

ANALYTICAL REPORT

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

Laboratory Job ID: 240-126696-1
Client Project/Site: Ford LTP On Site

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

Attn: Kristoffer Hinskey



Authorized for release by:
3/6/2020 2:05:37 PM

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	5
Sample Summary	6
Detection Summary	7
Client Sample Results	8
Surrogate Summary	11
QC Sample Results	12
QC Association Summary	16
Lab Chronicle	17
Certification Summary	18
Chain of Custody	19

Definitions/Glossary

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

Job ID: 240-126696-1

Qualifiers

GC/MS VOA

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

Glossary

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

Case Narrative

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

Job ID: 240-126696-1

Job ID: 240-126696-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP On Site

Report Number: 240-126696-1

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 2/22/2020 9:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.5° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-126696-1), MW-124_022020 (240-126696-2) and MW-19_022020 (240-126696-3) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/26/2020 and 02/27/2020.

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

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-124_022020 (240-126696-2) and MW-19_022020 (240-126696-3) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 02/28/2020 and 03/02/2020.

Sample MW-19_022020 (240-126696-3)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

Method Summary

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

Job ID: 240-126696-1

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 On Site

Job ID: 240-126696-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-126696-1	TRIP BLANK	Water	02/20/20 00:00	02/22/20 09:40	
240-126696-2	MW-124_022020	Water	02/20/20 10:24	02/22/20 09:40	
240-126696-3	MW-19_022020	Water	02/20/20 11:52	02/22/20 09:40	

- 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 On Site

Job ID: 240-126696-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126696-1

No Detections.

Client Sample ID: MW-124_022020

Lab Sample ID: 240-126696-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.8		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.20	J	1.0	0.19	ug/L	1		8260B	Total/NA
Vinyl chloride	0.27	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-19_022020

Lab Sample ID: 240-126696-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	540		10	4.3	ug/L	5		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.73	J	1.0	0.16	ug/L	1		8260B	Total/NA
Trichloroethene	0.62	J	1.0	0.10	ug/L	1		8260B	Total/NA
Vinyl chloride	1.1		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 On Site

Job ID: 240-126696-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126696-1

Date Collected: 02/20/20 00:00

Matrix: Water

Date Received: 02/22/20 09:40

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			02/26/20 20:35	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/20 20:35	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/20 20:35	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 20:35	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/20 20:35	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/20 20:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		75 - 130		02/26/20 20:35	1
4-Bromofluorobenzene (Surr)	58		47 - 134		02/26/20 20:35	1
Toluene-d8 (Surr)	78		69 - 122		02/26/20 20:35	1
Dibromofluoromethane (Surr)	90		78 - 129		02/26/20 20:35	1

Client Sample Results

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

Job ID: 240-126696-1

Client Sample ID: MW-124_022020

Lab Sample ID: 240-126696-2

Date Collected: 02/20/20 10:24

Matrix: Water

Date Received: 02/22/20 09:40

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	-		02/28/20 20:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 133		02/28/20 20:38	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	-		02/26/20 20:57	1
cis-1,2-Dichloroethene	1.8		1.0	0.16	ug/L			02/26/20 20:57	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		02/26/20 20:57	1
trans-1,2-Dichloroethene	0.20	J	1.0	0.19	ug/L			02/26/20 20:57	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		02/26/20 20:57	1
Vinyl chloride	0.27	J	1.0	0.20	ug/L			02/26/20 20:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		75 - 130		02/26/20 20:57	1
4-Bromofluorobenzene (Surr)	61		47 - 134		02/26/20 20:57	1
Toluene-d8 (Surr)	85		69 - 122		02/26/20 20:57	1
Dibromofluoromethane (Surr)	94		78 - 129		02/26/20 20:57	1

Client Sample Results

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

Job ID: 240-126696-1

Client Sample ID: MW-19_022020

Lab Sample ID: 240-126696-3

Date Collected: 02/20/20 11:52

Matrix: Water

Date Received: 02/22/20 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	540		10	4.3	ug/L			03/02/20 13:22	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 133					03/02/20 13:22	5

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			02/27/20 12:03	1
cis-1,2-Dichloroethene	0.73	J	1.0	0.16	ug/L			02/27/20 12:03	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/27/20 12:03	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/27/20 12:03	1
Trichloroethene	0.62	J	1.0	0.10	ug/L			02/27/20 12:03	1
Vinyl chloride	1.1		1.0	0.20	ug/L			02/27/20 12:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		75 - 130					02/27/20 12:03	1
4-Bromofluorobenzene (Surr)	60		47 - 134					02/27/20 12:03	1
Toluene-d8 (Surr)	84		69 - 122					02/27/20 12:03	1
Dibromofluoromethane (Surr)	88		78 - 129					02/27/20 12:03	1

Surrogate Summary

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

Job ID: 240-126696-1

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)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-126571-F-4 MSD	Matrix Spike Duplicate	79	81	89	89
240-126571-H-4 MS	Matrix Spike	78	78	88	88
240-126696-1	TRIP BLANK	86	58	78	90
240-126696-2	MW-124_022020	90	61	85	94
240-126696-3	MW-19_022020	84	60	84	88
LCS 240-424351/4	Lab Control Sample	77	80	91	89
LCS 240-424516/4	Lab Control Sample	79	80	89	88
LCSD 240-424516/36	Lab Control Sample Dup	80	78	92	90
MB 240-424351/7	Method Blank	90	70	88	95
MB 240-424516/7	Method Blank	93	67	89	96

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (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
		(70-133)
240-126552-O-2 MS	Matrix Spike	92
240-126552-O-2 MSD	Matrix Spike Duplicate	93
240-126664-L-2 MS	Matrix Spike	93
240-126664-L-2 MSD	Matrix Spike Duplicate	95
240-126696-2	MW-124_022020	95
240-126696-3	MW-19_022020	92
LCS 240-424746/4	Lab Control Sample	90
LCS 240-424853/4	Lab Control Sample	91
MB 240-424746/5	Method Blank	91
MB 240-424853/5	Method Blank	91

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-126696-1

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

Lab Sample ID: MB 240-424351/7
Matrix: Water
Analysis Batch: 424351

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			02/26/20 12:59	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/20 12:59	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/20 12:59	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 12:59	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/20 12:59	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/20 12:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		75 - 130		02/26/20 12:59	1
4-Bromofluorobenzene (Surr)	70		47 - 134		02/26/20 12:59	1
Toluene-d8 (Surr)	88		69 - 122		02/26/20 12:59	1
Dibromofluoromethane (Surr)	95		78 - 129		02/26/20 12:59	1

Lab Sample ID: LCS 240-424351/4
Matrix: Water
Analysis Batch: 424351

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.69		ug/L		97	73 - 129
cis-1,2-Dichloroethene	10.0	10.2		ug/L		102	75 - 124
Tetrachloroethene	10.0	12.0		ug/L		120	70 - 125
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 130
Trichloroethene	10.0	10.1		ug/L		101	71 - 121
Vinyl chloride	10.0	8.21		ug/L		82	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	77		75 - 130
4-Bromofluorobenzene (Surr)	80		47 - 134
Toluene-d8 (Surr)	91		69 - 122
Dibromofluoromethane (Surr)	89		78 - 129

Lab Sample ID: 240-126571-F-4 MSD
Matrix: Water
Analysis Batch: 424351

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	1.0	U	10.0	9.03		ug/L		90	68 - 121	2	35
Tetrachloroethene	1.0	U	10.0	10.6		ug/L		106	52 - 129	9	35
trans-1,2-Dichloroethene	1.0	U	10.0	9.24		ug/L		92	69 - 126	3	35
Trichloroethene	1.0	U	10.0	8.63		ug/L		86	56 - 124	1	35
Vinyl chloride	1.0	U	10.0	8.41		ug/L		84	49 - 136	19	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	79		75 - 130
4-Bromofluorobenzene (Surr)	81		47 - 134
Toluene-d8 (Surr)	89		69 - 122
Dibromofluoromethane (Surr)	89		78 - 129

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-126696-1

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

Lab Sample ID: 240-126571-H-4 MS

Matrix: Water

Analysis Batch: 424351

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
cis-1,2-Dichloroethene	1.0	U	10.0	8.82		ug/L		88	68 - 121
Tetrachloroethene	1.0	U	10.0	9.66		ug/L		97	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	8.97		ug/L		90	69 - 126
Trichloroethene	1.0	U	10.0	8.58		ug/L		86	56 - 124
Vinyl chloride	1.0	U	10.0	6.92		ug/L		69	49 - 136

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	78		75 - 130
4-Bromofluorobenzene (Surr)	78		47 - 134
Toluene-d8 (Surr)	88		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: MB 240-424516/7

Matrix: Water

Analysis Batch: 424516

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/27/20 11:19	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/27/20 11:19	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/27/20 11:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/27/20 11:19	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/27/20 11:19	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/27/20 11:19	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	93		75 - 130		02/27/20 11:19	1
4-Bromofluorobenzene (Surr)	67		47 - 134		02/27/20 11:19	1
Toluene-d8 (Surr)	89		69 - 122		02/27/20 11:19	1
Dibromofluoromethane (Surr)	96		78 - 129		02/27/20 11:19	1

Lab Sample ID: LCS 240-424516/4

Matrix: Water

Analysis Batch: 424516

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
		Result	Qualifier				
1,1-Dichloroethene	10.0	9.30		ug/L		93	73 - 129
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	75 - 124
Tetrachloroethene	10.0	12.0		ug/L		120	70 - 125
trans-1,2-Dichloroethene	10.0	10.5		ug/L		105	74 - 130
Trichloroethene	10.0	10.0		ug/L		100	71 - 121
Vinyl chloride	10.0	8.16		ug/L		82	61 - 134

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	79		75 - 130
4-Bromofluorobenzene (Surr)	80		47 - 134
Toluene-d8 (Surr)	89		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-126696-1

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

Lab Sample ID: LCSD 240-424516/36
Matrix: Water
Analysis Batch: 424516

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	10.0	8.50		ug/L		85	73 - 129	9	35
cis-1,2-Dichloroethene	10.0	9.98		ug/L		100	75 - 124	4	35
Tetrachloroethene	10.0	11.7		ug/L		117	70 - 125	3	35
trans-1,2-Dichloroethene	10.0	9.87		ug/L		99	74 - 130	6	35
Trichloroethene	10.0	9.82		ug/L		98	71 - 121	2	35
Vinyl chloride	10.0	7.51		ug/L		75	61 - 134	8	35

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	80		75 - 130
4-Bromofluorobenzene (Surr)	78		47 - 134
Toluene-d8 (Surr)	92		69 - 122
Dibromofluoromethane (Surr)	90		78 - 129

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

Lab Sample ID: MB 240-424746/5
Matrix: Water
Analysis Batch: 424746

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			02/28/20 12:24	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 133		02/28/20 12:24	1

Lab Sample ID: LCS 240-424746/4
Matrix: Water
Analysis Batch: 424746

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	10.2		ug/L		102	80 - 135

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
1,2-Dichloroethane-d4 (Surr)	90		70 - 133

Lab Sample ID: 240-126552-O-2 MS
Matrix: Water
Analysis Batch: 424746

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	9.86		ug/L		99	46 - 170

Surrogate	MS %Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	92		70 - 133

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-126696-1

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

Lab Sample ID: 240-126552-O-2 MSD
Matrix: Water
Analysis Batch: 424746

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	9.91		ug/L		99	46 - 170	0	26
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	93		70 - 133								

Lab Sample ID: MB 240-424853/5
Matrix: Water
Analysis Batch: 424853

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac			
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/02/20 10:46	1			
Surrogate	%Recovery	Qualifier	Limits							Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 133							03/02/20 10:46	1	

Lab Sample ID: LCS 240-424853/4
Matrix: Water
Analysis Batch: 424853

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	10.1		ug/L		101	80 - 135
Surrogate	%Recovery	Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	91		70 - 133				

Lab Sample ID: 240-126664-L-2 MS
Matrix: Water
Analysis Batch: 424853

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	8.96		ug/L		90	46 - 170
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	93		70 - 133						

Lab Sample ID: 240-126664-L-2 MSD
Matrix: Water
Analysis Batch: 424853

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	9.22		ug/L		92	46 - 170	3	26
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	95		70 - 133								

Eurofins TestAmerica, Canton

QC Association Summary

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

Job ID: 240-126696-1

GC/MS VOA

Analysis Batch: 424351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126696-1	TRIP BLANK	Total/NA	Water	8260B	
240-126696-2	MW-124_022020	Total/NA	Water	8260B	
MB 240-424351/7	Method Blank	Total/NA	Water	8260B	
LCS 240-424351/4	Lab Control Sample	Total/NA	Water	8260B	
240-126571-F-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
240-126571-H-4 MS	Matrix Spike	Total/NA	Water	8260B	

Analysis Batch: 424516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126696-3	MW-19_022020	Total/NA	Water	8260B	
MB 240-424516/7	Method Blank	Total/NA	Water	8260B	
LCS 240-424516/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 240-424516/36	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 424746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126696-2	MW-124_022020	Total/NA	Water	8260B SIM	
MB 240-424746/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-424746/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-126552-O-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-126552-O-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 424853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126696-3	MW-19_022020	Total/NA	Water	8260B SIM	
MB 240-424853/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-424853/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-126664-L-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-126664-L-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Lab Chronicle

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

Job ID: 240-126696-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126696-1

Date Collected: 02/20/20 00:00

Matrix: Water

Date Received: 02/22/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424351	02/26/20 20:35	LEE	TAL CAN

Client Sample ID: MW-124_022020

Lab Sample ID: 240-126696-2

Date Collected: 02/20/20 10:24

Matrix: Water

Date Received: 02/22/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424351	02/26/20 20:57	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	424746	02/28/20 20:38	SAM	TAL CAN

Client Sample ID: MW-19_022020

Lab Sample ID: 240-126696-3

Date Collected: 02/20/20 11:52

Matrix: Water

Date Received: 02/22/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424516	02/27/20 12:03	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		5	424853	03/02/20 13:22	SAM	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 On Site

Job ID: 240-126696-1

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	02-23-21
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	06-01-21
Kansas	NELAP	E-10336	04-30-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-24-21
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	01-12-21
West Virginia DEP	State	210	12-31-20

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



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

Regulatory program: DW NPDES RCRA Other

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 On-Site
 Project Number: 30042006.0401.02
 PO # 30042006.0401.02

Client Project Manager: Kris Hinsky
 Telephone: 248-994-2240
 Email: kristoffer.hinsky@arcadis.com

Site Contact: Julia McClafferty
 Telephone: 734-644-5131

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

TestAmerica Laboratories, Inc.
 COC No: _____
 For lab use only

Analysis Turnaround Time
 TAT if different from below
 10 day
 3 weeks
 2 weeks
 1 week
 2 days
 1 day

Containers & Preservatives
 HCl
 HNO3
 H2SO4
 Other: _____

Matrix
 Air
 Aqueous
 Sediment
 Solid
 Other: _____

Filtered Sample (Y/N)
 Composite C/Crab-C

Sample Identification	Sample Date	Sample Time	Containers & Preservatives						Analyses						Sample Specific Notes / Special Instructions						
			HCl	HNO3	H2SO4	Other	1,1-DCE 8260B	Trans-1,2-DCE 8260B	PCE 8260B	TCE 8260B	Vinyl Chloride 8260B	1,4-Dioxane 8260B SIM									
TRIP BLANK																					
MW-124-022020	2/20/20	1024																			1 VOA 3 VOA for 8260 3 VOA for 8260B SIM
MW-29-022020	2/20/20	1152																			



Possible Hazard Identification
 Non-Hazard Irritant Poison B Unknown

Special Instructions/QC Requirements & Comments:
 Submit all results through Cadena at hmalia@cadenaco.com. Cadena #E203728
 Level IV Reporting requested.

Relinquished by: *[Signature]*
 Relinquished by: *[Signature]*
 Relinquished by: *[Signature]*

Company: Arcadis
 Date/Time: 2/20/20 1600
 Company: Arcadis
 Date/Time: 2/20/20 1700
 Company: Arcadis
 Date/Time: 2/21/20 1520

Received by: *[Signature]*
 Received by: *[Signature]*
 Received by: *[Signature]*

Company: Arcadis
 Date/Time: 2/20/20 1600
 Company: Arcadis
 Date/Time: 2/20/20 1700
 Company: Arcadis
 Date/Time: 2/21/20 1520

Company: Arcadis
 Date/Time: 2/21/20 1600

Company: Arcadis
 Date/Time: 2/21/20 1520

Company: Arcadis
 Date/Time: 2/21/20 1600

Company: Arcadis
 Date/Time: 2/21/20 1520

Company: Arcadis
 Date/Time: 2/21/20 1600



Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 1246916

Client Accuris Site Name _____
 Cooler Received on 02/22/20 Opened on 02/22/20

Cooler unpacked by: _____

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

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

TestAmerica Cooler # TAC 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. 3.8 °C Corrected Cooler Temp. 4.5 °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# HC995364
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 # NA 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: AE7

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: _____