-4 MSD	Matrix Spike Duplicate	101
LCS 240-402639/4	Lab Control Sample	99
MB 240-402639/5	Method Blank	98

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-119301-1

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

Lab Sample ID: MB 240-403410/7
Matrix: Water
Analysis Batch: 403410

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/01/19 14:21	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/01/19 14:21	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/01/19 14:21	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/01/19 14:21	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/01/19 14:21	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			10/01/19 14:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		59 - 120		10/01/19 14:21	1
Dibromofluoromethane (Surr)	101		75 - 128		10/01/19 14:21	1
1,2-Dichloroethane-d4 (Surr)	97		70 - 121		10/01/19 14:21	1
Toluene-d8 (Surr)	95		70 - 123		10/01/19 14:21	1

Lab Sample ID: LCS 240-403410/4
Matrix: Water
Analysis Batch: 403410

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	10.0	9.17		ug/L		92	69 - 134
1,1,1,2-Tetrachloroethane	10.0	6.50		ug/L		65	65 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	12.8		ug/L		128	50 - 156
1,1,2-Trichloroethane	10.0	7.96		ug/L		80	78 - 133
1,1-Dichloroethane	10.0	11.5		ug/L		115	75 - 133
1,1-Dichloroethene	10.0	11.1		ug/L		111	65 - 139
1,2,4-Trichlorobenzene	10.0	8.25		ug/L		82	42 - 133
1,2,4-Trimethylbenzene	10.0	8.14		ug/L		81	74 - 120
1,2-Dibromo-3-Chloropropane	10.0	8.68		ug/L		87	46 - 132
1,2-Dibromoethane	10.0	8.63		ug/L		86	77 - 123
1,2-Dichlorobenzene	10.0	8.98		ug/L		90	78 - 120
1,2-Dichloroethane	10.0	10.6		ug/L		106	71 - 135
1,2-Dichloropropane	10.0	12.0		ug/L		120	78 - 133
1,3,5-Trimethylbenzene	10.0	7.95		ug/L		79	75 - 121
1,3-Dichlorobenzene	10.0	9.25		ug/L		92	78 - 120
1,4-Dichlorobenzene	10.0	9.15		ug/L		92	78 - 120
2-Butanone (MEK)	20.0	23.0		ug/L		115	39 - 163
2-Hexanone	20.0	18.3		ug/L		91	43 - 148
4-Methyl-2-pentanone (MIBK)	20.0	21.9		ug/L		109	49 - 143
Acetone	20.0	23.8		ug/L		119	21 - 162
Benzene	10.0	9.75		ug/L		97	80 - 123
Bromodichloromethane	10.0	8.36		ug/L		84	77 - 125
Bromoform	10.0	9.66		ug/L		97	49 - 141
Bromomethane	10.0	9.10		ug/L		91	41 - 175
Carbon disulfide	10.0	9.86		ug/L		99	60 - 138
Carbon tetrachloride	10.0	10.6		ug/L		106	63 - 140
Chlorobenzene	10.0	8.82		ug/L		88	80 - 121
Chloroethane	10.0	10.9		ug/L		109	33 - 173
Chloroform	10.0	8.70		ug/L		87	79 - 127

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-119301-1

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

Lab Sample ID: LCS 240-403410/4
Matrix: Water
Analysis Batch: 403410

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	10.0	8.50		ug/L		85	54 - 143
cis-1,2-Dichloroethene	10.0	10.2		ug/L		102	76 - 128
cis-1,3-Dichloropropene	10.0	8.77		ug/L		88	64 - 132
Cyclohexane	10.0	14.7	*	ug/L		147	58 - 145
Dibromochloromethane	10.0	9.16		ug/L		92	70 - 132
Dichlorodifluoromethane	10.0	6.61		ug/L		66	29 - 148
Diethyl ether	10.0	13.4		ug/L		134	70 - 146
Ethylbenzene	10.0	9.12		ug/L		91	80 - 120
Isopropylbenzene	10.0	8.91		ug/L		89	74 - 120
Methyl acetate	20.0	30.4	*	ug/L		152	52 - 145
Methyl tert-butyl ether	10.0	8.81		ug/L		88	51 - 133
Methylcyclohexane	10.0	10.8		ug/L		108	60 - 125
Methylene Chloride	10.0	8.81		ug/L		88	70 - 134
Styrene	10.0	8.89		ug/L		89	79 - 120
Tetrachloroethene	10.0	13.0		ug/L		130	74 - 130
Toluene	10.0	8.90		ug/L		89	78 - 129
trans-1,2-Dichloroethene	10.0	10.7		ug/L		107	78 - 133
trans-1,3-Dichloropropene	10.0	7.09		ug/L		71	55 - 128
Trichloroethene	10.0	11.7		ug/L		117	76 - 125
Trichlorofluoromethane	10.0	9.62		ug/L		96	51 - 164
Vinyl chloride	10.0	9.74		ug/L		97	58 - 143
Xylenes, Total	20.0	18.3		ug/L		92	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	82		59 - 120
Dibromofluoromethane (Surr)	107		75 - 128
1,2-Dichloroethane-d4 (Surr)	90		70 - 121
Toluene-d8 (Surr)	93		70 - 123

Lab Sample ID: 190-21071-B-1 MS
Matrix: Water
Analysis Batch: 403410

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	1.0	U	10.0	8.74		ug/L		87	51 - 138
1,1,2,2-Tetrachloroethane	1.0	U	10.0	6.84		ug/L		68	60 - 137
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	11.6		ug/L		116	31 - 156
1,1,2-Trichloroethane	1.0	U	10.0	8.54		ug/L		85	76 - 132
1,1-Dichloroethane	1.0	U	10.0	11.6		ug/L		116	63 - 136
1,1-Dichloroethene	1.0	U	10.0	9.93		ug/L		99	53 - 140
1,2,4-Trichlorobenzene	1.0	U	10.0	7.94		ug/L		79	30 - 126
1,2,4-Trimethylbenzene	1.0	U	10.0	7.01		ug/L		70	62 - 120
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	8.82		ug/L		88	38 - 124
1,2-Dibromoethane	1.0	U	10.0	8.07		ug/L		81	71 - 123
1,2-Dichlorobenzene	1.0	U	10.0	7.98		ug/L		80	64 - 120
1,2-Dichloroethane	1.0	U	10.0	10.9		ug/L		109	65 - 135
1,2-Dichloropropane	1.0	U	10.0	11.8		ug/L		118	70 - 132
1,3,5-Trimethylbenzene	1.0	U	10.0	7.04		ug/L		70	64 - 120

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-119301-1

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

Lab Sample ID: 190-21071-B-1 MS

Matrix: Water

Analysis Batch: 403410

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier		Added	Result				
1,3-Dichlorobenzene	1.0	U	10.0	8.20		ug/L		82	62 - 120
1,4-Dichlorobenzene	1.0	U	10.0	8.14		ug/L		81	63 - 120
2-Butanone (MEK)	10	U	20.0	21.6		ug/L		108	37 - 156
2-Hexanone	10	U	20.0	19.6		ug/L		98	42 - 150
4-Methyl-2-pentanone (MIBK)	10	U	20.0	21.9		ug/L		109	44 - 143
Acetone	10	U	20.0	22.7		ug/L		114	10 - 168
Benzene	1.0	U	10.0	9.16		ug/L		92	71 - 122
Bromodichloromethane	1.0	U	10.0	8.16		ug/L		82	64 - 125
Bromoform	1.0	U	10.0	8.91		ug/L		89	44 - 129
Bromomethane	1.0	U	10.0	7.16		ug/L		72	19 - 187
Carbon disulfide	5.0	U	10.0	9.11		ug/L		91	43 - 144
Carbon tetrachloride	1.0	U	10.0	9.87		ug/L		99	41 - 143
Chlorobenzene	1.0	U	10.0	8.27		ug/L		83	70 - 123
Chloroethane	1.0	U	10.0	10.1		ug/L		101	11 - 189
Chloroform	1.0	U	10.0	8.45		ug/L		84	68 - 130
Chloromethane	1.0	U	10.0	10.4		ug/L		104	31 - 154
cis-1,2-Dichloroethene	1.0	U	10.0	10.1		ug/L		101	64 - 130
cis-1,3-Dichloropropene	1.0	U	10.0	8.28		ug/L		83	48 - 127
Cyclohexane	1.0	U *	10.0	12.7		ug/L		127	42 - 135
Dibromochloromethane	1.0	U	10.0	8.47		ug/L		85	60 - 129
Dichlorodifluoromethane	1.0	U	10.0	5.39		ug/L		54	28 - 136
Ethylbenzene	1.0	U	10.0	8.16		ug/L		82	66 - 120
Isopropylbenzene	1.0	U	10.0	7.73		ug/L		77	59 - 120
Methyl acetate	10	U *	20.0	23.3		ug/L		117	41 - 142
Methyl tert-butyl ether	1.0	U	10.0	8.52		ug/L		85	41 - 136
Methylcyclohexane	1.0	U	10.0	8.40		ug/L		84	37 - 123
Methylene Chloride	5.0	U	10.0	8.30		ug/L		83	61 - 130
Styrene	1.0	U	10.0	7.71		ug/L		77	68 - 120
Tetrachloroethene	1.0	U	10.0	10.6		ug/L		106	51 - 136
Toluene	1.0	U	10.0	8.49		ug/L		85	62 - 132
trans-1,2-Dichloroethene	1.0	U	10.0	9.87		ug/L		99	68 - 133
trans-1,3-Dichloropropene	1.0	U	10.0	6.71		ug/L		67	40 - 125
Trichloroethene	1.0	U	10.0	10.5		ug/L		105	55 - 131
Trichlorofluoromethane	1.0	U	10.0	8.65		ug/L		87	37 - 174
Vinyl chloride	0.22	J	10.0	9.05		ug/L		88	43 - 154
Xylenes, Total	2.0	U	20.0	16.5		ug/L		83	67 - 120

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	82		59 - 120
Dibromofluoromethane (Surr)	108		75 - 128
1,2-Dichloroethane-d4 (Surr)	101		70 - 121
Toluene-d8 (Surr)	100		70 - 123

QC Sample Results

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

Job ID: 240-119301-1

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

Lab Sample ID: 190-21071-C-1 MSD

Matrix: Water

Analysis Batch: 403410

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
1,1,1-Trichloroethane	1.0	U	10.0	8.84		ug/L		88	51 - 138	1	27
1,1,2,2-Tetrachloroethane	1.0	U	10.0	6.63		ug/L		66	60 - 137	3	31
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	12.4		ug/L		124	31 - 156	6	35
1,1,2-Trichloroethane	1.0	U	10.0	8.56		ug/L		86	76 - 132	0	25
1,1-Dichloroethane	1.0	U	10.0	11.6		ug/L		116	63 - 136	0	23
1,1-Dichloroethene	1.0	U	10.0	9.82		ug/L		98	53 - 140	1	35
1,2,4-Trichlorobenzene	1.0	U	10.0	7.59		ug/L		76	30 - 126	4	35
1,2,4-Trimethylbenzene	1.0	U	10.0	7.13		ug/L		71	62 - 120	2	27
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	9.04		ug/L		90	38 - 124	2	35
1,2-Dibromoethane	1.0	U	10.0	8.79		ug/L		88	71 - 123	9	27
1,2-Dichlorobenzene	1.0	U	10.0	8.21		ug/L		82	64 - 120	3	30
1,2-Dichloroethane	1.0	U	10.0	10.9		ug/L		109	65 - 135	0	24
1,2-Dichloropropane	1.0	U	10.0	12.1		ug/L		121	70 - 132	2	26
1,3,5-Trimethylbenzene	1.0	U	10.0	6.96		ug/L		70	64 - 120	1	23
1,3-Dichlorobenzene	1.0	U	10.0	8.24		ug/L		82	62 - 120	1	31
1,4-Dichlorobenzene	1.0	U	10.0	8.18		ug/L		82	63 - 120	1	28
2-Butanone (MEK)	10	U	20.0	21.0		ug/L		105	37 - 156	3	35
2-Hexanone	10	U	20.0	18.1		ug/L		90	42 - 150	8	35
4-Methyl-2-pentanone (MIBK)	10	U	20.0	21.5		ug/L		107	44 - 143	2	35
Acetone	10	U	20.0	20.3		ug/L		102	10 - 168	11	35
Benzene	1.0	U	10.0	9.32		ug/L		93	71 - 122	2	22
Bromodichloromethane	1.0	U	10.0	7.98		ug/L		80	64 - 125	2	27
Bromoform	1.0	U	10.0	8.76		ug/L		88	44 - 129	2	28
Bromomethane	1.0	U	10.0	9.27		ug/L		93	19 - 187	26	35
Carbon disulfide	5.0	U	10.0	9.34		ug/L		93	43 - 144	2	33
Carbon tetrachloride	1.0	U	10.0	9.76		ug/L		98	41 - 143	1	30
Chlorobenzene	1.0	U	10.0	8.50		ug/L		85	70 - 123	3	23
Chloroethane	1.0	U	10.0	11.1		ug/L		111	11 - 189	10	35
Chloroform	1.0	U	10.0	8.64		ug/L		86	68 - 130	2	23
Chloromethane	1.0	U	10.0	9.61		ug/L		96	31 - 154	8	35
cis-1,2-Dichloroethene	1.0	U	10.0	9.80		ug/L		98	64 - 130	3	21
cis-1,3-Dichloropropene	1.0	U	10.0	8.36		ug/L		84	48 - 127	1	30
Cyclohexane	1.0	U *	10.0	12.7		ug/L		127	42 - 135	0	35
Dibromochloromethane	1.0	U	10.0	8.58		ug/L		86	60 - 129	1	26
Dichlorodifluoromethane	1.0	U	10.0	6.50		ug/L		65	28 - 136	19	35
Ethylbenzene	1.0	U	10.0	8.10		ug/L		81	66 - 120	1	24
Isopropylbenzene	1.0	U	10.0	7.75		ug/L		78	59 - 120	0	31
Methyl acetate	10	U *	20.0	21.9		ug/L		109	41 - 142	7	35
Methyl tert-butyl ether	1.0	U	10.0	8.06		ug/L		81	41 - 136	6	29
Methylcyclohexane	1.0	U	10.0	8.58		ug/L		86	37 - 123	2	35
Methylene Chloride	5.0	U	10.0	8.32		ug/L		83	61 - 130	0	29
Styrene	1.0	U	10.0	7.97		ug/L		80	68 - 120	3	26
Tetrachloroethene	1.0	U	10.0	10.7		ug/L		107	51 - 136	1	23
Toluene	1.0	U	10.0	8.37		ug/L		84	62 - 132	2	23
trans-1,2-Dichloroethene	1.0	U	10.0	9.69		ug/L		97	68 - 133	2	24
trans-1,3-Dichloropropene	1.0	U	10.0	6.59		ug/L		66	40 - 125	2	27
Trichloroethene	1.0	U	10.0	10.1		ug/L		101	55 - 131	4	23
Trichlorofluoromethane	1.0	U	10.0	9.04		ug/L		90	37 - 174	4	35

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-119301-1

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

Lab Sample ID: 190-21071-C-1 MSD
Matrix: Water
Analysis Batch: 403410

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
Vinyl chloride	0.22	J	10.0	10.3		ug/L		101	43 - 154	13	29
Xylenes, Total	2.0	U	20.0	16.0		ug/L		80	67 - 120	3	25
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	84		59 - 120								
Dibromofluoromethane (Surr)	106		75 - 128								
1,2-Dichloroethane-d4 (Surr)	96		70 - 121								
Toluene-d8 (Surr)	95		70 - 123								

Lab Sample ID: MB 240-403676/7
Matrix: Water
Analysis Batch: 403676

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/02/19 15:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/02/19 15:13	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/02/19 15:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/02/19 15:13	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/02/19 15:13	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			10/02/19 15:13	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		59 - 120					10/02/19 15:13	1
Dibromofluoromethane (Surr)	103		75 - 128					10/02/19 15:13	1
1,2-Dichloroethane-d4 (Surr)	98		70 - 121					10/02/19 15:13	1
Toluene-d8 (Surr)	95		70 - 123					10/02/19 15:13	1

Lab Sample ID: LCS 240-403676/4
Matrix: Water
Analysis Batch: 403676

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	10.0	9.50		ug/L		95	69 - 134
1,1,2,2-Tetrachloroethane	10.0	6.59		ug/L		66	65 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	10.9		ug/L		109	50 - 156
1,1,2-Trichloroethane	10.0	8.58		ug/L		86	78 - 133
1,1-Dichloroethane	10.0	12.2		ug/L		122	75 - 133
1,1-Dichloroethene	10.0	9.27		ug/L		93	65 - 139
1,2,4-Trichlorobenzene	10.0	9.11		ug/L		91	42 - 133
1,2,4-Trimethylbenzene	10.0	8.08		ug/L		81	74 - 120
1,2-Dibromo-3-Chloropropane	10.0	8.89		ug/L		89	46 - 132
1,2-Dibromoethane	10.0	9.15		ug/L		92	77 - 123
1,2-Dichlorobenzene	10.0	9.21		ug/L		92	78 - 120
1,2-Dichloroethane	10.0	11.8		ug/L		118	71 - 135
1,2-Dichloropropane	10.0	12.5		ug/L		125	78 - 133
1,3,5-Trimethylbenzene	10.0	7.84		ug/L		78	75 - 121
1,3-Dichlorobenzene	10.0	8.94		ug/L		89	78 - 120

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-119301-1

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

Lab Sample ID: LCS 240-403676/4

Matrix: Water

Analysis Batch: 403676

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	10.0	9.05		ug/L		90	78 - 120
2-Butanone (MEK)	20.0	22.5		ug/L		113	39 - 163
2-Hexanone	20.0	19.8		ug/L		99	43 - 148
4-Methyl-2-pentanone (MIBK)	20.0	23.3		ug/L		117	49 - 143
Acetone	20.0	21.8		ug/L		109	21 - 162
Benzene	10.0	10.0		ug/L		100	80 - 123
Bromodichloromethane	10.0	8.71		ug/L		87	77 - 125
Bromoform	10.0	9.31		ug/L		93	49 - 141
Bromomethane	10.0	9.98		ug/L		100	41 - 175
Carbon disulfide	10.0	8.75		ug/L		87	60 - 138
Carbon tetrachloride	10.0	10.4		ug/L		104	63 - 140
Chlorobenzene	10.0	9.21		ug/L		92	80 - 121
Chloroethane	10.0	11.4		ug/L		114	33 - 173
Chloroform	10.0	8.92		ug/L		89	79 - 127
Chloromethane	10.0	10.0		ug/L		100	54 - 143
cis-1,2-Dichloroethene	10.0	10.6		ug/L		106	76 - 128
cis-1,3-Dichloropropene	10.0	8.84		ug/L		88	64 - 132
Cyclohexane	10.0	13.9		ug/L		139	58 - 145
Dibromochloromethane	10.0	9.20		ug/L		92	70 - 132
Dichlorodifluoromethane	10.0	6.23		ug/L		62	29 - 148
Diethyl ether	10.0	14.5		ug/L		145	70 - 146
Ethylbenzene	10.0	9.21		ug/L		92	80 - 120
Isopropylbenzene	10.0	9.09		ug/L		91	74 - 120
Methyl acetate	20.0	28.4		ug/L		142	52 - 145
Methyl tert-butyl ether	10.0	7.74		ug/L		77	51 - 133
Methylcyclohexane	10.0	9.49		ug/L		95	60 - 125
Methylene Chloride	10.0	7.79		ug/L		78	70 - 134
Styrene	10.0	8.96		ug/L		90	79 - 120
Tetrachloroethene	10.0	12.7		ug/L		127	74 - 130
Toluene	10.0	9.27		ug/L		93	78 - 129
trans-1,2-Dichloroethene	10.0	9.02		ug/L		90	78 - 133
trans-1,3-Dichloropropene	10.0	7.27		ug/L		73	55 - 128
Trichloroethene	10.0	11.4		ug/L		114	76 - 125
Trichlorofluoromethane	10.0	9.27		ug/L		93	51 - 164
Vinyl chloride	10.0	10.7		ug/L		107	58 - 143
Xylenes, Total	20.0	18.6		ug/L		93	80 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	83		59 - 120
Dibromofluoromethane (Surr)	106		75 - 128
1,2-Dichloroethane-d4 (Surr)	99		70 - 121
Toluene-d8 (Surr)	96		70 - 123

QC Sample Results

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

Job ID: 240-119301-1

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

Lab Sample ID: 240-119301-3 MS

Matrix: Water

Analysis Batch: 403676

Client Sample ID: MW-22_091919

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	40	U	400	383		ug/L		96	51 - 138
1,1,2,2-Tetrachloroethane	40	U	400	274		ug/L		68	60 - 137
1,1,2-Trichloro-1,2,2-trifluoroethane	40	U	400	426		ug/L		107	31 - 156
1,1,2-Trichloroethane	40	U	400	374		ug/L		94	76 - 132
1,1-Dichloroethane	40	U	400	534		ug/L		133	63 - 136
1,1-Dichloroethene	40	U	400	403		ug/L		101	53 - 140
1,2,4-Trichlorobenzene	40	U	400	358		ug/L		90	30 - 126
1,2,4-Trimethylbenzene	40	U	400	327		ug/L		82	62 - 120
1,2-Dibromo-3-Chloropropane	40	U	400	349		ug/L		87	38 - 124
1,2-Dibromoethane	40	U	400	362		ug/L		91	71 - 123
1,2-Dichlorobenzene	40	U	400	382		ug/L		96	64 - 120
1,2-Dichloroethane	40	U	400	519		ug/L		130	65 - 135
1,2-Dichloropropane	40	U F1	400	535	F1	ug/L		134	70 - 132
1,3,5-Trimethylbenzene	40	U	400	314		ug/L		79	64 - 120
1,3-Dichlorobenzene	40	U	400	372		ug/L		93	62 - 120
1,4-Dichlorobenzene	40	U	400	370		ug/L		92	63 - 120
2-Butanone (MEK)	400	U	800	950		ug/L		119	37 - 156
2-Hexanone	400	U	800	820		ug/L		102	42 - 150
4-Methyl-2-pentanone (MIBK)	400	U	800	961		ug/L		120	44 - 143
Acetone	400	U	800	1100		ug/L		138	10 - 168
Benzene	40	U	400	415		ug/L		104	71 - 122
Bromodichloromethane	40	U	400	370		ug/L		93	64 - 125
Bromoform	40	U	400	385		ug/L		96	44 - 129
Bromomethane	40	U	400	402		ug/L		101	19 - 187
Carbon disulfide	200	U	400	351		ug/L		88	43 - 144
Carbon tetrachloride	40	U	400	411		ug/L		103	41 - 143
Chlorobenzene	40	U	400	376		ug/L		94	70 - 123
Chloroethane	40	U	400	468		ug/L		117	11 - 189
Chloroform	40	U	400	394		ug/L		98	68 - 130
Chloromethane	40	U	400	431		ug/L		108	31 - 154
cis-1,2-Dichloroethene	390		400	844		ug/L		113	64 - 130
cis-1,3-Dichloropropene	40	U	400	379		ug/L		95	48 - 127
Cyclohexane	40	U	400	533		ug/L		133	42 - 135
Dibromochloromethane	40	U	400	391		ug/L		98	60 - 129
Dichlorodifluoromethane	40	U	400	230		ug/L		58	28 - 136
Diethyl ether	40	U F1	400	657	F1	ug/L		164	65 - 134
Ethylbenzene	40	U	400	350		ug/L		88	66 - 120
Isopropylbenzene	40	U	400	343		ug/L		86	59 - 120
Methyl acetate	400	U	800	1100		ug/L		138	41 - 142
Methyl tert-butyl ether	40	U	400	337		ug/L		84	41 - 136
Methylcyclohexane	40	U	400	346		ug/L		86	37 - 123
Methylene Chloride	200	U	400	322		ug/L		80	61 - 130
Styrene	40	U	400	353		ug/L		88	68 - 120
Tetrachloroethene	40	U	400	485		ug/L		121	51 - 136
Toluene	40	U	400	369		ug/L		92	62 - 132
trans-1,2-Dichloroethene	40	U	400	396		ug/L		99	68 - 133
trans-1,3-Dichloropropene	40	U	400	302		ug/L		76	40 - 125
Trichloroethene	40	U	400	472		ug/L		118	55 - 131

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-119301-1

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

Lab Sample ID: 240-119301-3 MS

Matrix: Water

Analysis Batch: 403676

Client Sample ID: MW-22_091919

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	
	Result	Qualifier		Result	Qualifier					Limits
Trichlorofluoromethane	40	U	400	364		ug/L		91	37 - 174	
Vinyl chloride	830		400	1320		ug/L		123	43 - 154	
Xylenes, Total	80	U	800	721		ug/L		90	67 - 120	
MS MS										
Surrogate	%Recovery	Qualifier	Limits							
4-Bromofluorobenzene (Surr)	85		59 - 120							
Dibromofluoromethane (Surr)	105		75 - 128							
1,2-Dichloroethane-d4 (Surr)	106		70 - 121							
Toluene-d8 (Surr)	97		70 - 123							

Lab Sample ID: 240-119301-3 MSD

Matrix: Water

Analysis Batch: 403676

Client Sample ID: MW-22_091919

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier		Result	Qualifier						
1,1,1-Trichloroethane	40	U	400	393		ug/L		98	51 - 138	3	27
1,1,2,2-Tetrachloroethane	40	U	400	291		ug/L		73	60 - 137	6	31
1,1,2-Trichloro-1,2,2-trifluoroethane	40	U	400	412		ug/L		103	31 - 156	4	35
1,1,2-Trichloroethane	40	U	400	384		ug/L		96	76 - 132	3	25
1,1-Dichloroethane	40	U	400	540		ug/L		135	63 - 136	1	23
1,1-Dichloroethene	40	U	400	392		ug/L		98	53 - 140	3	35
1,2,4-Trichlorobenzene	40	U	400	353		ug/L		88	30 - 126	1	35
1,2,4-Trimethylbenzene	40	U	400	323		ug/L		81	62 - 120	1	27
1,2-Dibromo-3-Chloropropane	40	U	400	411		ug/L		103	38 - 124	16	35
1,2-Dibromoethane	40	U	400	382		ug/L		95	71 - 123	5	27
1,2-Dichlorobenzene	40	U	400	384		ug/L		96	64 - 120	0	30
1,2-Dichloroethane	40	U	400	520		ug/L		130	65 - 135	0	24
1,2-Dichloropropane	40	U F1	400	564	F1	ug/L		141	70 - 132	5	26
1,3,5-Trimethylbenzene	40	U	400	318		ug/L		80	64 - 120	1	23
1,3-Dichlorobenzene	40	U	400	359		ug/L		90	62 - 120	4	31
1,4-Dichlorobenzene	40	U	400	376		ug/L		94	63 - 120	2	28
2-Butanone (MEK)	400	U	800	1000		ug/L		126	37 - 156	6	35
2-Hexanone	400	U	800	850		ug/L		106	42 - 150	4	35
4-Methyl-2-pentanone (MIBK)	400	U	800	1010		ug/L		126	44 - 143	5	35
Acetone	400	U	800	1110		ug/L		139	10 - 168	1	35
Benzene	40	U	400	429		ug/L		107	71 - 122	3	22
Bromodichloromethane	40	U	400	382		ug/L		95	64 - 125	3	27
Bromoform	40	U	400	390		ug/L		97	44 - 129	1	28
Bromomethane	40	U	400	388		ug/L		97	19 - 187	3	35
Carbon disulfide	200	U	400	354		ug/L		88	43 - 144	1	33
Carbon tetrachloride	40	U	400	434		ug/L		108	41 - 143	5	30
Chlorobenzene	40	U	400	371		ug/L		93	70 - 123	1	23
Chloroethane	40	U	400	476		ug/L		119	11 - 189	2	35
Chloroform	40	U	400	399		ug/L		100	68 - 130	1	23
Chloromethane	40	U	400	453		ug/L		113	31 - 154	5	35
cis-1,2-Dichloroethene	390		400	815		ug/L		106	64 - 130	4	21
cis-1,3-Dichloropropene	40	U	400	380		ug/L		95	48 - 127	0	30
Cyclohexane	40	U	400	528		ug/L		132	42 - 135	1	35

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-119301-1

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

Lab Sample ID: 240-119301-3 MSD
Matrix: Water
Analysis Batch: 403676

Client Sample ID: MW-22_091919
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dibromochloromethane	40	U	400	396		ug/L		99	60 - 129	1	26
Dichlorodifluoromethane	40	U	400	238		ug/L		60	28 - 136	4	35
Diethyl ether	40	U F1	400	643	F1	ug/L		161	65 - 134	2	33
Ethylbenzene	40	U	400	360		ug/L		90	66 - 120	3	24
Isopropylbenzene	40	U	400	344		ug/L		86	59 - 120	0	31
Methyl acetate	400	U	800	1110		ug/L		138	41 - 142	1	35
Methyl tert-butyl ether	40	U	400	352		ug/L		88	41 - 136	4	29
Methylcyclohexane	40	U	400	340		ug/L		85	37 - 123	2	35
Methylene Chloride	200	U	400	340		ug/L		85	61 - 130	6	29
Styrene	40	U	400	360		ug/L		90	68 - 120	2	26
Tetrachloroethene	40	U	400	447		ug/L		112	51 - 136	8	23
Toluene	40	U	400	384		ug/L		96	62 - 132	4	23
trans-1,2-Dichloroethene	40	U	400	388		ug/L		97	68 - 133	2	24
trans-1,3-Dichloropropene	40	U	400	305		ug/L		76	40 - 125	1	27
Trichloroethene	40	U	400	465		ug/L		116	55 - 131	1	23
Trichlorofluoromethane	40	U	400	370		ug/L		93	37 - 174	2	35
Vinyl chloride	830		400	1270		ug/L		110	43 - 154	4	29
Xylenes, Total	80	U	800	727		ug/L		91	67 - 120	1	25

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	82		59 - 120
Dibromofluoromethane (Surr)	104		75 - 128
1,2-Dichloroethane-d4 (Surr)	105		70 - 121
Toluene-d8 (Surr)	98		70 - 123

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

Lab Sample ID: MB 240-402639/5
Matrix: Water
Analysis Batch: 402639

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			09/26/19 13:18	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		63 - 125		09/26/19 13:18	1

Lab Sample ID: LCS 240-402639/4
Matrix: Water
Analysis Batch: 402639

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	10.8		ug/L		108	59 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		63 - 125

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-119301-1

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

Lab Sample ID: 240-119306-A-4 MS
Matrix: Water
Analysis Batch: 402639

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	10.5		ug/L		105	52 - 129
Surrogate	%Recovery	MS Qualifier	MS Limits						
1,2-Dichloroethane-d4 (Surr)	101		63 - 125						

Lab Sample ID: 240-119306-A-4 MSD
Matrix: Water
Analysis Batch: 402639

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	11.3		ug/L		113	52 - 129	8	13
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
1,2-Dichloroethane-d4 (Surr)	101		63 - 125								



QC Association Summary

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

Job ID: 240-119301-1

GC/MS VOA

Analysis Batch: 402639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-119301-1	MW-66_091919	Total/NA	Water	8260B SIM	
240-119301-2	MW-44_091919	Total/NA	Water	8260B SIM	
240-119301-3	MW-22_091919	Total/NA	Water	8260B SIM	
240-119301-4	DUP-06	Total/NA	Water	8260B SIM	
MB 240-402639/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-402639/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-119306-A-4 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-119306-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 403410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-119301-1	MW-66_091919	Total/NA	Water	8260B	
240-119301-2	MW-44_091919	Total/NA	Water	8260B	
240-119301-3	MW-22_091919	Total/NA	Water	8260B	
240-119301-4	DUP-06	Total/NA	Water	8260B	
240-119301-5	TRIP BLANK	Total/NA	Water	8260B	
MB 240-403410/7	Method Blank	Total/NA	Water	8260B	
LCS 240-403410/4	Lab Control Sample	Total/NA	Water	8260B	
190-21071-B-1 MS	Matrix Spike	Total/NA	Water	8260B	
190-21071-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 403676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-119301-2	MW-44_091919	Total/NA	Water	8260B	
240-119301-3	MW-22_091919	Total/NA	Water	8260B	
240-119301-4	DUP-06	Total/NA	Water	8260B	
MB 240-403676/7	Method Blank	Total/NA	Water	8260B	
LCS 240-403676/4	Lab Control Sample	Total/NA	Water	8260B	
240-119301-3 MS	MW-22_091919	Total/NA	Water	8260B	
240-119301-3 MSD	MW-22_091919	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-119301-1

Client Sample ID: MW-66_091919

Lab Sample ID: 240-119301-1

Date Collected: 09/19/19 11:30

Matrix: Water

Date Received: 09/24/19 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	403410	10/01/19 20:39	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	402639	09/26/19 21:08	SAM	TAL CAN

Client Sample ID: MW-44_091919

Lab Sample ID: 240-119301-2

Date Collected: 09/19/19 17:10

Matrix: Water

Date Received: 09/24/19 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	403410	10/01/19 21:04	LRW	TAL CAN
Total/NA	Analysis	8260B		10	403676	10/02/19 22:05	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	402639	09/26/19 21:33	SAM	TAL CAN

Client Sample ID: MW-22_091919

Lab Sample ID: 240-119301-3

Date Collected: 09/19/19 15:08

Matrix: Water

Date Received: 09/24/19 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	403410	10/01/19 21:29	LRW	TAL CAN
Total/NA	Analysis	8260B		40	403676	10/02/19 22:31	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	402639	09/26/19 21:58	SAM	TAL CAN

Client Sample ID: DUP-06

Lab Sample ID: 240-119301-4

Date Collected: 09/19/19 00:00

Matrix: Water

Date Received: 09/24/19 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	403410	10/01/19 21:53	LRW	TAL CAN
Total/NA	Analysis	8260B		40	403676	10/02/19 22:56	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	402639	09/26/19 22:22	SAM	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-119301-5

Date Collected: 09/19/19 00:00

Matrix: Water

Date Received: 09/24/19 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	403410	10/01/19 22:17	LRW	TAL CAN

Laboratory References:

TAL CAN = Eurofins 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

Job ID: 240-119301-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Connecticut	State	PH-0590	12-31-19
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-19
Minnesota	NELAP	OH00048	12-31-19
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-20
West Virginia DEP	State	210	12-31-19

3.0/3.8 1.6/2.3
0.6/1.3

Chain of Custody Record

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

Client Contact Company Name: Arcadis Address: 28550 Cabot Drive, Suite 500 City/State/Zip: Novi, MI, 48377 Phone: 248-994-2240 Project Name: Ford LTP Project Number: M1001454.0004.0001B PO # M1001454.0004.0001B		Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other	
Client Project Manager: Kris Hinskey Telephone: 248-994-2240 Email: kris@hinskey@arcadis.com		Lab Contact: Mike DelMontico Telephone: 330-497-9396	
Method of Shipment/Carrier: Shipping/Tracking No:		Analysis Turnaround Time TAT: if different from below <input type="checkbox"/> 3 weeks <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day	
Sample Identification		Containers & Preservatives H2SO4 HNO3 HCl NaOH ZnAc/ NaOH Luptes Other:	
Sample Date Sample Time		Matrix Aqueous Sediment Solid Other:	
MW-66-091919	9/19/19 11:30	X	
MW-44-091919	9/19/19 17:10	X	
MW-22-091919	9/19/19 15:08	X	
DUP-06	9/19/19	X	
TRAP Blank		X	
Filtered Sample (Y/N) Composite C/Grab-C VOCs 8260B 1,4-Dioxane 8260B SIM		Analyses	
Walk-in client Lab sampling Job/SDIG No:		# of COCs	
Sample Specific Notes / Special Instructions:		TestAmerica Laboratories, Inc. COC No:	



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

Possible Hazard Identification
 Non-Hazard flammable irritant Poison B unknown

Special Instructions/QC Requirements & Comments:
 Submit all results through Cadena at jim.tomalia@cadenalab.com. Cadena #E203728
 Level IV Reporting.

Relinquished by: M. Wilgover melissa.wilgover	Date/Time: 9/19/19 18:10	Received by: [Signature]	Date/Time: 9/19/19 18:10	Company: Arcadis
Relinquished by: [Signature]	Date/Time: 9/19/19 19:00	Received by: Nov: Cold Storage	Date/Time: 9/19/19 19:00	Company: Arcadis
Relinquished by: RACHEL BIELAK [Signature]	Date/Time: 9/20/19 11:30	Received in Laboratory by: [Signature]	Date/Time: 9-20-19 11:30	Company: ETA

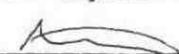
ETA 9-20-19 15:14 9-21-19 9:50 TD

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

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility


Login # : 119361

Client Arcadis Site Name _____
 Cooler Received on 9-21-19 Opened on 9-23-19
 FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Cooler unpacked by: _____


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-10 (CF +0.7 °C) Observed Cooler Temp. 1.6 °C Corrected Cooler Temp. 2.3 °C
 IR GUN #IR-11 (CF +0.9°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# HC991818
 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 # _____ 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: M5

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: _____