Environment Testing TestAmerica

ANALYTICAL REPORT

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

Laboratory Job ID: 240-126439-1 Client Project/Site: Ford LTP Off Site

For:

eurofins 🗱

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

Attn: Kristoffer Hinskey

Mode Del Your

Authorized for release by: 3/3/2020 9:46:22 AM

Michael DelMonico, Project Manager I (330)497-9396

michael.delmonico@testamericainc.com

·····LINKS ······

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Have a Question?



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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.

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

Laboratory Job ID: 240-126439-1

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Definitions/Glossary

Client: ARCADIS U.S., Inc.

Job ID: 240-126439-1

Project/Site: Ford LTP Off Site

Qualifiers

GC/MS VOA

Qualifier Description

F1 MS and/or MSD Recovery is outside acceptance limits.
U Indicates the analyte was analyzed for but not detected.

X Surrogate is outside control limits

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CFL Contains Free Liquid
CNF Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac Dilution Factor

DL Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin)

LOD Limit of Detection (DoD/DOE)

LOQ Limit of Quantitation (DoD/DOE)

MDA Minimum Detectable Activity (Radiochemistry)
MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

QC Quality Control

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

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Case Narrative

Client: ARCADIS U.S., Inc. Job ID: 240-126439-1 Project/Site: Ford LTP Off Site

Job ID: 240-126439-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Off Site

Report Number: 240-126439-1

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 2/18/2020 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.5° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-126439-1) and MW-173S 021420 (240-126439-2) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/24/2020.

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

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Sample MW-173S_021420 (240-126439-2) was analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. 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.

Method Summary

Client: ARCADIS U.S., Inc. Project/Site: Ford LTP Off Site Job ID: 240-126439-1

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 Off Site

Job ID: 240-126439-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-126439-1	TRIP BLANK	Water	02/14/20 00:00	02/18/20 09:00	
240-126439-2	MW-173S_021420	Water	02/14/20 13:40	02/18/20 09:00	

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Detection Summary

Client: ARCADIS U.S., Inc.

Project/Site: Ford LTP Off Site

Job ID: 240-126439-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126439-1

No Detections.

No Detections.

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Client Sample Results

Client: ARCADIS U.S., Inc. Job ID: 240-126439-1

Project/Site: Ford LTP Off Site

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126439-1 Date Collected: 02/14/20 00:00 **Matrix: Water**

Date Received: 02/18/20 09:00

Method: 8260B - Volatile On Analyte	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/24/20 20:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/24/20 20:16	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/24/20 20:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/24/20 20:16	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/24/20 20:16	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/24/20 20:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		75 - 130					02/24/20 20:16	1
4-Bromofluorobenzene (Surr)	63		47 - 134					02/24/20 20:16	1
Toluene-d8 (Surr)	80		69 - 122					02/24/20 20:16	1
Dibromofluoromethane (Surr)	85		78 - 129					02/24/20 20:16	1

3/3/2020

Client Sample Results

Client: ARCADIS U.S., Inc. Job ID: 240-126439-1

Project/Site: Ford LTP Off Site

Client Sample ID: MW-173S_021420

Date Collected: 02/14/20 13:40

Lab Sample ID: 240-126439-2 Matrix: Water

	- 01100t0a1		
Date I	Received:	02/18/20	09:00

Method: 8260B SIM - Volat Analyte 1,4-Dioxane	_	Qualifier	$\frac{RL}{2.0} -$	MDL 0.86	 <u>D</u> .	Prepared	Analyzed 02/26/20 20:18	Dil Fac
Surrogate 1,2-Dichloroethane-d4 (Surr)	%Recovery	Qualifier	Limits 70 - 133			Prepared	Analyzed 02/26/20 20:18	Dil Fac
Mothod: 9260B Volatile O			MO)					

1,2-Dichloroethane-d4 (Surr)	119		70 - 133					02/26/20 20:18	1
- Method: 8260B - Volatile O	rganic Compo	unds (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			02/24/20 20:38	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/24/20 20:38	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/24/20 20:38	1
trans-1,2-Dichloroethene	1.0	Ü	1.0	0.19	ug/L			02/24/20 20:38	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/24/20 20:38	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/24/20 20:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		75 - 130			-		02/24/20 20:38	1

Surrogate	%Recovery	Qualifier	Limits	Pi	repared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		75 - 130			02/24/20 20:38	1
4-Bromofluorobenzene (Surr)	65		47 - 134			02/24/20 20:38	1
Toluene-d8 (Surr)	84		69 - 122			02/24/20 20:38	1
Dibromofluoromethane (Surr)	92		78 - 129			02/24/20 20:38	1

3/3/2020

Surrogate Summary

Client: ARCADIS U.S., Inc. Job ID: 240-126439-1

Project/Site: Ford LTP Off Site

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

Matrix: Water Prep Type: Total/NA

			Pe	rcent Surre	ogate Reco
		DCA	BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(75-130)	(47-134)	(69-122)	(78-129)
240-126438-A-3 MSD	Matrix Spike Duplicate	80	71	81	80
240-126438-H-3 MS	Matrix Spike	83	72	86	84
240-126439-1	TRIP BLANK	85	63	80	85
240-126439-2	MW-173S_021420	88	65	84	92
LCS 240-423965/4	Lab Control Sample	83	87	95	92
MB 240-423965/7	Method Blank	88	73	89	92

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)
		DCA	
Lab Sample ID	Client Sample ID	(70-133)	
240-126438-G-3 MS	Matrix Spike	134 X	
240-126438-G-3 MSD	Matrix Spike Duplicate	133	
240-126439-2	MW-173S_021420	119	
LCS 240-424320/4	Lab Control Sample	105	
MB 240-424320/5	Method Blank	105	
Surrogate Legend			

Job ID: 240-126439-1

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

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

Lab Sample ID: MB 240-423965/7

Matrix: Water

Analysis Batch: 423965

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

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 1,1-Dichloroethene 1.0 U 1.0 0.19 ug/L 02/24/20 12:54 cis-1,2-Dichloroethene 1.0 U 1.0 0.16 ug/L 02/24/20 12:54 Tetrachloroethene 1.0 U 1.0 0.15 ug/L 02/24/20 12:54 trans-1,2-Dichloroethene 1.0 U 1.0 0.19 ug/L 02/24/20 12:54 Trichloroethene 1.0 U 1.0 0.10 ug/L 02/24/20 12:54 0.20 ug/L Vinyl chloride 1.0 U 1.0 02/24/20 12:54

MB MB Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 1,2-Dichloroethane-d4 (Surr) 88 75 - 130 02/24/20 12:54 4-Bromofluorobenzene (Surr) 73 47 - 134 02/24/20 12:54 Toluene-d8 (Surr) 89 69 - 122 02/24/20 12:54 Dibromofluoromethane (Surr) 92 78 - 129 02/24/20 12:54

Lab Sample ID: LCS 240-423965/4

Matrix: Water

Analysis Batch: 423965

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

	Spike	LUS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1,1-Dichloroethene	10.0	10.5		ug/L		105	73 - 129	
cis-1,2-Dichloroethene	10.0	10.2		ug/L		102	75 - 124	
Tetrachloroethene	10.0	11.7		ug/L		117	70 - 125	
trans-1,2-Dichloroethene	10.0	10.1		ug/L		101	74 - 130	
Trichloroethene	10.0	10.0		ug/L		100	71 - 121	
Vinyl chloride	10.0	6.62		ug/L		66	61 - 134	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		75 - 130
4-Bromofluorobenzene (Surr)	87		47 - 134
Toluene-d8 (Surr)	95		69 - 122
Dibromofluoromethane (Surr)	92		78 - 129

Lab Sample ID: 240-126438-A-3 MSD

Matrix: Water

Analysis Batch: 423965

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

П	Analysis Batom 420000												
	-	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD	
	Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
	1,1-Dichloroethene	1.0	U	10.0	7.20		ug/L		72	64 - 132	17	35	
	cis-1,2-Dichloroethene	1.0	U	10.0	8.00		ug/L		80	68 - 121	6	35	
	Tetrachloroethene	1.0	U	10.0	8.24		ug/L		82	52 - 129	8	35	
	trans-1,2-Dichloroethene	1.0	U	10.0	7.70		ug/L		77	69 - 126	7	35	
	Trichloroethene	1.0	U	10.0	7.62		ug/L		76	56 - 124	6	35	
	Vinyl chloride	1.0	U F1	10.0	5.67		ug/L		57	49 - 136	17	35	

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	80		75 - 130
4-Bromofluorobenzene (Surr)	71		47 - 134
Toluene-d8 (Surr)	81		69 - 122

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Client: ARCADIS U.S., Inc. Project/Site: Ford LTP Off Site Job ID: 240-126439-1

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

Lab Sample ID: 240-126438-A-3 MSD

Matrix: Water

Analysis Batch: 423965

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

MSD MSD

Limits Surrogate %Recovery Qualifier Dibromofluoromethane (Surr) 78 - 129 80

Lab Sample ID: 240-126438-H-3 MS

Matrix: Water

Analysis Batch: 423965

Client Sample ID: Matrix Spike

Prep Type: Total/NA

MS MS Sample Sample Spike %Rec. Result Qualifier Added Result Qualifier Unit %Rec Limits Analyte D 1.0 U 10.0 64 - 132 1,1-Dichloroethene 8.52 ug/L 85 cis-1,2-Dichloroethene 1.0 U 85 68 - 121 10.0 8.52 ug/L 1.0 U Tetrachloroethene 10.0 8.91 ug/L 89 52 - 129 trans-1,2-Dichloroethene 1.0 U 10.0 8.25 83 69 - 126 ug/L ug/L Trichloroethene 1.0 U 10.0 81 56 - 124 8 12 Vinyl chloride 1.0 UF1 10.0 4.78 F1 ug/L 48 49 - 136

MS MS

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		75 - 130
4-Bromofluorobenzene (Surr)	72		47 - 134
Toluene-d8 (Surr)	86		69 - 122
Dibromofluoromethane (Surr)	84		78 - 129

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

105

Lab Sample ID: MB 240-424320/5

Matrix: Water

Analysis Batch: 424320

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

MB MB **MDL** Unit Dil Fac Analyte Result Qualifier RI ח Prepared Analyzed 1,4-Dioxane 2.0 U 2.0 0.86 ug/L 02/26/20 12:03

MB MB Surrogate %Recovery Qualifier

Limits 70 - 133

Added

10.0

Prepared Analyzed 02/26/20 12:03

Client Sample ID: Lab Control Sample

Limits

80 - 135

D %Rec

105

Lab Sample ID: LCS 240-424320/4

Matrix: Water

Analyte

Analysis Batch: 424320

1,2-Dichloroethane-d4 (Surr)

Prep Type: Total/NA LCS LCS Spike %Rec.

10.5

Result Qualifier

Unit

ug/L

1,4-Dioxane LCS LCS Surrogate %Recovery Qualifier Limits 70 - 133 1,2-Dichloroethane-d4 (Surr) 105

Lab Sample ID: 240-126438-G-3 MS

Matrix: Water

Analysis Batch: 424320

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

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits 2.0 U 1,4-Dioxane 10.0 9 77 ug/L 98 46 - 170

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3/3/2020

QC Sample Results

Client: ARCADIS U.S., Inc. Job ID: 240-126439-1 Project/Site: Ford LTP Off Site

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

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	134	X	70 - 133

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	134	X	70 - 13

Lab Sample ID: 240-126438-G-3 MSD **Client Sample ID: Matrix Spike Duplicate Matrix: Water Prep Type: Total/NA**

Analysis Batch: 424320

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,4-Dioxane	2.0	U	10.0	10.9		ug/L		109	46 - 170	11	26
	MSD	MSD									

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

QC Association Summary

Client: ARCADIS U.S., Inc.

Project/Site: Ford LTP Off Site

Job ID: 240-126439-1

GC/MS VOA

Analysis Batch: 423965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126439-1	TRIP BLANK	Total/NA	Water	8260B	
240-126439-2	MW-173S_021420	Total/NA	Water	8260B	
MB 240-423965/7	Method Blank	Total/NA	Water	8260B	
LCS 240-423965/4	Lab Control Sample	Total/NA	Water	8260B	
240-126438-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
240-126438-H-3 MS	Matrix Spike	Total/NA	Water	8260B	

Analysis Batch: 424320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126439-2	MW-173S_021420	Total/NA	Water	8260B SIM	
MB 240-424320/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-424320/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-126438-G-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-126438-G-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

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Lab Chronicle

Client: ARCADIS U.S., Inc. Job ID: 240-126439-1 Project/Site: Ford LTP Off Site

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126439-1 Date Collected: 02/14/20 00:00

Matrix: Water

Date Received: 02/18/20 09:00

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	423965	02/24/20 20:16	LEE	TAL CAN

Client Sample ID: MW-173S_021420

Lab Sample ID: 240-126439-2 Date Collected: 02/14/20 13:40

Matrix: Water

Date Received: 02/18/20 09:00

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	423965	02/24/20 20:38	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	424320	02/26/20 20:18	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. Job ID: 240-126439-1 Project/Site: Ford LTP Off Site

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20 *
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20 *
Illinois	NELAP	004498	07-31-20
lowa	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	02-23-20 *
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

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

Eurofins TestAmerica, Canton

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R.A.S.

Date Time

Unknown

Poison B

cin Irritani

secial Instructions/QC Requirements & Comments:

Possible Hazard Identification

ubmit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203631

evel IV Reporting requested.

telinquished by:

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ETA

Date Time: 4C/H/C

ARCADIS

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Sample Disposal (Afee may be assessed if samples are retained longer than 1 month)
Return to Client

Disposal By Lab
Archive For Mor 190 TestAmerica Laboratory location; Brighton — 10448 Citation Drive, Suite 200 / Brighton, MI 48116 / 810-229-2763 Received in Laboratory by: Site Contact: Julia McClafferty Analysis Turnaround Time : yaqıc Unpres Telephone: 734-644-5131 J weeks I week 2 days HOSN HOEN 3 NPDES HCI AT if differen 10 day EONH HSSON

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MW-1739

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Sample Time

Sample Date

Sample Identification

240-126439 Chain of Custody

TestAmerica

Chain of Custody Record

MICHIGAN 2.8/3.5

MO

Regulatory program:

Client Contact

Address: 28550 Cabot Drive, Suite 500

mpany Name: Arcadis

ity/State/Zip: Novi, MI, 4837

ione: 248-994-2240

Email: kristoffer.hinskey@arcadis.com

S. Lo HNSON

roject Number: 30042006.0402.02 roject Name: Ford LTP Off-Site

PO # 30042006,0402.02

hipping/Tracking No:

Client Project Manager: Kris Hinskey

elephone: 248-994-2240

TestAmerica Laboratories, COC No:

ab Contact: Mike DelMonico Telephone: 330-497-9396 or lab use onl

Walk-in client ab sampling

ob/SDG No:

MIS 80828 ansxoid-4,

Trans-1,2-DCE 8260B

Omposite=C / Grab=G

Filtered Sample (Y / V)

12-1,2-DCE 8260B

LCE 8560B SCE 8500B

Sample Specific Notes Special Instructions:

Page 17 of 18

Eurofins TestAmerica Canton Sample Receipt Form/Narrative Canton Facility	Login # :
	Cooler unpacked by:
	- Kyan C
Cooler Received on 2-18-76 Opened on 2-18-76	
FedEx: U Grd Exp UPS FAS Clipper Client Drop Off TestAmerica	Courier Other
Receipt After-hours: Drop-off Date/Time Storage I TestAmerica Cooler # TA Foam Box Client Cooler Box	Other
	Other
COOLANT: Wet Ice Blue Ice Dry Ice Water None	
IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. ? 8 °C Correcte	ed Cooler Temp. 3.5 °C
IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp°C Correct	ed Cooler TempC
Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity Were the seals on the outside of the cooler(s) signed & dated? -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? -Were tamper/custody seals intact and uncompromised?	Yes No NA , Yes No NA
. Shippers' packing slip attached to the cooler(s)?	Yes No
. Did custody papers accompany the sample(s)?	Yes No Tests that are not
. Were the custody papers relinquished & signed in the appropriate place?	Yes No checked for pH by
. Was/were the person(s) who collected the samples clearly identified on the CO	OC? Yes No Receiving:
Did all bottles arrive in good condition (Unbroken)?	Yes No VOAs
Could all bottle labels be reconciled with the COC?	Yes No Oil and Grease
Were correct bottle(s) used for the test(s) indicated?	Yes No TOC
0. Sufficient quantity received to perform indicated analyses?	
	Vac / No
 Are these work share samples? 	Yes (No.)
 Are these work share samples? If yes, Questions 12-16 have been checked at the originating laboratory. 	
 Are these work share samples? If yes, Questions 12-16 have been checked at the originating laboratory. Were all preserved sample(s) at the correct pH upon receipt? 	Yes No NA pH Strip Lot# HC995364
 Are these work share samples? If yes, Questions 12-16 have been checked at the originating laboratory. Were all preserved sample(s) at the correct pH upon receipt? Were VOAs on the COC? 	Yes No NA pH Strip Lot# HC995364
 Are these work share samples? If yes, Questions 12-16 have been checked at the originating laboratory. Were all preserved sample(s) at the correct pH upon receipt? Were VOAs on the COC? Were air bubbles >6 mm in any VOA vials? 	Yes No NA pH Strip Lot# HC995364 Yes No NA
 Are these work share samples? If yes, Questions 12-16 have been checked at the originating laboratory. Were all preserved sample(s) at the correct pH upon receipt? Were VOAs on the COC? Were air bubbles >6 mm in any VOA vials? Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #	Yes No NA pH Strip Lot# HC995364 Yes No NA
1. Are these work share samples? If yes, Questions 12-16 have been checked at the originating laboratory. 2. Were all preserved sample(s) at the correct pH upon receipt? 3. Were VOAs on the COC? 4. Were air bubbles >6 mm in any VOA vials? 5. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #	Yes No NA pH Strip Lot# HC995364 Yes No NA Yes No NA Yes No PAC 2-15-20 Yes No
1. Are these work share samples? If yes, Questions 12-16 have been checked at the originating laboratory. 2. Were all preserved sample(s) at the correct pH upon receipt? 3. Were VOAs on the COC? 4. Were air bubbles >6 mm in any VOA vials? 5. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #	Yes No NA pH Strip Lot# HC995364 Yes No NA Yes No NA Yes No PAC 2-15-20 Yes No
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1. Are these work share samples? If yes, Questions 12-16 have been checked at the originating laboratory. 2. Were all preserved sample(s) at the correct pH upon receipt? 3. Were VOAs on the COC? 4. Were air bubbles >6 mm in any VOA vials? 5. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #	Yes No NA Yes No PAC 2-18-20 Yes No Samples processed by: ended holding time had expired. ere received in a broken container.
1. Are these work share samples? If yes, Questions 12-16 have been checked at the originating laboratory. 2. Were all preserved sample(s) at the correct pH upon receipt? 3. Were VOAs on the COC? 4. Were air bubbles >6 mm in any VOA vials? 5. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #	Yes No NA Yes No PAC 2-18-20 Yes No Samples processed by: ended holding time had expired. ere received in a broken container.
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DATA VERIFICATION REPORT



March 03, 2020

Kris Hinskey Arcadis Inc 10559 Citation Ave Suite 100 Brighton, MI 48116

CADENA project ID: E203631

Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater

Project number: 30042006.0402.02 off site

Event Specific Scope of Work References: Sample COC

Laboratory: TestAmerica - North Canton

Laboratory submittal: 126439-1 Sample date: 2020-02-14

Report received by CADENA: 2020-03-03

Initial Data Verification completed by CADENA: 2020-03-03

Number of Samples:2 Sample Matrices:Water Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

GCMS VOC QC batch MS/MSD recovery outliers were not determined using a client sample so qualification was not required based on these sample-specific QC outliers.

GCMS VOC SIM QC batch MS/MSD surrogate recovery outliers were not determined using a client sample so qualification was not required based on these sample-specific QC outliers.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at http://clms.cadenaco.com/index.cfm.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
В	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminates) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
Е	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminates) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 126439-1

		Collection Date	Collection Time	Volatile Organics	8260B with Single	
Lab Sample ID	Sample ID	(mm/yy/dd)	(hh:mm:ss)	by GCMS	Ion Monitoring	Comment
2401264391	TRIP BLANK	2/14/2020	12:00:00	Х		
2401264392	MW-173S_021420	2/14/2020	1:40:00	х	Х	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 126439-1

		Sample Name: Lab Sample ID: Sample Date:	TRIP BLANK 2401264391 2/14/2020			MW-173S_021420 2401264392 2/14/2020				
				Report		Valid	Valid Report			Valid
	Analyte	Cas No.	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC	nn									
<u>OSW-8260</u>										
	1,1-Dichloroethene	75-35-4	ND	1.0	ug/l		ND	1.0	ug/l	
	cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l		ND	1.0	ug/l	
	Tetrachloroethene	127-18-4	ND	1.0	ug/l		ND	1.0	ug/l	
	trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l		ND	1.0	ug/l	
	Trichloroethene	79-01-6	ND	1.0	ug/l		ND	1.0	ug/l	
	Vinyl chloride	75-01-4	ND	1.0	ug/l		ND	1.0	ug/l	
OSW-8260	<u>OBBSim</u>									
	1,4-Dioxane	123-91-1					ND	2.0	ug/l	



Ford Motor Company – Livonia Transmission Project

DATA REVIEW

Livonia, Michigan

Volatile Organic Compounds (VOC) Analysis

SDG # 240-126439-1

CADENA Verification Report: 2020-03-03

Analyses Performed By:

TestAmerica

Edison, New Jersey

Report #36124R Review Level: Tier III Project: 30042006.0402.02

DATA REVIEW

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) # 240-126439-1 for samples collected in association with the Ford – Livonia, Michigan site. The review was conducted as a Tier III validation in addition to a verification/Tier II validation review performed by CADENA Inc. and included review of level IV laboratory data package completeness. Only elements of a Tier III validation effort (Tier III) includes a detailed review of laboratory raw data to check for errors in calculation, calibration review, internal standard review and compound identification) and omitted deviations from the CADENA verification/Tier II report are documented in this report. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

SDG	Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	VOC (Full Scan)	Analysis VOC (SIM)	MISC
	TRIP BLANK	240-126439-1	Water	2/14/2020		Х		
240-126439-1	MW-173S_021420	240-126439-2	Water	2/14/2020		Х	Х	

DATA REVIEW

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

	Rep	orted	Performance Acceptable		Not
Items Reviewed	No	Yes	No	Yes	Required
Sample receipt condition		Х		X	
2. Requested analyses and sample results		Х		X	
Master tracking list		Х		X	
4. Methods of analysis		Х		Х	
5. Reporting limits		Х		Х	
6. Sample collection date		Х		Х	
7. Laboratory sample received date		Х		Х	
8. Sample preservation verification (as applicable)		Х		X	
9. Sample preparation/extraction/analysis dates		Х		X	
10. Fully executed Chain-of-Custody (COC) form		Х		X	
Narrative summary of Quality Assurance or sample problems provided		Х		Х	
12. Data Package Completeness and Compliance		Х		Х	

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Method 8260B and 8260B SIM. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
 - U The analyte was analyzed for but was not detected above the level of the reported sample quantitation limit.
 - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
 - E The compound was quantitated above the calibration range.
 - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
 - J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
 - UJ The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
 - J+ The result is an estimated quantity, but the result may be biased high.
 - J- The result is an estimated quantity, but the result may be biased low.
 - UB Analyte considered non-detect at the listed value due to associated blank contamination.
 - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
 - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8260B/8260B-SIM	Water	14 days from collection to analysis	Cool to < 6 °C; pH < 2 with HCl

All samples were analyzed within the specified holding time criteria.

2. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

3. Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (20%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

All compounds associated with the initial calibrations were within the specified control limits.

3.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (20%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits.

4. Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

DATA REVIEW

5. Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices.

A field duplicate was not performed on a sample within this SDG.

6. Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

No compounds were detected in the samples within this SDG.

7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA REVIEW

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: 8260B/8260B-SIM	Re	ported		ormance eptable	Not
	No	Yes	No	Yes	Required
GAS CHROMATOGRAPHY/MASS SPECTROMETI	RY (GC/I	MS)			
Tier II Validation					
Holding times/Preservation		X		X	
Tier III Validation					
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X		X	
Instrument tune and performance check		Х		Х	
Ion abundance criteria for each instrument used		Х		Х	
Field Duplicate RPD		Х		Х	
Internal standard		Х		Х	
Compound identification and quantitation					
A. Reconstructed ion chromatograms		Х		Х	
B. Quantitation Reports		Х		Х	
C. RT of sample compounds within the established RT windows		Х		Х	
D. Transcription/calculation errors present		X		X	
E. Reporting limits adjusted to reflect sample dilutions		Х		Х	

Notes:

%RSD Relative standard deviation

%R Percent recovery

RPD Relative percent difference

%D Percent difference

VALIDATION PERFORMED BY: Andrew Korycinski

SIGNATURE:

DATE: March 12, 2020

a Kaz

PEER REVIEW: Dennis Capria

DATE: March 18, 2020

CHAIN OF CUSTODY CORRECTED SAMPLE ANALYSIS DATA SHEETS

NO CORRECTIONS/QUALIFERS ADDED TO SAMPLE ANALYSIS DATA SHEETS

SNE1 02/E1/2

Date/Time: 1938

Strack

ソロシ

938

2/14/20

Sompany: Areules

Melissa Wener

2008 TestAmerica Laboramos, Inc. All replic reserve on America & Design " on Tadoptica's of CestAmerica

R.A.S.

Date Time

Unknown

Poison B

cin Irritani

secial Instructions/QC Requirements & Comments:

Possible Hazard Identification

ubmit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203631

evel IV Reporting requested.

telinquished by:

1345

aL111/2

Arreado

1430

02/2/20

ETA

Date Time: 4C/H/C

ARCADIS

TRAILERY

300

2-18-50

Sample Disposal (Afee may be assessed if samples are retained longer than 1 month)
Return to Client

Disposal By Lab
Archive For Mor 190 TestAmerica Laboratory location; Brighton — 10448 Citation Drive, Suite 200 / Brighton, MI 48116 / 810-229-2763 Received in Laboratory by: Site Contact: Julia McClafferty Analysis Turnaround Time : yaqıc Unpres Telephone: 734-644-5131 J weeks I week 2 days HOSN HOEN 3 NPDES HCI AT if differen 10 day EONH HSSON

X

NGXXXXX

9

2/1/2 1340

02-120

MW-1739

TRIP BLANK

9

Z

bilas

11/

Sample Time

Sample Date

Sample Identification

240-126439 Chain of Custody

TestAmerica

Chain of Custody Record

MICHIGAN 2.8/3.5

MO

Regulatory program:

Client Contact

Address: 28550 Cabot Drive, Suite 500

mpany Name: Arcadis

ity/State/Zip: Novi, MI, 4837

ione: 248-994-2240

Email: kristoffer.hinskey@arcadis.com

S. Lo HNSON

roject Number: 30042006.0402.02 roject Name: Ford LTP Off-Site

PO # 30042006,0402.02

hipping/Tracking No:

Client Project Manager: Kris Hinskey

elephone: 248-994-2240

TestAmerica Laboratories, COC No:

ab Contact: Mike DelMonico Telephone: 330-497-9396 or lab use onl

Walk-in client ab sampling

ob/SDG No:

MIS 80828 ansxoid-4,

Trans-1,2-DCE 8260B

Omposite=C / Grab=G

Filtered Sample (Y / V)

12-1,2-DCE 8260B

LCE 8560B SCE 8500B

Sample Specific Notes Special Instructions:

Page 17 of 18

Client Sample Results

Client: ARCADIS U.S., Inc. Job ID: 240-126439-1

Project/Site: Ford LTP Off Site

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126439-1 Date Collected: 02/14/20 00:00 **Matrix: Water**

Date Received: 02/18/20 09:00

Method: 8260B - Volatile On Analyte	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/24/20 20:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/24/20 20:16	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/24/20 20:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/24/20 20:16	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/24/20 20:16	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/24/20 20:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		75 - 130					02/24/20 20:16	1
4-Bromofluorobenzene (Surr)	63		47 - 134					02/24/20 20:16	1
Toluene-d8 (Surr)	80		69 - 122					02/24/20 20:16	1
Dibromofluoromethane (Surr)	85		78 - 129					02/24/20 20:16	1

3/3/2020

Client Sample Results

Client: ARCADIS U.S., Inc. Job ID: 240-126439-1

Project/Site: Ford LTP Off Site

Client Sample ID: MW-173S_021420

Date Collected: 02/14/20 13:40

Lab Sample ID: 240-126439-2 Matrix: Water

	- 01100t0a1		
Date I	Received:	02/18/20	09:00

Method: 8260B SIM - Volat Analyte 1,4-Dioxane	_	Qualifier	$\frac{RL}{2.0} -$	MDL 0.86	 <u>D</u> .	Prepared	Analyzed 02/26/20 20:18	Dil Fac
Surrogate 1,2-Dichloroethane-d4 (Surr)	%Recovery	Qualifier	Limits 70 - 133			Prepared	Analyzed 02/26/20 20:18	Dil Fac
Mothod: 9260B Volatile O			MO)					

1,2-Dichloroethane-d4 (Surr)	119		70 - 133					02/26/20 20:18	1
- Method: 8260B - Volatile O	rganic Compo	unds (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			02/24/20 20:38	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/24/20 20:38	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/24/20 20:38	1
trans-1,2-Dichloroethene	1.0	Ü	1.0	0.19	ug/L			02/24/20 20:38	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/24/20 20:38	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/24/20 20:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		75 - 130			-		02/24/20 20:38	1

Surrogate	%Recovery	Qualifier	Limits	Pi	repared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		75 - 130			02/24/20 20:38	1
4-Bromofluorobenzene (Surr)	65		47 - 134			02/24/20 20:38	1
Toluene-d8 (Surr)	84		69 - 122			02/24/20 20:38	1
Dibromofluoromethane (Surr)	92		78 - 129			02/24/20 20:38	1

3/3/2020