

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

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

TestAmerica Job ID: 240-103472-2

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:
11/7/2018 11:53:38 AM

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

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

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Definitions/Glossary

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

TestAmerica Job ID: 240-103472-2

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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

TestAmerica Job ID: 240-103472-2

Job ID: 240-103472-2

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-103472-2

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 10/27/2018 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.3° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-62_102418 (240-103472-11), MW-50_102418 (240-103472-12) and MW-63_102418 (240-103472-13) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 11/02/2018 and 11/04/2018.

2-Butanone (MEK) was detected in method blank MB 240-353311/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has 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.

Sample MW-50_102418 (240-103472-12)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No MS/MSD in batch 353523 due to sample dilution needed: MW-50_102418 (240-103472-12).

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

TestAmerica Job ID: 240-103472-2

Job ID: 240-103472-2 (Continued)

Laboratory: TestAmerica Canton (Continued)

Samples MW-62_102418 (240-103472-11), MW-50_102418 (240-103472-12) and MW-63_102418 (240-103472-13) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 10/30/2018.

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

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Method Summary

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

TestAmerica Job ID: 240-103472-2

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: 240-103472-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-103472-11	MW-62_102418	Water	10/24/18 12:19	10/27/18 09:50
240-103472-12	MW-50_102418	Water	10/24/18 13:54	10/27/18 09:50
240-103472-13	MW-63_102418	Water	10/24/18 14:59	10/27/18 09:50

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Detection Summary

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

TestAmerica Job ID: 240-103472-2

Client Sample ID: MW-62_102418

Lab Sample ID: 240-103472-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.3		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.23	J	1.0	0.16	ug/L	1		8260B	Total/NA
1,3-Dichlorobenzene	0.27	J	1.0	0.15	ug/L	1		8260B	Total/NA
Vinyl chloride	1.0		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-50_102418

Lab Sample ID: 240-103472-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.8		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	16		5.0	0.80	ug/L	5		8260B	Total/NA
Vinyl chloride	99		5.0	1.0	ug/L	5		8260B	Total/NA

Client Sample ID: MW-63_102418

Lab Sample ID: 240-103472-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.2		1.0	0.16	ug/L	1		8260B	Total/NA
1,3-Dichlorobenzene	0.27	J	1.0	0.15	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.29	J	1.0	0.19	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-103472-2

Client Sample ID: MW-62_102418

Lab Sample ID: 240-103472-11

Date Collected: 10/24/18 12:19

Matrix: Water

Date Received: 10/27/18 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.3		2.0	0.86	ug/L			10/30/18 21:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		63 - 125					10/30/18 21:05	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			11/02/18 18:01	1
Benzene	1.0	U	1.0	0.13	ug/L			11/02/18 18:01	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			11/02/18 18:01	1
Bromoform	1.0	U	1.0	0.76	ug/L			11/02/18 18:01	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/02/18 18:01	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			11/02/18 18:01	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			11/02/18 18:01	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			11/02/18 18:01	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			11/02/18 18:01	1
Chloroethane	1.0	U	1.0	0.83	ug/L			11/02/18 18:01	1
Chloroform	1.0	U	1.0	0.13	ug/L			11/02/18 18:01	1
Chloromethane	1.0	U	1.0	0.20	ug/L			11/02/18 18:01	1
cis-1,2-Dichloroethene	0.23	J	1.0	0.16	ug/L			11/02/18 18:01	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			11/02/18 18:01	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			11/02/18 18:01	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			11/02/18 18:01	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			11/02/18 18:01	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			11/02/18 18:01	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/02/18 18:01	1
1,3-Dichlorobenzene	0.27	J	1.0	0.15	ug/L			11/02/18 18:01	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			11/02/18 18:01	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			11/02/18 18:01	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			11/02/18 18:01	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/02/18 18:01	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/02/18 18:01	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			11/02/18 18:01	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			11/02/18 18:01	1
2-Hexanone	10	U	10	0.54	ug/L			11/02/18 18:01	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			11/02/18 18:01	1
Methyl acetate	10	U	10	1.7	ug/L			11/02/18 18:01	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			11/02/18 18:01	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			11/02/18 18:01	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			11/02/18 18:01	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			11/02/18 18:01	1
Styrene	1.0	U	1.0	0.10	ug/L			11/02/18 18:01	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			11/02/18 18:01	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/02/18 18:01	1
Toluene	1.0	U	1.0	0.14	ug/L			11/02/18 18:01	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/02/18 18:01	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			11/02/18 18:01	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			11/02/18 18:01	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			11/02/18 18:01	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			11/02/18 18:01	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-103472-2

Client Sample ID: MW-62_102418

Lab Sample ID: 240-103472-11

Date Collected: 10/24/18 12:19

Matrix: Water

Date Received: 10/27/18 09:50

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			11/02/18 18:01	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			11/02/18 18:01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/02/18 18:01	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			11/02/18 18:01	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			11/02/18 18:01	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			11/02/18 18:01	1
Vinyl chloride	1.0		1.0	0.20	ug/L			11/02/18 18:01	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			11/02/18 18:01	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			11/02/18 18:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	80		59 - 120		11/02/18 18:01	1
Dibromofluoromethane (Surr)	120		75 - 128		11/02/18 18:01	1
1,2-Dichloroethane-d4 (Surr)	106		70 - 121		11/02/18 18:01	1
Toluene-d8 (Surr)	77		70 - 123		11/02/18 18:01	1

Client Sample Results

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

TestAmerica Job ID: 240-103472-2

Client Sample ID: MW-50_102418

Lab Sample ID: 240-103472-12

Date Collected: 10/24/18 13:54

Matrix: Water

Date Received: 10/27/18 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.8		2.0	0.86	ug/L			10/30/18 21:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		63 - 125					10/30/18 21:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	50	U	50	27	ug/L			11/04/18 10:50	5
Benzene	5.0	U	5.0	0.65	ug/L			11/04/18 10:50	5
Bromodichloromethane	5.0	U	5.0	0.85	ug/L			11/04/18 10:50	5
Bromoform	5.0	U	5.0	3.8	ug/L			11/04/18 10:50	5
Bromomethane	5.0	U	5.0	2.1	ug/L			11/04/18 10:50	5
2-Butanone (MEK)	50	U	50	5.8	ug/L			11/04/18 10:50	5
Carbon disulfide	25	U	25	1.4	ug/L			11/04/18 10:50	5
Carbon tetrachloride	5.0	U	5.0	1.3	ug/L			11/04/18 10:50	5
Chlorobenzene	5.0	U	5.0	0.70	ug/L			11/04/18 10:50	5
Chloroethane	5.0	U	5.0	4.2	ug/L			11/04/18 10:50	5
Chloroform	5.0	U	5.0	0.65	ug/L			11/04/18 10:50	5
Chloromethane	5.0	U	5.0	1.0	ug/L			11/04/18 10:50	5
cis-1,2-Dichloroethene	16		5.0	0.80	ug/L			11/04/18 10:50	5
cis-1,3-Dichloropropene	5.0	U	5.0	3.1	ug/L			11/04/18 10:50	5
Cyclohexane	5.0	U	5.0	1.2	ug/L			11/04/18 10:50	5
Dibromochloromethane	5.0	U	5.0	2.0	ug/L			11/04/18 10:50	5
1,2-Dibromo-3-Chloropropane	5.0	U	5.0	4.6	ug/L			11/04/18 10:50	5
1,2-Dibromoethane	5.0	U	5.0	0.60	ug/L			11/04/18 10:50	5
1,2-Dichlorobenzene	5.0	U	5.0	0.75	ug/L			11/04/18 10:50	5
1,3-Dichlorobenzene	5.0	U	5.0	0.75	ug/L			11/04/18 10:50	5
1,4-Dichlorobenzene	5.0	U	5.0	0.80	ug/L			11/04/18 10:50	5
Dichlorodifluoromethane	5.0	U	5.0	1.8	ug/L			11/04/18 10:50	5
1,1-Dichloroethane	5.0	U	5.0	0.85	ug/L			11/04/18 10:50	5
1,2-Dichloroethane	5.0	U	5.0	1.1	ug/L			11/04/18 10:50	5
1,1-Dichloroethene	5.0	U	5.0	0.95	ug/L			11/04/18 10:50	5
1,2-Dichloropropane	5.0	U	5.0	0.75	ug/L			11/04/18 10:50	5
Ethylbenzene	5.0	U	5.0	0.55	ug/L			11/04/18 10:50	5
2-Hexanone	50	U	50	2.7	ug/L			11/04/18 10:50	5
Isopropylbenzene	5.0	U	5.0	0.45	ug/L			11/04/18 10:50	5
Methyl acetate	50	U	50	8.6	ug/L			11/04/18 10:50	5
Methylcyclohexane	5.0	U	5.0	1.7	ug/L			11/04/18 10:50	5
Methylene Chloride	25	U	25	13	ug/L			11/04/18 10:50	5
4-Methyl-2-pentanone (MIBK)	50	U	50	2.1	ug/L			11/04/18 10:50	5
Methyl tert-butyl ether	5.0	U	5.0	0.35	ug/L			11/04/18 10:50	5
Styrene	5.0	U	5.0	0.50	ug/L			11/04/18 10:50	5
1,1,2,2-Tetrachloroethane	5.0	U	5.0	0.65	ug/L			11/04/18 10:50	5
Tetrachloroethene	5.0	U	5.0	0.75	ug/L			11/04/18 10:50	5
Toluene	5.0	U	5.0	0.70	ug/L			11/04/18 10:50	5
trans-1,2-Dichloroethene	5.0	U	5.0	0.95	ug/L			11/04/18 10:50	5
trans-1,3-Dichloropropene	5.0	U	5.0	3.4	ug/L			11/04/18 10:50	5
1,2,4-Trichlorobenzene	5.0	U	5.0	1.3	ug/L			11/04/18 10:50	5
1,1,1-Trichloroethane	5.0	U	5.0	1.2	ug/L			11/04/18 10:50	5
1,1,2-Trichloroethane	5.0	U	5.0	0.45	ug/L			11/04/18 10:50	5

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-103472-2

Client Sample ID: MW-50_102418

Lab Sample ID: 240-103472-12

Date Collected: 10/24/18 13:54

Matrix: Water

Date Received: 10/27/18 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	5.0	U	5.0	0.50	ug/L			11/04/18 10:50	5
Trichlorofluoromethane	5.0	U	5.0	2.3	ug/L			11/04/18 10:50	5
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U	5.0	2.1	ug/L			11/04/18 10:50	5
1,2,3-Trimethylbenzene	25	U	25	0.70	ug/L			11/04/18 10:50	5
1,2,4-Trimethylbenzene	5.0	U	5.0	0.35	ug/L			11/04/18 10:50	5
1,3,5-Trimethylbenzene	5.0	U	5.0	0.60	ug/L			11/04/18 10:50	5
Vinyl chloride	99		5.0	1.0	ug/L			11/04/18 10:50	5
Xylenes, Total	10	U	10	0.75	ug/L			11/04/18 10:50	5
Diethyl ether	10	U	10	0.95	ug/L			11/04/18 10:50	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		59 - 120					11/04/18 10:50	5
Dibromofluoromethane (Surr)	123		75 - 128					11/04/18 10:50	5
1,2-Dichloroethane-d4 (Surr)	112		70 - 121					11/04/18 10:50	5
Toluene-d8 (Surr)	77		70 - 123					11/04/18 10:50	5

Client Sample Results

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

TestAmerica Job ID: 240-103472-2

Client Sample ID: MW-63_102418

Lab Sample ID: 240-103472-13

Date Collected: 10/24/18 14:59

Matrix: Water

Date Received: 10/27/18 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			10/30/18 21:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		63 - 125					10/30/18 21:57	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			11/02/18 18:46	1
Benzene	1.0	U	1.0	0.13	ug/L			11/02/18 18:46	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			11/02/18 18:46	1
Bromoform	1.0	U	1.0	0.76	ug/L			11/02/18 18:46	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/02/18 18:46	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			11/02/18 18:46	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			11/02/18 18:46	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			11/02/18 18:46	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			11/02/18 18:46	1
Chloroethane	1.0	U	1.0	0.83	ug/L			11/02/18 18:46	1
Chloroform	1.0	U	1.0	0.13	ug/L			11/02/18 18:46	1
Chloromethane	1.0	U	1.0	0.20	ug/L			11/02/18 18:46	1
cis-1,2-Dichloroethene	2.2		1.0	0.16	ug/L			11/02/18 18:46	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			11/02/18 18:46	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			11/02/18 18:46	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			11/02/18 18:46	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			11/02/18 18:46	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			11/02/18 18:46	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/02/18 18:46	1
1,3-Dichlorobenzene	0.27 J		1.0	0.15	ug/L			11/02/18 18:46	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			11/02/18 18:46	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			11/02/18 18:46	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			11/02/18 18:46	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/02/18 18:46	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/02/18 18:46	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			11/02/18 18:46	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			11/02/18 18:46	1
2-Hexanone	10	U	10	0.54	ug/L			11/02/18 18:46	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			11/02/18 18:46	1
Methyl acetate	10	U	10	1.7	ug/L			11/02/18 18:46	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			11/02/18 18:46	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			11/02/18 18:46	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			11/02/18 18:46	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			11/02/18 18:46	1
Styrene	1.0	U	1.0	0.10	ug/L			11/02/18 18:46	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			11/02/18 18:46	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/02/18 18:46	1
Toluene	1.0	U	1.0	0.14	ug/L			11/02/18 18:46	1
trans-1,2-Dichloroethene	0.29 J		1.0	0.19	ug/L			11/02/18 18:46	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			11/02/18 18:46	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			11/02/18 18:46	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			11/02/18 18:46	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			11/02/18 18:46	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-103472-2

Client Sample ID: MW-63_102418

Lab Sample ID: 240-103472-13

Date Collected: 10/24/18 14:59

Matrix: Water

Date Received: 10/27/18 09:50

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			11/02/18 18:46	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			11/02/18 18:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/02/18 18:46	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			11/02/18 18:46	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			11/02/18 18:46	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			11/02/18 18:46	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/02/18 18:46	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			11/02/18 18:46	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			11/02/18 18:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	78		59 - 120					11/02/18 18:46	1
Dibromofluoromethane (Surr)	127		75 - 128					11/02/18 18:46	1
1,2-Dichloroethane-d4 (Surr)	112		70 - 121					11/02/18 18:46	1
Toluene-d8 (Surr)	75		70 - 123					11/02/18 18:46	1

Surrogate Summary

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

TestAmerica Job ID: 240-103472-2

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	DBFM	DCA	TOL
		(59-120)	(75-128)	(70-121)	(70-123)
240-103472-11	MW-62_102418	80	120	106	77
240-103472-12	MW-50_102418	81	123	112	77
240-103472-13	MW-63_102418	78	127	112	75
240-103472-K-5 MS	Matrix Spike	90	118	103	81
240-103472-N-5 MSD	Matrix Spike Duplicate	87	103	96	79
LCS 240-353311/4	Lab Control Sample	86	113	103	80
LCS 240-353523/4	Lab Control Sample	88	116	103	81
MB 240-353311/6	Method Blank	79	125	110	78
MB 240-353523/6	Method Blank	81	127	117	79

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)
240-103472-11	MW-62_102418	109
240-103472-12	MW-50_102418	108
240-103472-13	MW-63_102418	108
240-103472-A-5 MS	Matrix Spike	108
240-103472-A-5 MSD	Matrix Spike Duplicate	110
LCS 240-352690/4	Lab Control Sample	105
MB 240-352690/5	Method Blank	107

Surrogate Legend

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

QC Sample Results

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

TestAmerica Job ID: 240-103472-2

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

Lab Sample ID: MB 240-353311/6

Matrix: Water

Analysis Batch: 353311

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	10	U	10	5.4	ug/L			11/02/18 10:19	1
Benzene	1.0	U	1.0	0.13	ug/L			11/02/18 10:19	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			11/02/18 10:19	1
Bromoform	1.0	U	1.0	0.76	ug/L			11/02/18 10:19	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/02/18 10:19	1
2-Butanone (MEK)	1.21	J	10	1.2	ug/L			11/02/18 10:19	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			11/02/18 10:19	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			11/02/18 10:19	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			11/02/18 10:19	1
Chloroethane	1.0	U	1.0	0.83	ug/L			11/02/18 10:19	1
Chloroform	1.0	U	1.0	0.13	ug/L			11/02/18 10:19	1
Chloromethane	1.0	U	1.0	0.20	ug/L			11/02/18 10:19	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/02/18 10:19	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			11/02/18 10:19	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			11/02/18 10:19	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			11/02/18 10:19	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			11/02/18 10:19	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			11/02/18 10:19	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/02/18 10:19	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/02/18 10:19	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			11/02/18 10:19	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			11/02/18 10:19	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			11/02/18 10:19	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/02/18 10:19	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/02/18 10:19	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			11/02/18 10:19	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			11/02/18 10:19	1
2-Hexanone	10	U	10	0.54	ug/L			11/02/18 10:19	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			11/02/18 10:19	1
Methyl acetate	10	U	10	1.7	ug/L			11/02/18 10:19	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			11/02/18 10:19	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			11/02/18 10:19	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			11/02/18 10:19	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			11/02/18 10:19	1
Styrene	1.0	U	1.0	0.10	ug/L			11/02/18 10:19	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			11/02/18 10:19	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/02/18 10:19	1
Toluene	1.0	U	1.0	0.14	ug/L			11/02/18 10:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/02/18 10:19	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			11/02/18 10:19	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			11/02/18 10:19	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			11/02/18 10:19	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			11/02/18 10:19	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/02/18 10:19	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			11/02/18 10:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/02/18 10:19	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			11/02/18 10:19	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			11/02/18 10:19	1

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-103472-2

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

Lab Sample ID: MB 240-353311/6
Matrix: Water
Analysis Batch: 353311

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			11/02/18 10:19	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/02/18 10:19	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			11/02/18 10:19	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			11/02/18 10:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		59 - 120		11/02/18 10:19	1
Dibromofluoromethane (Surr)	125		75 - 128		11/02/18 10:19	1
1,2-Dichloroethane-d4 (Surr)	110		70 - 121		11/02/18 10:19	1
Toluene-d8 (Surr)	78		70 - 123		11/02/18 10:19	1

Lab Sample ID: LCS 240-353311/4
Matrix: Water
Analysis Batch: 353311

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	17.8		ug/L		89	21 - 162
Benzene	10.0	9.70		ug/L		97	80 - 123
Bromodichloromethane	10.0	11.1		ug/L		111	77 - 125
Bromoform	10.0	12.5		ug/L		125	49 - 141
Bromomethane	10.0	7.78		ug/L		78	41 - 175
2-Butanone (MEK)	20.0	14.9		ug/L		74	39 - 163
Carbon disulfide	10.0	10.2		ug/L		102	60 - 138
Carbon tetrachloride	10.0	12.7		ug/L		127	63 - 140
Chlorobenzene	10.0	9.67		ug/L		97	80 - 121
Chloroethane	10.0	6.78		ug/L		68	33 - 173
Chloroform	10.0	11.2		ug/L		112	79 - 127
Chloromethane	10.0	8.63		ug/L		86	54 - 143
cis-1,2-Dichloroethene	10.0	10.5		ug/L		105	76 - 128
cis-1,3-Dichloropropene	10.0	9.40		ug/L		94	64 - 132
Cyclohexane	10.0	7.95		ug/L		79	58 - 145
Dibromochloromethane	10.0	10.9		ug/L		109	70 - 132
1,2-Dibromo-3-Chloropropane	10.0	9.17		ug/L		92	46 - 132
1,2-Dibromoethane	10.0	9.63		ug/L		96	77 - 123
1,2-Dichlorobenzene	10.0	9.97		ug/L		100	78 - 120
1,3-Dichlorobenzene	10.0	10.0		ug/L		100	78 - 120
1,4-Dichlorobenzene	10.0	9.94		ug/L		99	78 - 120
Dichlorodifluoromethane	10.0	7.34		ug/L		73	29 - 148
1,1-Dichloroethane	10.0	10.2		ug/L		102	75 - 133
1,2-Dichloroethane	10.0	11.2		ug/L		112	71 - 135
1,1-Dichloroethene	10.0	9.80		ug/L		98	65 - 139
1,2-Dichloropropane	10.0	9.03		ug/L		90	78 - 133
Ethylbenzene	10.0	8.91		ug/L		89	80 - 120
2-Hexanone	20.0	12.4		ug/L		62	43 - 148
Isopropylbenzene	10.0	9.21		ug/L		92	74 - 120
Methyl acetate	20.0	14.4		ug/L		72	52 - 145
Methylcyclohexane	10.0	8.28		ug/L		83	60 - 125
Methylene Chloride	10.0	11.7		ug/L		117	70 - 134

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-103472-2

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

Lab Sample ID: LCS 240-353311/4

Matrix: Water

Analysis Batch: 353311

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	14.2		ug/L		71	49 - 143
Methyl tert-butyl ether	10.0	9.54		ug/L		95	51 - 133
Styrene	10.0	9.36		ug/L		94	79 - 120
1,1,2,2-Tetrachloroethane	10.0	7.60		ug/L		76	65 - 139
Tetrachloroethene	10.0	11.6		ug/L		116	74 - 130
Toluene	10.0	8.83		ug/L		88	78 - 129
trans-1,2-Dichloroethene	10.0	10.7		ug/L		107	78 - 133
trans-1,3-Dichloropropene	10.0	8.24		ug/L		82	55 - 128
1,2,4-Trichlorobenzene	10.0	9.30		ug/L		93	42 - 133
1,1,1-Trichloroethane	10.0	12.8		ug/L		128	69 - 134
1,1,2-Trichloroethane	10.0	8.49		ug/L		85	78 - 133
Trichloroethene	10.0	11.6		ug/L		116	76 - 125
Trichlorofluoromethane	10.0	6.86		ug/L		69	51 - 164
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	12.0		ug/L		120	50 - 156
1,2,4-Trimethylbenzene	10.0	8.05		ug/L		80	74 - 120
1,3,5-Trimethylbenzene	10.0	8.15		ug/L		81	75 - 121
Vinyl chloride	10.0	6.75		ug/L		67	58 - 143
Xylenes, Total	20.0	18.5		ug/L		93	80 - 120
1,4-Dioxane	200	152		ug/L		76	10 - 175
Diethyl ether	10.0	8.65		ug/L		86	70 - 146

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	86		59 - 120
Dibromofluoromethane (Surr)	113		75 - 128
1,2-Dichloroethane-d4 (Surr)	103		70 - 121
Toluene-d8 (Surr)	80		70 - 123

Lab Sample ID: 240-103472-K-5 MS

Matrix: Water

Analysis Batch: 353311

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	0.74	J	10.0	10.8		ug/L		101	64 - 130
1,1-Dichloroethene	1.0	U	10.0	9.43		ug/L		94	53 - 140
Tetrachloroethene	1.0	U	10.0	11.3		ug/L		113	51 - 136
trans-1,2-Dichloroethene	1.0	U	10.0	10.2		ug/L		102	68 - 133
Trichloroethene	1.0	U	10.0	10.8		ug/L		108	55 - 131
Vinyl chloride	1.0	U	10.0	7.19		ug/L		72	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		59 - 120
Dibromofluoromethane (Surr)	118		75 - 128
1,2-Dichloroethane-d4 (Surr)	103		70 - 121
Toluene-d8 (Surr)	81		70 - 123

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-103472-2

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

Lab Sample ID: 240-103472-N-5 MSD

Matrix: Water

Analysis Batch: 353311

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
cis-1,2-Dichloroethene	0.74	J	10.0	10.1		ug/L		94	64 - 130	6	21
1,1-Dichloroethene	1.0	U	10.0	8.64		ug/L		86	53 - 140	9	35
Tetrachloroethene	1.0	U	10.0	10.9		ug/L		109	51 - 136	4	23
trans-1,2-Dichloroethene	1.0	U	10.0	9.30		ug/L		93	68 - 133	9	24
Trichloroethene	1.0	U	10.0	10.5		ug/L		105	55 - 131	2	23
Vinyl chloride	1.0	U	10.0	7.43		ug/L		74	43 - 154	3	29

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	87		59 - 120
Dibromofluoromethane (Surr)	103		75 - 128
1,2-Dichloroethane-d4 (Surr)	96		70 - 121
Toluene-d8 (Surr)	79		70 - 123

Lab Sample ID: MB 240-353523/6

Matrix: Water

Analysis Batch: 353523

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			11/04/18 10:06	1
Benzene	1.0	U	1.0	0.13	ug/L			11/04/18 10:06	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			11/04/18 10:06	1
Bromoform	1.0	U	1.0	0.76	ug/L			11/04/18 10:06	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/04/18 10:06	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			11/04/18 10:06	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			11/04/18 10:06	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			11/04/18 10:06	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			11/04/18 10:06	1
Chloroethane	1.0	U	1.0	0.83	ug/L			11/04/18 10:06	1
Chloroform	1.0	U	1.0	0.13	ug/L			11/04/18 10:06	1
Chloromethane	1.0	U	1.0	0.20	ug/L			11/04/18 10:06	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/04/18 10:06	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			11/04/18 10:06	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			11/04/18 10:06	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			11/04/18 10:06	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			11/04/18 10:06	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			11/04/18 10:06	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/04/18 10:06	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/04/18 10:06	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			11/04/18 10:06	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			11/04/18 10:06	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			11/04/18 10:06	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/04/18 10:06	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/04/18 10:06	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			11/04/18 10:06	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			11/04/18 10:06	1
2-Hexanone	10	U	10	0.54	ug/L			11/04/18 10:06	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			11/04/18 10:06	1
Methyl acetate	10	U	10	1.7	ug/L			11/04/18 10:06	1

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-103472-2

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

Lab Sample ID: MB 240-353523/6
Matrix: Water
Analysis Batch: 353523

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			11/04/18 10:06	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			11/04/18 10:06	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			11/04/18 10:06	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			11/04/18 10:06	1
Styrene	1.0	U	1.0	0.10	ug/L			11/04/18 10:06	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			11/04/18 10:06	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/04/18 10:06	1
Toluene	1.0	U	1.0	0.14	ug/L			11/04/18 10:06	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/04/18 10:06	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			11/04/18 10:06	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			11/04/18 10:06	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			11/04/18 10:06	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			11/04/18 10:06	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/04/18 10:06	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			11/04/18 10:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/04/18 10:06	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			11/04/18 10:06	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			11/04/18 10:06	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			11/04/18 10:06	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/04/18 10:06	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			11/04/18 10:06	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			11/04/18 10:06	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	81		59 - 120		11/04/18 10:06	1
Dibromofluoromethane (Surr)	127		75 - 128		11/04/18 10:06	1
1,2-Dichloroethane-d4 (Surr)	117		70 - 121		11/04/18 10:06	1
Toluene-d8 (Surr)	79		70 - 123		11/04/18 10:06	1

Lab Sample ID: LCS 240-353523/4
Matrix: Water
Analysis Batch: 353523

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	9.93		ug/L		99	80 - 123
Bromodichloromethane	10.0	10.8		ug/L		108	77 - 125
Bromoform	10.0	13.1		ug/L		131	49 - 141
Bromomethane	10.0	8.63		ug/L		86	41 - 175
2-Butanone (MEK)	20.0	13.7		ug/L		69	39 - 163
Carbon disulfide	10.0	9.41		ug/L		94	60 - 138
Carbon tetrachloride	10.0	12.8		ug/L		128	63 - 140
Chlorobenzene	10.0	9.76		ug/L		98	80 - 121
Chloroethane	10.0	6.97		ug/L		70	33 - 173
Chloroform	10.0	11.4		ug/L		114	79 - 127
Chloromethane	10.0	7.70		ug/L		77	54 - 143
cis-1,2-Dichloroethene	10.0	10.8		ug/L		108	76 - 128
cis-1,3-Dichloropropene	10.0	8.64		ug/L		86	64 - 132

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-103472-2

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

Lab Sample ID: LCS 240-353523/4

Matrix: Water

Analysis Batch: 353523

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyclohexane	10.0	8.42		ug/L		84	58 - 145
Dibromochloromethane	10.0	10.7		ug/L		107	70 - 132
1,2-Dibromo-3-Chloropropane	10.0	9.56		ug/L		96	46 - 132
1,2-Dibromoethane	10.0	9.37		ug/L		94	77 - 123
1,2-Dichlorobenzene	10.0	10.5		ug/L		105	78 - 120
1,3-Dichlorobenzene	10.0	10.1		ug/L		101	78 - 120
1,4-Dichlorobenzene	10.0	10.5		ug/L		105	78 - 120
Dichlorodifluoromethane	10.0	14.0		ug/L		140	29 - 148
1,1-Dichloroethane	10.0	10.2		ug/L		102	75 - 133
1,2-Dichloroethane	10.0	11.3		ug/L		113	71 - 135
1,1-Dichloroethene	10.0	9.70		ug/L		97	65 - 139
1,2-Dichloropropane	10.0	8.54		ug/L		85	78 - 133
Ethylbenzene	10.0	9.03		ug/L		90	80 - 120
2-Hexanone	20.0	12.2		ug/L		61	43 - 148
Isopropylbenzene	10.0	9.52		ug/L		95	74 - 120
Methyl acetate	20.0	16.2		ug/L		81	52 - 145
Methylcyclohexane	10.0	8.82		ug/L		88	60 - 125
Methylene Chloride	10.0	11.2		ug/L		112	70 - 134
4-Methyl-2-pentanone (MIBK)	20.0	14.1		ug/L		70	49 - 143
Methyl tert-butyl ether	10.0	9.83		ug/L		98	51 - 133
Styrene	10.0	9.33		ug/L		93	79 - 120
1,1,2,2-Tetrachloroethane	10.0	8.13		ug/L		81	65 - 139
Tetrachloroethene	10.0	12.3		ug/L		123	74 - 130
Toluene	10.0	8.85		ug/L		89	78 - 129
trans-1,2-Dichloroethene	10.0	10.8		ug/L		108	78 - 133
trans-1,3-Dichloropropene	10.0	8.23		ug/L		82	55 - 128
1,2,4-Trichlorobenzene	10.0	9.66		ug/L		97	42 - 133
1,1,1-Trichloroethane	10.0	12.6		ug/L		126	69 - 134
1,1,2-Trichloroethane	10.0	9.21		ug/L		92	78 - 133
Trichloroethene	10.0	12.2		ug/L		122	76 - 125
Trichlorofluoromethane	10.0	11.2		ug/L		112	51 - 164
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	13.3		ug/L		133	50 - 156
1,2,4-Trimethylbenzene	10.0	8.39		ug/L		84	74 - 120
1,3,5-Trimethylbenzene	10.0	8.51		ug/L		85	75 - 121
Vinyl chloride	10.0	8.10		ug/L		81	58 - 143
Xylenes, Total	20.0	19.0		ug/L		95	80 - 120
1,4-Dioxane	200	209		ug/L		104	10 - 175
Diethyl ether	10.0	8.27		ug/L		83	70 - 146

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	88		59 - 120
Dibromofluoromethane (Surr)	116		75 - 128
1,2-Dichloroethane-d4 (Surr)	103		70 - 121
Toluene-d8 (Surr)	81		70 - 123

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-103472-2

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

Lab Sample ID: MB 240-352690/5

Matrix: Water

Analysis Batch: 352690

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			10/30/18 12:57	1
Surrogate	%Recovery	MB Qualifier	Limits			D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		63 - 125					10/30/18 12:57	1

Lab Sample ID: LCS 240-352690/4

Matrix: Water

Analysis Batch: 352690

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	10.9		ug/L		109	59 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	105		63 - 125				

Lab Sample ID: 240-103472-A-5 MS

Matrix: Water

Analysis Batch: 352690

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	9.48		ug/L		95	52 - 129
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	108		63 - 125						

Lab Sample ID: 240-103472-A-5 MSD

Matrix: Water

Analysis Batch: 352690

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	10.3		ug/L		103	52 - 129	8	13
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	110		63 - 125								

QC Association Summary

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

TestAmerica Job ID: 240-103472-2

GC/MS VOA

Analysis Batch: 352690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-103472-11	MW-62_102418	Total/NA	Water	8260B SIM	
240-103472-12	MW-50_102418	Total/NA	Water	8260B SIM	
240-103472-13	MW-63_102418	Total/NA	Water	8260B SIM	
MB 240-352690/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-352690/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-103472-A-5 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-103472-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 353311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-103472-11	MW-62_102418	Total/NA	Water	8260B	
240-103472-13	MW-63_102418	Total/NA	Water	8260B	
MB 240-353311/6	Method Blank	Total/NA	Water	8260B	
LCS 240-353311/4	Lab Control Sample	Total/NA	Water	8260B	
240-103472-K-5 MS	Matrix Spike	Total/NA	Water	8260B	
240-103472-N-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 353523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-103472-12	MW-50_102418	Total/NA	Water	8260B	
MB 240-353523/6	Method Blank	Total/NA	Water	8260B	
LCS 240-353523/4	Lab Control Sample	Total/NA	Water	8260B	

Lab Chronicle

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

TestAmerica Job ID: 240-103472-2

Client Sample ID: MW-62_102418

Date Collected: 10/24/18 12:19

Date Received: 10/27/18 09:50

Lab Sample ID: 240-103472-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	353311	11/02/18 18:01	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	352690	10/30/18 21:05	SAM	TAL CAN

Client Sample ID: MW-50_102418

Date Collected: 10/24/18 13:54

Date Received: 10/27/18 09:50

Lab Sample ID: 240-103472-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	353523	11/04/18 10:50	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	352690	10/30/18 21:31	SAM	TAL CAN

Client Sample ID: MW-63_102418

Date Collected: 10/24/18 14:59

Date Received: 10/27/18 09:50

Lab Sample ID: 240-103472-13

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	353311	11/02/18 18:46	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	352690	10/30/18 21:57	SAM	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 240-103472-2

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	02-23-19
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	01-31-19
Kentucky (UST)	State Program	4	58	02-23-19
Kentucky (WW)	State Program	4	98016	12-31-18 *
Minnesota	NELAP	5	039-999-348	12-31-18 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
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	02-23-19
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-17-9	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-19
West Virginia DEP	State Program	3	210	12-31-18 *

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

MICHIGAN 190

Chain of Custody Record

3.4/14.3



THE LEADER IN ENVIRONMENTAL TESTING

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

Regulatory program: DW NPDES RCRA Other

Client Contact: Arcadis
Address: 28550 Cabot Drive, Suite 500
City/State/Zip: Novi, MI, 48377
Phone: 248-994-2240
Project Name: Ford LTP
Project Number: MI001454.0004.00002
PO # MI001454.0004.00002

Client Project Manager: Kris Hinskey
Telephone: 248-994-2240
Email: krisstoffer.hinskey@arcadis.com

Site Contact: Angela DeGrandis
Telephone: 734-320-0065

Lab Contact: Mike DelMonico
Telephone: 330-497-9396

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: MI001454.0004.00002
PO # MI001454.0004.00002

Method of Shipment/Carrier:
Shipping/Tracking No:

Sample Identification	Sample Date	Sample Time	Matrix				Containers & Preservatives							Filtered Sample (Y/N)	Composite=C/Grab=G	1,1-DCE 8260B	cis-1,2-DCE 8260B	Trans-1,2-DCE 8260B	PCE 8260B	TCE 8260B	Vinyl Chloride 8260B	1,4-Dioxane 8260B SIM	Sample Specific Notes / Special Instructions:																				
			Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl	NaOH	ZnAc	NaOH											Others:																			
MW-84 - 102318	10/23/18	1015	X				X																																				
MW-81 - 102318	10/23/18	1150																																									
MW-82 S - 102318	10/23/18	1401																																									
MW-82 D - 102318	10/23/18	1500																																									
MW-77 - 102318	10/23/18	1634																																									
MW-87 - 102318	10/23/18																																										
DUP-01																																											
MW-86 - 102418	10/24/18	0903																																									
MW-74D - 102418	10/24/18	1008																																									
TRIP BLANK																																											

Possible Hazard Identification
 Non-hazard Irritable Poison B Unknown
 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 #E203631
 Level IV Reporting.

Reinforced by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
RACHEL STERN	ARCADIS	10/24/18 1620	NOV COLD STORAGE	ARCADIS	10/24/18 1620
M. M. Humphrey	ARCADIS	10/26/18 1315			10/26/18 1315
	ARCADIS	10/26/18 1357			10/27/18 0950

Reinforced by: *[Signature]*
 Company: *[Signature]*
 Date/Time: *[Signature]*



240-103472 Chain of Custody

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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: MI001454.0004.00002 PO # MI001454.0004.00002		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: kristoffer.hinskey@arcadis.com		Site Contact: Angela DeGrandis Telephone: 734-320-0065		Lab Contact: Mike DeMonico Telephone: 330-497-9396		TestAmerica Laboratories, Inc. COC No: _____ of _____ COCs For lab use only: Walk-in client Lab sampling Job/SDG No: _____			
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		Containers & Preservatives H2SO4 HNO3 HCl NaOH NaAc KOH Other: _____		Matrix Air Aqueous Sediment Solid Other: _____		Filtered Sample (Y/N) Composite C / Grab C		Analyses 1,1-DCE 8260B cis-1,2-DCE 8260B Trans-1,2-DCE 8260B PCE 8260B TCE 8260B Vinyl Chloride 8260B 1,4-Dioxane 8260B SIM		Sample Specific Notes / Special Instructions:	
Sample Identification MW-62-102418 MW-50-102418 MW-63-102418		Sample Date 10/24/18 10/24/18 10/24/18		Sample Time 12:19 13:54 14:59		X ↓ ↓		X ↓ ↓		X ↓ ↓		X ↓ ↓	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown		Special Instructions/QC Requirements & Comments: Submit all results through Cadena at jim.tomalia@cadena.com, Cadena #E203631 Level IV Reporting.		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Received by: NOV1 COLD STORAGE Received by: [Signature] Received in Laboratory by: [Signature]		Company: ARCADIS Date/Time: 10/24/18 16:20		Company: THE Date/Time: 10/26/18 13:15		Company: [Signature] Date/Time: 10/28/18 13:57	

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TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 103472

Client Arcadis Site Name _____ Cooler unpacked by: Gerry Burns
 Cooler Received on 10/27/18 Opened on 10/27/18
 FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

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

TestAmerica Cooler # 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 +0.9 °C) Observed Cooler Temp. 3.4 °C Corrected Cooler Temp. 4.3 °C
 IR GUN #36 (CF +0.6 °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 NA
 -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# HC849161
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes No NA  ← Larger than this.
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 57160 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: JR

No tests marked for Trip Blank - will log VOC only

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): _____