

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
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Laboratory Job ID: 240-126746-1
Client Project/Site: Ford LTP On Site

For:
ARCADIS U.S., Inc.
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Attn: Kristoffer Hinskey



Authorized for release by:
3/6/2020 2:06:02 PM

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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	12
QC Sample Results	13
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: 240-126746-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
E	Result exceeded calibration range.
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: 240-126746-1

Job ID: 240-126746-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP On Site

Report Number: 240-126746-1

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 2/25/2020 2:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.0° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-126746-1), MW-15-60D_022120 (240-126746-2), MW-15-59D_022120 (240-126746-3) and MW-29_022120 (240-126746-4) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/26/2020.

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-15-60D_022120 (240-126746-2), MW-15-59D_022120 (240-126746-3) and MW-29_022120 (240-126746-4) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 03/02/2020.

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: 240-126746-1

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: 240-126746-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-126746-1	TRIP BLANK	Water	02/21/20 00:00	02/25/20 14:45	
240-126746-2	MW-15-60D_022120	Water	02/21/20 11:10	02/25/20 14:45	
240-126746-3	MW-15-59D_022120	Water	02/21/20 13:22	02/25/20 14:45	
240-126746-4	MW-29_022120	Water	02/21/20 14:42	02/25/20 14:45	

- 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: 240-126746-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126746-1

No Detections.

Client Sample ID: MW-15-60D_022120

Lab Sample ID: 240-126746-2

No Detections.

Client Sample ID: MW-15-59D_022120

Lab Sample ID: 240-126746-3

No Detections.

Client Sample ID: MW-29_022120

Lab Sample ID: 240-126746-4

No Detections.

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

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: 240-126746-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126746-1

Date Collected: 02/21/20 00:00

Matrix: Water

Date Received: 02/25/20 14:45

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 22:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/20 22:34	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/20 22:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 22:34	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/20 22:34	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/20 22:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		75 - 130		02/26/20 22:34	1
4-Bromofluorobenzene (Surr)	99		47 - 134		02/26/20 22:34	1
Toluene-d8 (Surr)	90		69 - 122		02/26/20 22:34	1
Dibromofluoromethane (Surr)	84		78 - 129		02/26/20 22:34	1

Client Sample Results

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

Job ID: 240-126746-1

Client Sample ID: MW-15-60D_022120

Lab Sample ID: 240-126746-2

Date Collected: 02/21/20 11:10

Matrix: Water

Date Received: 02/25/20 14:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/02/20 17:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 133		03/02/20 17:18	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 22:58	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/20 22:58	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/20 22:58	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 22:58	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/20 22:58	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/20 22:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		75 - 130		02/26/20 22:58	1
4-Bromofluorobenzene (Surr)	101		47 - 134		02/26/20 22:58	1
Toluene-d8 (Surr)	89		69 - 122		02/26/20 22:58	1
Dibromofluoromethane (Surr)	85		78 - 129		02/26/20 22:58	1

Client Sample Results

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

Job ID: 240-126746-1

Client Sample ID: MW-15-59D_022120

Lab Sample ID: 240-126746-3

Date Collected: 02/21/20 13:22

Matrix: Water

Date Received: 02/25/20 14:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/02/20 17:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 133		03/02/20 17:44	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 23:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/20 23:23	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/20 23:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 23:23	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/20 23:23	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/20 23:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		75 - 130		02/26/20 23:23	1
4-Bromofluorobenzene (Surr)	102		47 - 134		02/26/20 23:23	1
Toluene-d8 (Surr)	93		69 - 122		02/26/20 23:23	1
Dibromofluoromethane (Surr)	87		78 - 129		02/26/20 23:23	1

Client Sample Results

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

Job ID: 240-126746-1

Client Sample ID: MW-29_022120

Lab Sample ID: 240-126746-4

Date Collected: 02/21/20 14:42

Matrix: Water

Date Received: 02/25/20 14:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		03/02/20 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 133		03/02/20 18:10	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 23:48	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		02/26/20 23:48	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		02/26/20 23:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		02/26/20 23:48	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		02/26/20 23:48	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		02/26/20 23:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		75 - 130		02/26/20 23:48	1
4-Bromofluorobenzene (Surr)	103		47 - 134		02/26/20 23:48	1
Toluene-d8 (Surr)	92		69 - 122		02/26/20 23:48	1
Dibromofluoromethane (Surr)	87		78 - 129		02/26/20 23:48	1

Surrogate Summary

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

Job ID: 240-126746-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA	BFB	TOL	DBFM
		(75-130)	(47-134)	(69-122)	(78-129)
240-126624-B-2 MS	Matrix Spike	85	100	94	89
240-126624-B-2 MSD	Matrix Spike Duplicate	83	99	90	84
240-126746-1	TRIP BLANK	81	99	90	84
240-126746-2	MW-15-60D_022120	86	101	89	85
240-126746-3	MW-15-59D_022120	81	102	93	87
240-126746-4	MW-29_022120	83	103	92	87
LCS 240-424389/4	Lab Control Sample	84	99	92	90
MB 240-424389/7	Method Blank	83	100	91	86

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)
240-126746-2	MW-15-60D_022120	96
240-126746-3	MW-15-59D_022120	95
240-126746-4	MW-29_022120	94
240-126748-C-1 MS	Matrix Spike	94
240-126748-C-1 MSD	Matrix Spike Duplicate	103
LCS 240-424853/4	Lab Control Sample	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: 240-126746-1

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

Lab Sample ID: MB 240-424389/7
Matrix: Water
Analysis Batch: 424389

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 15:55	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/20 15:55	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/20 15:55	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 15:55	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/20 15:55	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/20 15:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		75 - 130		02/26/20 15:55	1
4-Bromofluorobenzene (Surr)	100		47 - 134		02/26/20 15:55	1
Toluene-d8 (Surr)	91		69 - 122		02/26/20 15:55	1
Dibromofluoromethane (Surr)	86		78 - 129		02/26/20 15:55	1

Lab Sample ID: LCS 240-424389/4
Matrix: Water
Analysis Batch: 424389

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	10.1		ug/L		101	73 - 129
cis-1,2-Dichloroethene	10.0	10.0		ug/L		100	75 - 124
Tetrachloroethene	10.0	9.82		ug/L		98	70 - 125
trans-1,2-Dichloroethene	10.0	10.6		ug/L		106	74 - 130
Trichloroethene	10.0	9.36		ug/L		94	71 - 121
Vinyl chloride	10.0	12.4		ug/L		124	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	84		75 - 130
4-Bromofluorobenzene (Surr)	99		47 - 134
Toluene-d8 (Surr)	92		69 - 122
Dibromofluoromethane (Surr)	90		78 - 129

Lab Sample ID: 240-126624-B-2 MS
Matrix: Water
Analysis Batch: 424389

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-Dichloroethene	100	U	1000	993		ug/L		99	64 - 132
cis-1,2-Dichloroethene	3100		1000	4040	E	ug/L		93	68 - 121
Tetrachloroethene	100	U	1000	985		ug/L		98	52 - 129
trans-1,2-Dichloroethene	860		1000	1850		ug/L		99	69 - 126
Trichloroethene	100	U	1000	956		ug/L		96	56 - 124
Vinyl chloride	280		1000	1580		ug/L		130	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	85		75 - 130
4-Bromofluorobenzene (Surr)	100		47 - 134
Toluene-d8 (Surr)	94		69 - 122

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QC Sample Results

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

Job ID: 240-126746-1

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

Lab Sample ID: 240-126624-B-2 MS
Matrix: Water
Analysis Batch: 424389

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

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	89		78 - 129

Lab Sample ID: 240-126624-B-2 MSD
Matrix: Water
Analysis Batch: 424389

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-Dichloroethene	100	U	1000	1010		ug/L		101	64 - 132	1	35
cis-1,2-Dichloroethene	3100		1000	3830		ug/L		72	68 - 121	5	35
Tetrachloroethene	100	U	1000	929		ug/L		93	52 - 129	6	35
trans-1,2-Dichloroethene	860		1000	1860		ug/L		100	69 - 126	1	35
Trichloroethene	100	U	1000	894		ug/L		89	56 - 124	7	35
Vinyl chloride	280		1000	1510		ug/L		123	49 - 136	4	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		75 - 130
4-Bromofluorobenzene (Surr)	99		47 - 134
Toluene-d8 (Surr)	90		69 - 122
Dibromofluoromethane (Surr)	84		78 - 129

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

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	MB %Recovery	MB 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	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		70 - 133

Lab Sample ID: 240-126748-C-1 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	11.2		ug/L		112	46 - 170

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QC Sample Results

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

Job ID: 240-126746-1

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

<i>Surrogate</i>	<i>MS</i> <i>%Recovery</i>	<i>MS</i> <i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	94		70 - 133

Lab Sample ID: 240-126748-C-1 MSD
Matrix: Water
Analysis Batch: 424853

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

<i>Analyte</i>	<i>Sample</i> <i>Result</i>	<i>Sample</i> <i>Qualifier</i>	<i>Spike</i> <i>Added</i>	<i>MSD</i> <i>Result</i>	<i>MSD</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec.</i> <i>Limits</i>	<i>RPD</i>	<i>RPD</i> <i>Limit</i>
1,4-Dioxane	2.0	U	10.0	10.1		ug/L		101	46 - 170	10	26

<i>Surrogate</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	103		70 - 133

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

QC Association Summary

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

Job ID: 240-126746-1

GC/MS VOA

Analysis Batch: 424389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126746-1	TRIP BLANK	Total/NA	Water	8260B	
240-126746-2	MW-15-60D_022120	Total/NA	Water	8260B	
240-126746-3	MW-15-59D_022120	Total/NA	Water	8260B	
240-126746-4	MW-29_022120	Total/NA	Water	8260B	
MB 240-424389/7	Method Blank	Total/NA	Water	8260B	
LCS 240-424389/4	Lab Control Sample	Total/NA	Water	8260B	
240-126624-B-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-126624-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 424853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126746-2	MW-15-60D_022120	Total/NA	Water	8260B SIM	
240-126746-3	MW-15-59D_022120	Total/NA	Water	8260B SIM	
240-126746-4	MW-29_022120	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	
240-126748-C-1 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-126748-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Lab Chronicle

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

Job ID: 240-126746-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126746-1

Date Collected: 02/21/20 00:00

Matrix: Water

Date Received: 02/25/20 14:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424389	02/26/20 22:34	LRW	TAL CAN

Client Sample ID: MW-15-60D_022120

Lab Sample ID: 240-126746-2

Date Collected: 02/21/20 11:10

Matrix: Water

Date Received: 02/25/20 14:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424389	02/26/20 22:58	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	424853	03/02/20 17:18	SAM	TAL CAN

Client Sample ID: MW-15-59D_022120

Lab Sample ID: 240-126746-3

Date Collected: 02/21/20 13:22

Matrix: Water

Date Received: 02/25/20 14:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424389	02/26/20 23:23	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	424853	03/02/20 17:44	SAM	TAL CAN

Client Sample ID: MW-29_022120

Lab Sample ID: 240-126746-4

Date Collected: 02/21/20 14:42

Matrix: Water

Date Received: 02/25/20 14:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424389	02/26/20 23:48	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	424853	03/02/20 18:10	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: 240-126746-1

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.

Eurofins TestAmerica, Canton



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

23/130

Client Contact		Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other	
Company Name: Arcadis		Lab Contact: Mike DelMontico	
Address: 28550 Cabot Drive, Suite 500		Telephone: 330-497-9396	
City/State/Zip: Novi, MI, 48377		Site Contact: Julia McClafferty	
Phone: 248-994-2240		Telephone: 734-644-5131	
Project Name: Ford LTP On-Site		Analysis	
Project Number: 30042006.0401.02		Walk-in client	
PO # 30042006.0401.02		Lab sampling	
Sampler Name: Heather Woodson		Job/SDG No:	
Method of Shipment/Carrier:		Sample Specific Notes / Special Instructions:	
Shipping/Tracking No:		1-4-Dioxane 8260B SIM	
Sample Date		TCE 8260B	
Sample Time		PCE 8260B	
Matrix		Trans-1,2-DCE 8260B	
Air		cis-1,2-DCE 8260B	
Aqueous		1,1-DCE 8260B	
Sediment		Composite C / Grab C	
Solid		Filtered Sample (Y/N)	
Other:		Containers & Preservatives	
H2SO4		HCl	
HNO3		NaOH	
H2O2		ZnAc	
Other:		Lupres	
TAT if different from below		Other:	
10 day		3 weeks	
1 week		2 weeks	
2 days		1 week	
1 day		2 days	
Shipping/Tracking No:		1 day	



Sample Identification	Sample Date	Sample Time	Matrix	Containers & Preservatives	Filtered Sample (Y/N)	Analysis	Sample Specific Notes / Special Instructions
TRIP BLANK							1-4-Dioxane 8260B SIM
MW-15-60D-022120	2/21/20	1110	6	HCl	NG	X	3 VO4 for 8260 3 VO4 for 8260SS-1A
MW-15-59D-022120		1322	6	HCl	NG	X	
MW-29-022120		1442	6	HCl	NG	X	

Possible Hazard Identification
 Non-Hazard Irritant Poison B Unknown

Special Instructions/OC Requirements & Comments:
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return to Client Disposal By Lab Archive For _____ Months

Retinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Heather Woodson	2/21/20 1715	Arcadis	Novi Cold Storage	2/21/20 1715	Arcadis
Heather Woodson	2/24/20 007	Arcadis	Molly Maxson	2/24/20 1007	ETA-MI
Heather Woodson	2/24/20 1533	ETA-MI	Molly Maxson	2/25/20 1405	ETA Carbon



Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 126746

Client Arcaolis Site Name Ford, LTP

Cooler unpacked by: [Signature]

Cooler Received on 2/25/20 Opened on 2/25/20

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

Receipt After-hours: Drop-off Date/Time

Storage Location

TestAmerica Cooler # _____ Foam Box _____ Client Cooler _____ Box _____ Other _____
 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 2.3 °C Corrected Cooler Temp 3.0 °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.
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # N/A 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:

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: _____