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ANALYTICAL REPORT

PREPARED FOR

Attn: Kristoffer Hinskey ARCADIS US Inc 28550 Cabot Drive Suite 500 Novi, Michigan 48377 Generated 5/21/2023 8:21:57 PM

JOB DESCRIPTION

Ford LTP - On Site

JOB NUMBER

240-185152-1

Eurofins Cleveland 180 S. Van Buren Avenue Barberton OH 44203



Eurofins Cleveland

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Generated 5/21/2023 8:21:57 PM

Authorized for release by Michael DelMonico, Project Manager I <u>Michael.DelMonico@et.eurofinsus.com</u> (330)497-9396

Client: ARCADIS US Inc Project/Site: Ford LTP - On Site Laboratory Job ID: 240-185152-1

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Definitions/Glossary

Client: ARCADIS US Inc Job ID: 240-185152-1

Project/Site: Ford LTP - On Site

Qualifiers

GC/MS VOA

Qualifier 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.

Qualifier Description

Glossary

Glossary	
Abbreviation	These commonly used abbreviations may or may not be present in this report.
n	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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) Limit of Quantitation (DoD/DOE)

EPA recommended "Maximum Contaminant Level" MCL MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit Minimum Level (Dioxin) ML MPN Most Probable Number MQL Method Quantitation Limit

NC Not Calculated

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

NEG Negative / Absent POS Positive / Present PQL Practical Quantitation Limit

PRES Presumptive 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) Toxicity Equivalent Quotient (Dioxin) TEQ

TNTC Too Numerous To Count

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Case Narrative

Client: ARCADIS US Inc

Job ID: 240-185152-1

Project/Site: Ford LTP - On Site

Job ID: 240-185152-1

Laboratory: Eurofins Cleveland

Narrative

Job Narrative 240-185152-1

Receipt

The samples were received on 5/11/2023~8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.0° C and 1.2° C

GC/MS VOA

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

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Method Summary

Client: ARCADIS US Inc
Project/Site: Ford LTP - On Site

Job ID: 240-185152-1

Method **Method Description** Protocol Laboratory SW846 EET EDI 8260D Volatile Organic Compounds by GC/MS 8260D SIM Volatile Organic Compounds (GC/MS) SW846 EET EDI 5030C SW846 EET EDI Purge and Trap

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET EDI = Eurofins Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Sample Summary

Client: ARCADIS US Inc
Project/Site: Ford LTP - On Site

Job ID: 240-185152-1

Lab Sample ID Client Sample ID Collected Matrix Received 240-185152-1 TRIP BLANK_176 Water 05/09/23 00:00 05/11/23 08:00 240-185152-2 MW-124_050923 Water 05/09/23 13:10 05/11/23 08:00 240-185152-3 MW-199S_050923 Water 05/09/23 15:38 05/11/23 08:00

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Detection Summary

Client: ARCADIS US Inc Job ID: 240-185152-1

Project/Site: Ford LTP - On Site

Client Sample ID: TRIP BLANK_176 Lab Sample ID: 240-185152-1

No Detections.

Client Sample ID: MW-124_050923 Lab Sample ID: 240-185152-2

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac	Method	Prep Type
cis-1,2-Dichloroethene	2.2	1.0	0.46 ug/L	1	8260D	Total/NA

Client Sample ID: MW-199S_050923 Lab Sample ID: 240-185152-3

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Prep Type
1,4-Dioxane	3.4	2.0	0.86 ug/L		8260D SIM	Total/NA
Vinvl chloride	0.66 J	1.0	0.45 ua/L	1	8260D	Total/NA

Client Sample Results

Client: ARCADIS US Inc Job ID: 240-185152-1

Project/Site: Ford LTP - On Site

Client Sample ID: TRIP BLANK_176

Lab Sample ID: 240-185152-1 Date Collected: 05/09/23 00:00

Matrix: Water

Date Received: 05/11/23 08:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/20/23 19:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/20/23 19:47	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/20/23 19:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/20/23 19:47	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/20/23 19:47	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/20/23 19:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)			70 - 128			-		05/20/23 19:47	1
Dibromofluoromethane (Surr)	83		77 - 124					05/20/23 19:47	1
Toluene-d8 (Surr)	102		80 - 120					05/20/23 19:47	1
4-Bromofluorobenzene	98		76 - 120					05/20/23 19:47	1

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Client Sample Results

Client: ARCADIS US Inc Job ID: 240-185152-1

Project/Site: Ford LTP - On Site

Client Sample ID: MW-124_050923

Lab Sample ID: 240-185152-2 Date Collected: 05/09/23 13:10

Matrix: Water

05/21/23 00:20 05/21/23 00:20

05/21/23 00:20

Date	Received:	05/11/23	08:00

Dibromofluoromethane (Surr)

Toluene-d8 (Surr)

4-Bromofluorobenzene

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/20/23 01:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		75 - 133			-		05/20/23 01:37	1
Method: SW846 8260D - Vola	tile Organic Comp	ounds by C	SC/MS						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/21/23 00:20	1
cis-1,2-Dichloroethene	2.2		1.0	0.46	ug/L			05/21/23 00:20	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/21/23 00:20	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/21/23 00:20	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/21/23 00:20	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/21/23 00:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)			70 - 128			-		05/21/23 00:20	

77 - 124

80 - 120

76 - 120

88

100

95

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Client Sample Results

Client: ARCADIS US Inc Job ID: 240-185152-1

Project/Site: Ford LTP - On Site

Client Sample ID: MW-199S_050923

Lab Sample ID: 240-185152-3 Date Collected: 05/09/23 15:38

Matrix: Water

Date Received: 05/11/23 08:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	3.4		2.0	0.86	ug/L			05/20/23 01:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		<u>75 - 133</u>			_		05/20/23 01:59	1

Method: SW846 8260D - Volati	ile Organic Comp	ounds by G	SC/MS						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/21/23 00:43	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/21/23 00:43	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/21/23 00:43	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/21/23 00:43	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/21/23 00:43	1
Vinyl chloride	0.66	J	1.0	0.45	ug/L			05/21/23 00:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	118		70 - 128			_		05/21/23 00:43	1
D'1 (0	07		77 404					05/04/00 00 40	

Surrogate	%Recovery Quali	lifier Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	118	70 - 128		05/21/23 00:43	1
Dibromofluoromethane (Surr)	87	77 - 124		05/21/23 00:43	1
Toluene-d8 (Surr)	102	80 - 120		05/21/23 00:43	1
4-Bromofluorobenzene	98	76 - 120		05/21/23 00:43	1
_					

5/21/2023

Surrogate Summary

Client: ARCADIS US Inc Job ID: 240-185152-1

Project/Site: Ford LTP - On Site

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water Prep Type: Total/NA

				Percent Sur	ronate Reco
		DCA	DBFM	TOL	BFB
Lab Sample ID	Client Sample ID	(70-128)	(77-124)	(80-120)	(76-120)
240-185150-D-5 MSD	Matrix Spike Duplicate	110	82	103	97
240-185150-F-5 MS	Matrix Spike	112	81	103	96
240-185152-1	TRIP BLANK_176	113	83	102	98
240-185152-2	MW-124_050923	118	88	100	95
240-185152-3	MW-199S_050923	118	87	102	98
LCS 460-910451/3	Lab Control Sample	108	78	103	97
MB 460-910451/8	Method Blank	109	84	102	96

Surrogate Legend

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

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene

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

Matrix: Water Prep Type: Total/NA

			Percent Surrogate Recovery (Acceptance Limits)
		BFB	
Lab Sample ID	Client Sample ID	(75-133)	
240-185150-M-5 MS	Matrix Spike	96	
240-185150-M-5 MSD	Matrix Spike Duplicate	96	
240-185152-2	MW-124_050923	97	
240-185152-3	MW-199S_050923	96	
LCS 460-910365/4	Lab Control Sample	96	
MB 460-910365/8	Method Blank	97	

BFB = 4-Bromofluorobenzene

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Client: ARCADIS US Inc Job ID: 240-185152-1

Project/Site: Ford LTP - On Site

Method: 8260D - Volatile Organic Compounds by GC/MS

MD MD

Lab Sample ID: MB 460-910451/8

Matrix: Water

Analysis Batch: 910451

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

ep Type: Total/NA

	MB	MR							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/20/23 19:02	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/20/23 19:02	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/20/23 19:02	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/20/23 19:02	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/20/23 19:02	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/20/23 19:02	1

MB MB %Recovery Qualifier Dil Fac Surrogate Limits Prepared Analyzed 1,2-Dichloroethane-d4 (Surr) 109 70 - 128 05/20/23 19:02 Dibromofluoromethane (Surr) 84 77 - 124 05/20/23 19:02 Toluene-d8 (Surr) 102 80 - 120 05/20/23 19:02 4-Bromofluorobenzene 96 76 - 120 05/20/23 19:02

Lab Sample ID: LCS 460-910451/3

Matrix: Water

Analysis Batch: 910451

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1,1-Dichloroethene	20.0	18.0		ug/L		90	68 - 133	
cis-1,2-Dichloroethene	20.0	18.4		ug/L		92	78 - 121	
Tetrachloroethene	20.0	17.3		ug/L		87	70 - 127	
trans-1,2-Dichloroethene	20.0	18.0		ug/L		90	74 - 126	
Trichloroethene	20.0	18.6		ug/L		93	71 - 121	
Vinyl chloride	20.0	23.0		ug/L		115	55 - 144	

LCS LCS Surrogate %Recovery Qualifier Limits 1,2-Dichloroethane-d4 (Surr) 108 70 - 128 Dibromofluoromethane (Surr) 78 77 - 124 Toluene-d8 (Surr) 103 80 - 120 76 - 120 4-Bromofluorobenzene 97

Lab Sample ID: 240-185150-D-5 MSD

Matrix: Water

Analysis Batch: 910451

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

_	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	20.0	17.2		ug/L		86	68 - 133	2	30
cis-1,2-Dichloroethene	1.0	U	20.0	18.2		ug/L		91	78 - 121	0	30
Tetrachloroethene	1.0	U	20.0	17.0		ug/L		85	70 - 127	5	30
trans-1,2-Dichloroethene	1.0	U	20.0	17.8		ug/L		89	74 - 126	1	30
Trichloroethene	1.0	U	20.0	17.2		ug/L		86	71 - 121	1	30
Vinyl chloride	1.0	U	20.0	24.7		ug/L		123	55 - 144	3	30

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	110		70 - 128
Dibromofluoromethane (Surr)	82		77 - 124
Toluene-d8 (Surr)	103		80 - 120

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Client: ARCADIS US Inc Project/Site: Ford LTP - On Site Job ID: 240-185152-1

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

Lab Sample ID: 240-185150-D-5 MSD

Matrix: Water

Analysis Batch: 910451

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

MSD MSD

Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene 97 76 - 120

Lab Sample ID: 240-185150-F-5 MS

Matrix: Water

Analysis Batch: 910451

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

MS MS %Rec Sample Sample Spike Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits 1,1-Dichloroethene 1.0 U 20.0 16.9 ug/L 84 68 - 133 cis-1,2-Dichloroethene 1.0 U 20.0 18 2 91 78 _ 121 ug/L Tetrachloroethene 1.0 U 20.0 16.1 ug/L 81 70 - 127 trans-1,2-Dichloroethene 20.0 ug/L 74 - 126 1.0 U 17.7 88 Trichloroethene 1.0 U 20.0 17.0 ug/L 85 71 - 121 Vinyl chloride 1.0 U 20.0 24.1 ug/L 120 55 - 144

MS MS

MR MR

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	112		70 - 128
Dibromofluoromethane (Surr)	81		77 - 124
Toluene-d8 (Surr)	103		80 - 120
4-Bromofluorobenzene	96		76 - 120

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

Lab Sample ID: MB 460-910365/8

Matrix: Water

Analysis Batch: 910365

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 1,4-Dioxane 2.0 U 2.0 0.86 ug/L 05/19/23 22:45

MB MB

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 4-Bromofluorobenzene 97 75 - 133 05/19/23 22:45

Lab Sample ID: LCS 460-910365/4

Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA Analysis Batch: 910365

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits 1,4-Dioxane 5.00 5.43 ug/L 109 57 - 124

LCS LCS

%Recovery Qualifier Surrogate Limits 75 - 133 4-Bromofluorobenzene 96

Lab Sample ID: 240-185150-M-5 MS

Matrix: Water

Analysis Batch: 910365										
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1,4-Dioxane	2.0	U	5.00	5.61		ug/L		112	57 - 124	

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Prep Type: Total/NA

Client Sample ID: Matrix Spike

QC Sample Results

Client: ARCADIS US Inc Job ID: 240-185152-1

Project/Site: Ford LTP - On Site

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

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	96		75 - 133

Lab Sam	ple ID	: 240	-1851	50-M-5	MSD
Lab Call	PIC ID	. 270	-1001	00-IVI-0	ITIOD

Matrix: Water

Analysis Batch: 910365

	Sample	Sample	Spike	MSD	MSD
Analyte	Result	Qualifier	Added	Result	Qualifier
1,4-Dioxane	2.0	U	5.00	5.65	
	MSD	MSD			
Surrogate	%Recovery	Qualifier	Limits		
4-Bromofluorobenzene	96		75 - 133		

Client Sample ID: Matrix Spike Duplicate

Unit

ug/L

D

113

Prep Type: Total/NA

RPD Limits RPD Limit %Rec

30 57 - 124

QC Association Summary

Client: ARCADIS US Inc Job ID: 240-185152-1

Project/Site: Ford LTP - On Site

GC/MS VOA

Analysis Batch: 910365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-185152-2	MW-124_050923	Total/NA	Water	8260D SIM	
240-185152-3	MW-199S_050923	Total/NA	Water	8260D SIM	
MB 460-910365/8	Method Blank	Total/NA	Water	8260D SIM	
LCS 460-910365/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-185150-M-5 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-185150-M-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

Analysis Batch: 910451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-185152-1	TRIP BLANK_176	Total/NA	Water	8260D	
240-185152-2	MW-124_050923	Total/NA	Water	8260D	
240-185152-3	MW-199S_050923	Total/NA	Water	8260D	
MB 460-910451/8	Method Blank	Total/NA	Water	8260D	
LCS 460-910451/3	Lab Control Sample	Total/NA	Water	8260D	
240-185150-D-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	
240-185150-F-5 MS	Matrix Spike	Total/NA	Water	8260D	

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Lab Chronicle

Client: ARCADIS US Inc Job ID: 240-185152-1

Project/Site: Ford LTP - On Site

Client Sample ID: TRIP BLANK_176

Lab Sample ID: 240-185152-1 Date Collected: 05/09/23 00:00 Matrix: Water

Date Received: 05/11/23 08:00

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D		1	910451	SZD	EET EDI	05/20/23 19:47

Client Sample ID: MW-124_050923 Lab Sample ID: 240-185152-2

Date Collected: 05/09/23 13:10

Matrix: Water

Date Received: 05/11/23 08:00

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D		1	910451	SZD	EET EDI	05/21/23 00:20
Total/NA	Analysis	8260D SIM		1	910365	KLB	EET EDI	05/20/23 01:37

Client Sample ID: MW-199S_050923 Lab Sample ID: 240-185152-3

Date Collected: 05/09/23 15:38 Matrix: Water

Date Received: 05/11/23 08:00

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D		1	910451	SZD	EET EDI	05/21/23 00:43
Total/NA	Analysis	8260D SIM		1	910365	KLB	EET EDI	05/20/23 01:59

Laboratory References:

EET EDI = Eurofins Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Accreditation/Certification Summary

Client: ARCADIS US Inc
Project/Site: Ford LTP - On Site

Job ID: 240-185152-1

Laboratory: Eurofins Edison

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

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0818	01-30-24
DE Haz. Subst. Cleanup Act (HSCA)	State	N/A	01-01-24
Georgia	State	12028 (NJ)	06-30-23
Massachusetts	State	M-NJ312	06-30-23
New Jersey	NELAP	12028	06-30-23
New York	NELAP	11452	04-01-24
Pennsylvania	NELAP	68-00522	03-01-24
Rhode Island	State	LAO00376	12-30-23
USDA	US Federal Programs	P330-20-00244	11-03-23

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	Client Contact	Regulatory program: DW	☐ NPDES ☐ RCRA	Other					
	Company Name: Arcadis								TestAmerica Laboratories, Inc.
	Address: 28550 Cabot Drive, Suite 500	Client Project Manager: Kris Hinskey	Site Contact: Christina Weaver		Lab Contact: Mike DelMonico	t: Mike De	Monico		COC No:
	City/State/Zip: Novi. MI. 48377	Telephone: 248-994-2240	Telephone: 248-994-2240		Telephone: 330-497-9396	330-497-9.	961		SUS SECTION
	10 00 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Email: kristoffer.hinskey@arcadis.com	Analysis Turnaround Time				Analyses		only
	Project Name: Ford LTP On-Site Project Number: 30167538-401.03	Sampler Name: SORMAN + Ta Solay (MC) Method of Shipmen/Carrier:	FAT if different from below 3 weeks 10 day 2 weeks		8		MI		Walk-in client Lab sampling
	PO # 30167538.401.03	Shipping/Tracking No:	2 days	- Grab					Job/SDG No:
		Matrix	Containers & Preservatives)==(
	Sample Identification	Sample Date Sample Time At Agueon Soliid	Elifeted & Oilpet: Oilpet: VaOH HCI HCO3 H72O4	Filtered Sa Composite	OG-S, f-2io	LCE 8260	Vinyl Chlor		Sample Specific Notes / Special Instructions:
)	a TRIP BLANK_ 176	5/9/23 1	-	× U	×	×	×		1 Trip Blank
,	MW-124_050923	9 0181 82145	9	7 9 2	×	×	×		3 VOAs for 8260B 3 VOAs for 8260B SIM
P	mw -1995 050923	S19/23 153× 6	9	7 S	X	X	×		16 11
ge 19 o									
f 23									
				240-1	240-185152 Cha	Chain of Custody	stody		
	Possible Hazard Identification		Sample Disnuss LA for may be assessed if complex are estained learner than 1	- Ji pass	30				
	P Non-Hazard I lammable in Irriant Special Instructions/QC Requirements & Comments:	Г Роізол В Глікпоwіп	Return to Chent P Disp	Disposal By Lab	A P	Archive For	Months	ths	
	Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203728	om. Cadena #E203728							
	Religious by D. C.		8(23		7000	30	20		
	many troub	Alaks Johns	1435 Adolt Coto		100	₹ ₽	ompany:	Arragi	Date/Time: 5/10/23
	Relinquished by	RCAUTS S/10/2	3 ISSO Received by:	A 100	0	Con Con	Company	4	DardTime 5/10/23
	Keninguished by. M. M. M.	+	Received in Laboratory by:		Solar	Cod	Company	_1	Date Lime 1-23 80
5/2	\$2006 TestAmerica Laboratores Inc. All toll freeword TestAmerica & Desson "* are trademarks of VestAmerica Laboratores Inc.			\subset	>				

<u>TestAmerica</u>

Chain of Custody Record

185152
Eurofins - Canton Sample Receipt Form/Narrative Login # : 1001300
Barberten Facility Cooler unpacked by
Them Ply Color Site Island
Cooler Received on 5-11-23 Opened on 5-11-23
FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off Eurofins Courier Other
Receipt After-hours: Drop-off Date/Time Storage Location
Eurofins 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
I. Cooler temperature upon receipt IR GUN # (CF + 0 - 0 - 0) Observed Cooler Temp. °C Corrected Cooler Temp °C
IR GUN # (CF + 0.0 °C) Observed Cooler Temp °C Corrected Cooler Temp °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity leach Yes No
-Were the seals on the outside of the cooler(s) signed & dated? (Yes) No NA checked for pH by
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No Receiving:
-Were tamper/custody seals intact and uncompromised?
3. Shippers' packing slip attached to the cooler(s)? VOAs Oil and Grease
4. Did custody papers accompany the sample(s)?
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? (e. No. 2)
7. Did all bottles arrive in good condition (Unbroken)? 8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No
9. For each sample, does the COC specify preservatives (YN), # of containers (YN), and sample type of grab/comp (Y/N)?
10. Were correct bottle(s) used for the test(s) indicated?
11. Sufficient quantity received to perform indicated analyses?
12. Are these work share samples and all listed on the COC? Yes No
If yes, Questions 13-17 have been checked at the originating laboratory.
13. Were all preserved sample(s) at the correct pH upon receipt? Yes No (NA) pH Strip Lot# HC208070
14. Were VOAs on the COC? Yes No
15. Were air bubbles >6 mm in any VOA vials? Larger than this.
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # Covered (Yes) No.
17. Was a LL Hg or Me Hg trip blank present?Yes No
Contacted PM Date by via Verbal Voice Mail Other
Concerning
18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES additional next page Samples processed by:
19. 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)
20. SAMPLE PRESERVATION
Sample(s) were further preserved in the laboratory.
Sample(s) were further preserved in the laboratory. Time preserved: Preservative(s) added/Lot number(s):
VOA Sample Preservation - Date/Time VOAs Frozen:

Eurofins - Canton Sample Receipt Multiple Cooler Form IR Gun# Observed Coolant **Cooler Description** Corrected (Circle) Temp °C Temp °C (Circle) (Circle) Wet Ice Blue Ice Dry Ice EC Client Box Other IR GUN #: Water None IR GUN #: Wet ice Blue Ice Dry Ice EC Client Other Box Water None IR GUN #: Blue Ice Dry ice EC Client Other Water None Wet ice Bive ice IR GUN #: Dry Ice Client EC Box Other Water None Dry ice Blue Ice IR GUN #: Wet ice Client EC Box Other Water None Blue Ice Dry Ice Wet ice IR GUN #: Client EC Other Box Water None Wet Ice Blue Ice IR GUN #: Client EC Other Box Water None IR GUN #: Wet Ice Sive Ice Dry Ice EC Client Box Other Water None Dry Ice Wel ice Blue Ice IR GUN #: EC Client Box Other Water None Wet ice Bive ice Dry Ice IR GUN #: EC Client Box Other Water None e Blue Ice None Dry Ice IR GUN #: Wel Ice Client EC Box Other Water None Blue Ice IR GUN #: Wel Ice Client EC Other Box Water None Blue Ice IR GUN #: Wet Ice EC Client Box Other None Water Blue Ice Dry Ice IR GUN #: Wet Ice EC Client Box Other Water None IR GUN #: Wet Ice Blue Ice Dry Ice EC **Client** Box Other Water None Blue Ice Dry Ice Wel ice IR GUN #: EC Client Other Box Water None Wet Ice Blue Ice Dry Ice IR GUN #: EC Client Other Box Water None Blue Ice Dry Ice IR GUN #: Wel Ice EC Client Box Other Water None IR GUN #: Wet Ice Blue Ice Dry Ice EC **Client** Other Water None Dry Ice Wet Ice Blue Ice IR GUN #: FC Client Box Other Water Blue Ice Dry Ice IR GUN #: Wet ice EC **Client** Other Box Water None Wel Ice Blue Ice IR GUN #: EC Client Other Box Water IR GUN #: Blue Ice Wet Ice EC Client Box Other Water None Blue ice IR GUN #: Wet Ice EC Client Box Other Water None Blue Ice Dry Ice IR GUN #: EC Client Box Other Water None Blue Ice Dry Ice IR GUN #: Wet Ice EC Client Other Box Water None Blue Ice Dry Ice IR GUN #: Wet Ice EC Client Box Other Water None Blue Ice Dry Ice IR GUN #: Wet Ice EC Client Box Other Water None Sive ice Dry Ice IR GUN #: Wet Ice EC Client Other Water IR GUN #: Wet Ice Blue Ice Dry ice Client EC Box Other Water None
Wet Ice Blue Ice IR GUN #: EC Client Other Box Water None Blue Ice Dry Ice IR GUN #: Wet Ice EC Client Other Box Water Blue Ice IR GUN #: Wet Ice €C Client Other Box Water None Blue ice Dry ice IR GUN #: Wet Ice EC Client Box Other Water None See Temperature Excursion Form

WI-NC-099 Cooler Receipt Form Page 2 - Multiple Coolers

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Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratory or other instructions will be provided. Any changes to accreditation in the State of Origin listed above for analysis/rests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Months

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Mon

Special Instructions/QC Requirements:

Primary Deliverable Rank: 2

Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by:

Possible Hazard Identification

Unconfirmed

Date:

-5

	,

Sompany

0

K 12 23

Bhayisher

Received by:

Time:

Date/Time:

Cooler Temperature(s) °C and Other Remarks

Received by:

Company

Date/Time:

Custody Seals Intact: Custody Seal No.

Relinquished by:

91.50

Fedex

Method of Shipment:

Environment Testing 💸 eurofins

Chain of Custody Record

Eurofins Cleveland

180 S. Van Buren Avenue

Barberton, OH 44203

Phone: 330-497-9396 Fax: 330-497-0772				
Client Information (Sub Contract Lab)	Sampler:	Lab PM: DelMonico Michael	Camer Tracking No(s):	COC No:
Client Contact:	Phone:	F-Mail:	State of Orioin:	Page.
Shipping/Receiving		Michael. Del Monico@et.eurofinsus.com	Michigan	Page 1 of 1
Company:		Accreditations Required (See note):		Job #:
Eurofins Environment lesting Northeast,				240-185152-1
Address: 777 New Durham Road, ,	Due Date Requested: 5/24/2023	Analysis Requested	guested	Preservation Codes:
City	TAT Remiested (dave):			
Edison				
State, Zip:				
NJ, 08817				
Phone: 732-549-3900(Tel) 732-549-3679(Fax)	PO#:	3521		G - Amchlor T - TSP Dodecahydrate
Email:	WO #:			D
Project Name: Ford LTP - On Site	Project #: 24015353	Ce (Sh	nenlist	K-EDTA Y-Trizma L-EDA 7-styler (specify)
Site:	SSOW#:	οΛ (c	cou	Other:
	ME	20000C : (WOE 2VW3E Pugge	io sec	

Special Instructions/Note:

Total Numb

9 9 Client: ARCADIS US Inc Job Number: 240-185152-1

List Source: Eurofins Edison
List Number: 2
List Creation: 05/12/23 03:15 PM

Creator: Armbruster, Chris

Creator: Armbruster, Chris		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
s the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Eurofins Cleveland

DATA VERIFICATION REPORT



May 25, 2023

Kris Hinskey Arcadis of Michigan 28550 Cabot Drive Suite 500 Novi, MI US 48377

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil

Project number: 30167538.401.03- onsite groundwater Event Specific Scope of Work References: Sample COC Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory submittal: 185152-1 Sample date: 2023-05-09

Report received by CADENA: 2023-05-25

Initial Data Verification completed by CADENA: 2023-05-25

Number of Samples:3

Sample Matrices: Water and trip blank

Test Categories: GCMS VOC

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

There were no significant QC anomalies or exceptions to report.

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.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

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.

Analytical Results Summary

CADENA Project ID: E203728

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory Submittal: 185152-1

		Sample Name:	TRIP BLA	ANK_176	5		MW-124	4_05092	3		MW-199	9S_0509	23	
		Lab Sample ID:	2401851	L521			2401853	1522			2401853	L523		
		Sample Date:	5/9/202	3			5/9/202	:3			5/9/202	3		
				Report		Valid		Report		Valid		Report		Valid
	Analyte	Cas No.	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC														
OSW-8260	<u>OD</u>													
	1,1-Dichloroethene	75-35-4	ND	1.0	ug/l		ND	1.0	ug/l		ND	1.0	ug/l	
	cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l		2.2	1.0	ug/l		ND	1.0	ug/l	
	Tetrachloroethene	127-18-4	ND	1.0	ug/l		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		ND	1.0	ug/l	
	Trichloroethene	79-01-6	ND	1.0	ug/l		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		0.66	1.0	ug/l	J
OSW-8260	<u>ODSIM</u>													
	1,4-Dioxane	123-91-1					ND	2.0	ug/l		3.4	2.0	ug/l	