# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Ms. Megan Meckley Arcadis US Inc. 28550 Cabot Drive Suite 500 Novi, Michigan 48377 Generated 2/27/2025 7:24:56 AM

# **JOB DESCRIPTION**

Ford LTP

# **JOB NUMBER**

240-219302-1

Eurofins Cleveland 180 S. Van Buren Avenue Barberton OH 44203



# **Eurofins Cleveland**

# **Job Notes**

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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 2/27/2025 7:24:56 AM

Authorized for release by Michael DelMonico, Project Manager I Michael.DelMonico@et.eurofinsus.com (330)966-9783

Page 2 of 20

4

\_

0

7

8

9

10

11

12

13

Client: Arcadis US Inc. Project/Site: Ford LTP

Laboratory Job ID: 240-219302-1

# **Table of Contents**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Method Summary	6
Sample Summary	7
Detection Summary	8
Client Sample Results	9
Surrogate Summary	11
QC Sample Results	12
QC Association Summary	15
Lab Chronicle	16
Certification Summary	17
Chain of Custody	18

3

4

Q

9

11

12

13

# **Definitions/Glossary**

Client: Arcadis US Inc. Job ID: 240-219302-1

Project/Site: Ford LTP

# **Qualifiers**

GC/MS VOA	
Qualifier	<b>Qualifier Description</b>

Surrogate recovery exceeds control limits, high biased. U Indicates the analyte was analyzed for but not detected.

# Glossary

Giossary	
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
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) TEQ Toxicity Equivalent Quotient (Dioxin)

**TNTC** Too Numerous To Count

**Eurofins Cleveland** 

Page 4 of 20

# **Case Narrative**

Client: Arcadis US Inc. Project: Ford LTP

Job ID: 240-219302-1 Eurofins Cleveland

Job Narrative 240-219302-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these
  situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise
  specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 2/22/2025 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C.

### GC/MS VOA

Method 8260D: Surrogate recovery for the following samples were outside the upper control limit: TRIP BLANK\_25 (240-219302-1), MW-177S\_022025 (240-219302-2) and (240-219307-E-3). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

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

**Eurofins Cleveland** 

Page 5 of 20 2/27/2025

2

Job ID: 240-219302-1

3

4

5

\_

8

9

10

12

# **Method Summary**

Client: Arcadis US Inc.

Project/Site: Ford LTP

Job ID: 240-219302-1

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

# Protocol References:

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

### Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

2/27/2025

# **Sample Summary**

Client: Arcadis US Inc.

Project/Site: Ford LTP

Job ID: 240-219302-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-219302-1	TRIP BLANK_25	Water	02/20/25 00:00	02/22/25 08:00
240-219302-2	MW-177S_022025	Water	02/20/25 14:35	02/22/25 08:00

•

# **Detection Summary**

Client: Arcadis US Inc.

Project/Site: Ford LTP

Job ID: 240-219302-1

Client Sample ID: TRIP BLANK\_25

No Detections.

Lab Sample ID: 240-219302-1

Client Sample ID: MW-177S\_022025 Lab Sample ID: 240-219302-2

No Detections.

1

\_

5

0

10

13

# **Client Sample Results**

Client: Arcadis US Inc. Job ID: 240-219302-1

Project/Site: Ford LTP

Client Sample ID: TRIP BLANK\_25

Date Received: 02/22/25 08:00

Lab Sample ID: 240-219302-1 Date Collected: 02/20/25 00:00

**Matrix: Water** 

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			02/25/25 17:54	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/25/25 17:54	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/25/25 17:54	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/25/25 17:54	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/25/25 17:54	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/25/25 17:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	122		62 - 137			-		02/25/25 17:54	1
4-Bromofluorobenzene (Surr)	80		56 <sub>-</sub> 136					02/25/25 17:54	1
Toluene-d8 (Surr)	89		78 - 122					02/25/25 17:54	1
Dibromofluoromethane (Surr)	124	S1+	73 - 120					02/25/25 17:54	1

# **Client Sample Results**

Client: Arcadis US Inc. Job ID: 240-219302-1

Project/Site: Ford LTP

Toluene-d8 (Surr)

1,2-Dichloroethane-d4 (Surr)

4-Bromofluorobenzene (Surr)

Dibromofluoromethane (Surr)

Client Sample ID: MW-177S\_022025

Date Collected: 02/20/25 14:35 Date Received: 02/22/25 08:00

Lab Sample ID: 240-219302-2

02/25/25 20:53

02/25/25 20:53

02/25/25 20:53

02/25/25 20:53

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/25/25 17:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		68 - 127			-		02/25/25 17:56	1
- Method: SW846 8260D - Volat	tile Organic Comp	ounds by G	C/MS						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			02/25/25 20:53	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/25/25 20:53	1
cis-1,2-Dichloroethene Tetrachloroethene	1.0 1.0		1.0 1.0		ug/L ug/L			02/25/25 20:53 02/25/25 20:53	1 1
,		U		0.44	•				1 1 1
Tetrachloroethene	1.0	U	1.0	0.44 0.51	ug/L			02/25/25 20:53	1 1 1 1
Tetrachloroethene trans-1,2-Dichloroethene	1.0	U U	1.0	0.44 0.51 0.44	ug/L ug/L			02/25/25 20:53 02/25/25 20:53	1 1 1 1

62 - 137

56 - 136

78 - 122

73 - 120

128

75

86

129 S1+

# **Surrogate Summary**

Client: Arcadis US Inc.

Job ID: 240-219302-1

Project/Site: Ford LTP

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

Matrix: Water Prep Type: Total/NA

			Percent Surrogate Recovery				
		DCA	BFB	TOL	DBFM		
Lab Sample ID	Client Sample ID	(62-137)	(56-136)	(78-122)	(73-120)		
240-219302-1	TRIP BLANK_25	122	80	89	124 S1+		
240-219302-2	MW-177S_022025	128	75	86	129 S1+		
240-219307-E-3 MS	Matrix Spike	93	96	90	93		
240-219307-E-3 MSD	Matrix Spike Duplicate	94	101	93	94		
LCS 240-646031/4	Lab Control Sample	95	116	108	98		
MB 240-646031/9	Method Blank	112	82	89	113		

# Surrogate Legend

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

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

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

Matrix: Water Prep Type: Total/NA

			Percent Surrogate Recovery (Acceptance Limits)
		DCA	
Lab Sample ID	Client Sample ID	(68-127)	
240-219302-2	MW-177S_022025	105	
240-219307-B-3 MS	Matrix Spike	96	
240-219307-B-3 MSD	Matrix Spike Duplicate	98	
LCS 240-646026/5	Lab Control Sample	100	
MB 240-646026/7	Method Blank	99	

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

**Eurofins Cleveland** 

3

Ţ

6

8

3

11

14

Le

Client: Arcadis US Inc. Job ID: 240-219302-1

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

Lab Sample ID: MB 240-646031/9

**Matrix: Water** 

Project/Site: Ford LTP

Analysis Batch: 646031

Client Sample ID: Method Blank	
Duny Town Total/NIA	

Prep Type: Total/NA

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			02/25/25 16:14	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/25/25 16:14	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/25/25 16:14	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/25/25 16:14	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/25/25 16:14	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/25/25 16:14	1

MB MB %Recovery Qualifier Dil Fac Surrogate Limits Prepared Analyzed 1,2-Dichloroethane-d4 (Surr) 62 - 137 02/25/25 16:14 112 4-Bromofluorobenzene (Surr) 82 56 - 136 02/25/25 16:14 Toluene-d8 (Surr) 89 78 - 122 02/25/25 16:14 Dibromofluoromethane (Surr) 113 73 - 120 02/25/25 16:14

Lab Sample ID: LCS 240-646031/4

**Matrix: Water** 

Analysis Batch: 646031

**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	25.0	23.4		ug/L		94	63 - 134	
cis-1,2-Dichloroethene	25.0	25.0		ug/L		100	77 - 123	
Tetrachloroethene	25.0	25.1		ug/L		100	76 - 123	
trans-1,2-Dichloroethene	25.0	23.9		ug/L		96	75 - 124	
Trichloroethene	25.0	24.1		ug/L		96	70 - 122	
Vinyl chloride	25.0	23.8		ug/L		95	60 - 144	

LCS LCS Surrogate %Recovery Qualifier Limits 1,2-Dichloroethane-d4 (Surr) 95 62 - 137 4-Bromofluorobenzene (Surr) 56 - 136 116 Toluene-d8 (Surr) 108 78 - 122 73 - 120 Dibromofluoromethane (Surr) 98

Lab Sample ID: 240-219307-E-3 MS

**Matrix: Water** 

Analysis Batch: 646031

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

	Sample	Sample	Spike	MS	MS				%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
1,1-Dichloroethene	1.0	U	25.0	20.9		ug/L		84	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	23.6		ug/L		94	66 - 128
Tetrachloroethene	1.0	U	25.0	19.7		ug/L		79	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	22.4		ug/L		89	56 - 136
Trichloroethene	1.0	U	25.0	22.2		ug/L		89	61 - 124
Vinyl chloride	1.0	U	25.0	22.6		ug/L		90	43 - 157

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		62 - 137
4-Bromofluorobenzene (Surr)	96		56 - 136
Toluene-d8 (Surr)	90		78 - 122

**Eurofins Cleveland** 

2/27/2025

Page 12 of 20

Job ID: 240-219302-1

Client: Arcadis US Inc. Project/Site: Ford LTP

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

Lab Sample ID: 240-219307-E-3 MS

**Matrix: Water** 

Analysis Batch: 646031

Dibromofluoromethane (Surr)

Client Sample ID: Matrix Spike

Prep Type: Total/NA

MS MS Surrogate

%Recovery Qualifier Limits 93 73 - 120

Lab Sample ID: 240-219307-E-3 MSD

**Matrix: Water** 

Analysis Batch: 646031

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	25.0	21.5		ug/L		86	56 - 135	3	26
cis-1,2-Dichloroethene	1.0	U	25.0	24.2		ug/L		97	66 - 128	3	14
Tetrachloroethene	1.0	U	25.0	20.9		ug/L		84	62 - 131	6	20
trans-1,2-Dichloroethene	1.0	U	25.0	22.2		ug/L		89	56 - 136	1	15
Trichloroethene	1.0	U	25.0	22.6		ug/L		90	61 - 124	2	15
Vinyl chloride	1.0	U	25.0	22.6		ug/L		91	43 - 157	0	24

MSD MSD Qualifier Surrogate %Recovery Limits 1,2-Dichloroethane-d4 (Surr) 94 62 - 137 101 4-Bromofluorobenzene (Surr) 56 - 136 Toluene-d8 (Surr) 93 78 - 122 Dibromofluoromethane (Surr) 94 73 - 120

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

MR MR

99

2.0 Ū

Lab Sample ID: MB 240-646026/7

**Matrix: Water** 

Analysis Batch: 646026

Client Sample ID: Method Blank

02/25/25 14:48

Client Sample ID: Matrix Spike

20 - 180

98

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 02/25/25 14:48 MB MB Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac

68 - 127

Lab Sample ID: LCS 240-646026/5

**Matrix: Water** 

Analysis Batch: 646026

1,2-Dichloroethane-d4 (Surr)

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

ug/L

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits 1,4-Dioxane 10.0 8.74 ug/L 87

LCS LCS Qualifier Surrogate %Recovery Limits 68 - 127 1,2-Dichloroethane-d4 (Surr) 100

Lab Sample ID: 240-219307-B-3 MS

1,4-Dioxane

Matrix: Water									Prep Type: Total/NA	k.
Analysis Batch: 646026										
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	

9.84

**Eurofins Cleveland** 

10.0

# **QC Sample Results**

Client: Arcadis US Inc. Job ID: 240-219302-1

Project/Site: Ford LTP

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

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		68 - 127

Lab Sample	ID: 240-219307-B-3	MSD

**Matrix: Water** 

Analysis Batch: 646026

Sample	Sample	Spike	MSD	MSD				%Rec		RPD
te Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
oxane 2.0	U	10.0	9.94		ug/L	<del></del>	99	20 - 180	1	20
	te Result	te Result Qualifier	te Result Qualifier Added	te Result Qualifier Added Result	te Result Qualifier Added Result Qualifier	te Result Qualifier Added Result Qualifier Unit	te Result Qualifier Added Result Qualifier Unit D	te Result Qualifier Added Result Qualifier Unit D %Rec	te Result Qualifier Added Result Qualifier Unit D %Rec Limits	te Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD

MSD MSD

Surrogate %Recovery Qualifier Limits 1,2-Dichloroethane-d4 (Surr) 98 68 - 127

**Prep Type: Total/NA** 

**Client Sample ID: Matrix Spike Duplicate** 

# **QC Association Summary**

Client: Arcadis US Inc.

Project/Site: Ford LTP

Job ID: 240-219302-1

# **GC/MS VOA**

# Analysis Batch: 646026

Lab Sample ID 240-219302-2	Client Sample ID  MW-1778_022025	Prep Type Total/NA	Matrix Water	Method 8260D SIM	Prep Batch
MB 240-646026/7	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-646026/5	Lab Control Sample	Total/NA	Water	8260D SIM	
240-219307-B-3 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-219307-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

# Analysis Batch: 646031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-219302-1	TRIP BLANK_25	Total/NA	Water	8260D	
240-219302-2	MW-177S_022025	Total/NA	Water	8260D	
MB 240-646031/9	Method Blank	Total/NA	Water	8260D	
LCS 240-646031/4	Lab Control Sample	Total/NA	Water	8260D	
240-219307-E-3 MS	Matrix Spike	Total/NA	Water	8260D	
240-219307-E-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

4

6

8

9

11

10

13

# **Lab Chronicle**

Client: Arcadis US Inc. Job ID: 240-219302-1

Project/Site: Ford LTP

Client Sample ID: TRIP BLANK\_25

Lab Sample ID: 240-219302-1 Date Collected: 02/20/25 00:00

Matrix: Water

Date Received: 02/22/25 08:00

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D		1	646031	R5XG	EET CLE	02/25/25 17:54

**Client Sample ID: MW-177S\_022025** Lab Sample ID: 240-219302-2

Date Collected: 02/20/25 14:35 Matrix: Water

Date Received: 02/22/25 08:00

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D		1	646031	R5XG	EET CLE	02/25/25 20:53
Total/NA	Analysis	8260D SIM		1	646026	R5XG	EET CLE	02/25/25 17:56

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

# **Accreditation/Certification Summary**

Client: Arcadis US Inc.

Project/Site: Ford LTP

Job ID: 240-219302-1

**Laboratory: Eurofins Cleveland** 

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	02-28-25
Connecticut	State	PH-0806	12-31-26
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	08-31-25
lowa	State	421	06-01-25
Kansas	NELAP	E-10336	01-31-26
Kentucky (UST)	State	112225	02-27-25
Kentucky (WW)	State	KY98016	12-31-25
Minnesota	NELAP	039-999-348	12-31-25
New Hampshire	NELAP	225024	09-30-25
New Jersey	NELAP	OH001	07-03-25
New York	NELAP	10975	04-02-25
Ohio	State	8303	11-04-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-25
Texas	NELAP	T104704517-22-19	08-31-25
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-25
West Virginia DEP	State	210	12-31-25
Wisconsin	State	399167560	08-31-25

4

5

g

10

111

13

# Chain of Custody Record

MICHIGAN 190



TestAmerica Laboratory location: Farmington Hills -- 38855 Hills Tech Drive, Suite 600, Farmington Hills 48331

Client Contact	Regula	tory program:			DW		Г	NPI	DES		┌ RC	RA	F (	Other		-	_				_								
Company Name: Arcadis	Client Project	Manager: Meg	an Med	kley	_		Site	Con	tact:	Sama	ntha S	zpaichl	r		L	b Co	atact:	Mike	DelN	Ionico						estAmerica OC No:	Labora	tories, li	ic.
Address: 28550 Cabot Drive, Suite 500	T-11	004 2240					7.1		24		4 22 40				7	11	21	0.40*		_					-				ᅱ
City/State/Zip: Novi, M1, 48377	Telephone: 248										4-2240 Found	Time		_		егерпс	ne: 33	U-47			<u> </u>				_	1 of		OCs	⇉
Phone: 248-994-2240		er.hinskey@ar	cadis.c	om									11	ı		Analyses								T		or lab use only	<u> </u>	100	4
Project Name: Ford LTP	Sampler Name	mrs st.	N	Mar	4				ferent fi	F* 3	3 weeks		11													alk-in client			
Project Number: 30206169.0401.03	Method of Ship			110.	,		┨ 1	0 da	У	Γ:	2 weeks 1 week		9	ړ							W				ľ	ab sampling		11:11	
PO # US3460021848	Shipping/Track	king No:					1				2 days 1 day		le (7/1	/Grab	٥	00000	E 8260			8260D	3260D \$				70	b/SDG No:			
Sample Identification	Sample Date	Sample Time	Air	T	Solid	Other:	H2SO4	Com			NaOH Unpres		Filtered Sample (Y / N)	Composite-C/Grab=G	1,1-DCE 8260D	1,2-UCE C	Irans-1,2-DCE 8260D	PCE 8260D	TCE 8260D	Vinyl Chloride 8260D	1,4-Dioxane 8260D SIM				ľ		Specific N		
TRIP BLANK_ 25			-	1					1		T		N	3	x ;	( )	_	=	X	Х						1 Trip B	lank		٦
MW-1775_022025	02/20125	14:35		6					(2				N	+	γ ,	+	X,	7	X	X	X	-1				3 VOAs f	or 8260		7
			П				Г																		T				7
							Г						$\Box$				$\top$												7
							T								$\top$	T	T		_	-				$\dashv$	$\top$				1
			$\Box$				T			1						1	$\top$				<u>`</u>		1		$\top$				1
										$\forall$	+		H	+		$\dagger$	+	7		G	W		1	$\dashv$	+				٦
									H				$\forall$	$\dagger$		+		+	2	40-2	1930	)2 C	oc †	$\forall$	$\forall$				1
																	$\top$			1					T				1
														$\dagger$	+	$\dagger$	+	1							$\top$				1
Possible Hazard Identification Non-Hazard Tammable in Irrita	nt Poise	on B	Jnkn	own			S				( A fee		assesse Disposa			are r		long		n l n		nths							1
Special Instructions/QC Requirements & Comments:  Submit all results through Cadena at jtomalia@cadenaco Level IV Reporting requested.	CC Boston	€203728																											
Relinquished by:  J. Ny1:7	Company:	dis		Date/Tir ひひ[	201	125	10	ا، و	5	Recei	NEG pa	(	ble	Sta	0/27	シ		C	ompa	ny:	10	(5			D	ate/Time: 02/20/	なし	6:15	1
Relinquished by	Company:	CAPIS	I	2/2	me:		1	34	5	9	you by	2	U		4	Complany:								ate/Time:		1350	,		
Relipquished by:	Company: A (Cadis U2/12/15) Company: A (CADIS Date/Time 2/21/25) Company: Date/Time: Company: C						135	Received in Laboratory by:							05	SKO Company:								D	Date/Time: 2 22 25 054				

TestAmerica & Design " are trademerks of TestAmerica Laboratories, Inc.

Ņ Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity, IR GUN# -Were the seals on the outside of the cooler(s) signed & dated? (CF +1,1 C) Observed Cooler Temp. Ö °C Corrected Cooler Temp. X

Shippers' packing slip attached to the cooler(s)? -Were tamper/custody seals intact and uncompromised?

-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?

Did custody papers accompany the sample(s)?

Were the custody papers relinquished & signed in the appropriate place?

Ø ₽ Was/were the person(s) who collected the samples clearly identified on the COC?

*3*(6

7 Z 3

X

쫑

VOAs Oil and Grease

TOC

**(E)** 5

Receiving:

Tests that are not checked for pH by

Did all bottles arrive in good condition (Unbroken)?

Could all bottle labels (ID/Date/Time) be reconciled with the COC? For each sample, does the COC specify preservatives (YNN), # of containers ZG Z Z EE S

d sample type of grab/comp(YN)?

**3**7

(3)

pH Strip Lot# HC448976

X

ä

Were correct bottle(s) used for the test(s) indicated?

Sufficient quantity received to perform indicated analyses?

Are these work share samples and all listed on the COC?

Were all preserved sample(s) at the correct pH upon receipt? If yes, Questions 13-17 have been checked at the originating laboratory

74 73 2 Were air bubbles >6 mm in any VOA vials? Were VOAs on the COC? Larger than this

16 17 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #

63271

Was a LL Hg or Me Hg trip blank present?

Date ফু 3888

Contacted PM via Verbal Voice Mail Other

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

additional next page Samples processed by

Sample(s) <u>19</u> SAMPLE CONDITION

Sample(s) Sample(s) were received after the recommended holding time had expired were received with bubble >6 mm in diameter were received in a broken container (Notify PM)

SAMPLE PRESERVATION

Time preserved. Sample(s) VOA Sample Preservation -Date/Time VOAs Frozen Preservative(s) added/Lot number(s) were further preserved in the laboratory

> Page 19 of 20 2/27/2025

്രീ

2/22/2025

# **Login Container Summary Report**

240-219302

Temperature readings			
Client Sample ID	<u>Lab ID</u>	Container Type	Container Preservation Preservation  pH Temp Added Lot Number
TRIP BLANK_15	240-219302-A-1	Voa Vial 40mł - Hydrochloric Acid	
MW-177S_022025	240-219302-A-2	Voa Vial 40ml - Hydrochloric Acid	
MW-177S_022025	240-219302-B-2	Voa Vial 40ml - Hydrochloric Acid	The state of the s
MW-177S_022025	240-219302-C-2	Voa Vial 40ml - Hydrochloric Acid	
MW-177S_022025	240-219302-D-2	Voa Vial 40ml - Hydrochloric Acid	
MW-177S_022025	240-219302-E-2	Voa Vial 40ml - Hydrochloric Acid	
MW-177S_022025	240-219302-F-2	Voa Vial 40ml - Hydrochloric Acid	

Page 20 of 20 2/27/2025

# DATA VERIFICATION REPORT



February 27, 2025

Megan Meckley Arcadis 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: 30251157.401.04 (vapor 301.04) 30206169.0401.04

Event Specific Scope of Work References: Sample COC Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory submittal: 219302-1 Sample date: 2025-02-20

Report received by CADENA: 2025-02-27

Initial Data Verification completed by CADENA: 2025-02-27

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 samples -001, -002 SURROGATE recoveries were outliers biased high for at least 1 surrogate. Associated client sample results were non-detect so qualification was not required based on these high bias 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 <a href="http://clms.cadenaco.com/index.cfm">http://clms.cadenaco.com/index.cfm</a>.

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: 219302-1

		Sample Name: Lab Sample ID: Sample Date:		3021 25			MW-177 240219 2/20/20	3022 25		
				Report		Valid		Report		Valid
	Analyte	Cas No.	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC	<u>0D</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-826	<u>ODSIM</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 # 240-219302-1

CADENA Verification Report: 2025-02-27

Analyses Performed By: Eurofins Cleveland Barberton, Ohio

Report # 58455R Review Level: Tier III Project: 30206169.0401.02

# **SUMMARY**

This data quality assessment summarizes the review of Sample Delivery Group (SDG) # 240-219302-1 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) include 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:

Sample ID	Lab ID	Matrix	Sample	Parent Sample	Ana	lysis
Sample ID	Lab ID	Width	Collection Date	Farent Sample	voc	VOC SIM
TRIP BLANK_25	240-219302-1	Water	02/20/2025		X	
MW-177S_022025	240-219302-2	Water	02/20/2025		Х	X

# **ANALYTICAL DATA PACKAGE DOCUMENTATION**

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

Items Reviewed	Rep	orted	Perfor Accep		Not Required
	No	Yes	No	Yes	Required
Sample receipt condition		Х		Х	
2. Requested analyses and sample results		Х		X	
Master tracking list		Х		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		Х	
6. Sample collection date		X		Х	
7. Laboratory sample received date		Х		Х	
8. Sample preservation verification (as applicable)		Х		Х	
Sample preparation/extraction/analysis dates		X		Х	
10. Fully executed Chain-of-Custody (COC) form		Х		Х	
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 8260D and 8260D SIM. Data were reviewed in accordance with USEPA National Functional Guidelines for Organic Superfund Methods Data Review, EPA 540-R-20-005, November 2020 (with reference to the historical USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, OSWER 9240.1-05A-P, October 1999), as appropriate.

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.
  - UB Analyte considered non-detect at the listed value due to associated blank contamination.
  - 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 8260D/8260D-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, with the exception of the compounds presented in the following table.

Sample ID	Initial /Continuing	Compound	CCV (%D)
TRIP BLANK_25 MW-177S_022025	Initial Calibration Verification %D	Vinyl chloride	-21.4%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Initial/Continuing	Criteria	Sample Result	Qualification
	RRF <0.05	Non-detect	R
		Detect	J
Initial and Continuing Calibration	RRF <0.01 <sup>1</sup>	Non-detect	R
Campianon	KKF <0.01	Detect	J
	RRF >0.05 or RRF >0.01 <sup>1</sup>	Non-detect	No Action

Initial/Continuing	Criteria	Sample Result	Qualification
		Detect	
Initial Calibration	%RSD > 20% or a correlation coefficient <0.99	Non-detect	UJ
Initial Calibration	%RSD > 20% of a correlation coefficient <0.99	Detect	J
Initial Calibration	0/ DOD 000/	Non-detect	R
	%RSD > 90%	Detect	J
	%D >20% (increase in sensitivity)	Non-detect	UJ
		Detect	J
Operation de la Calife antique	0/D 000/ (dagged in aggrithm)	Non-detect	UJ
Continuing Calibration	%D >20% (decrease in sensitivity)	Detect	J
	OVD COOK (in any and its angle in a specificity)	Non-detect	R
	%D > 90% (increase/decrease in sensitivity)	Detect	J

### 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.

# 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 sample was not collected for samples from 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 VALIDATION CHECKLIST FOR VOCs**

VOCs: 8260D/8260D-SIM	Rep	orted	Perfo Acce	Not Required	
	No	Yes	No	Yes	Required
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (G	C/MS)				
Tier II Validation					
Holding times/Preservation		Х		Х	
Tier III Validation					
System performance and column resolution		Х		Х	
Initial calibration %RSDs		Х		Х	
Continuing calibration RRFs		Х		Х	
Continuing calibration %Ds		Х	Х		
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		Х	
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: Febin J S

SIGNATURE:

DATE: March 21, 2025

PEER REVIEW: Andrew Korycinski

DATE: March 26, 2025

# CORRECTIONS/QUALIFERS ADDED TO SAMPLE ANALYSIS DATA SHEETS

# Chain of Custody Record

MICHIGAN 190



TestAmerica Laboratory location: Farmington Hills -- 38855 Hills Tech Drive, Suite 600, Farmington Hills 48331

Client Contact	Regula	tory program:			DW		Г	NPI	DES		┌ RC	RA	F (	Other		-	_				_								
Company Name: Arcadis	Client Project	Manager: Meg	an Med	kley	_		Site	Con	tact:	Sama	ntha S	zpaichl	r		L	b Co	atact:	Mike	DelN	Ionico						estAmerica OC No:	Labora	tories, li	ic.
Address: 28550 Cabot Drive, Suite 500	T-11	004 2240					7.1		24		4 22 40				7	11	21	0.40*		_					-				ᅱ
City/State/Zip: Novi, M1, 48377	Telephone: 248										4-2240 Found	Time		_		егерпс	ne: 33	U-47			<u> </u>				_	1 of		OCs	⇉
Phone: 248-994-2240		er.hinskey@ar	cadis.c	om									11	ı		Analyses								T		or lab use only	<u> </u>	100	4
Project Name: Ford LTP	Sampler Name	mrs st.	N	Mar	4				ferent fi	F* 3	3 weeks		11													alk-in client			
Project Number: 30206169.0401.03	Method of Ship			110.	,		┨ 1	0 da	У	Γ:	2 weeks 1 week		9	ړ							W				ľ	ab sampling		11:11	
PO # US3460021848	Shipping/Track	king No:					1				2 days 1 day		le (7/1	/Grab	٥	00000	E 8260			8260D	3260D \$				70	b/SDG No:			
Sample Identification	Sample Date	Sample Time	Air	T	Solid	Other:	H2SO4	Com			NaOH Unpres		Filtered Sample (Y / N)	Composite-C/Grab=G	1,1-DCE 8260D	1,2-UCE C	Irans-1,2-DCE 8260D	PCE 8260D	TCE 8260D	Vinyl Chloride 8260D	1,4-Dioxane 8260D SIM				ľ		Specific N		
TRIP BLANK_ 25			-	1					1		T		N	3	x ;	( )	_	=	X	Х						1 Trip B	lank		٦
MW-1775_022025	02/20125	14:35		6					(2				N	+	γ ,	+	X,	7	X	X	X	-1				3 VOAs f	or 8260		7
			П				Г																		T				7
							Г						$\Box$				$\top$												7
							T								$\top$	T	T		_	-				$\dashv$	$\top$				1
			$\Box$				T			1						1	$\top$				<u>`</u>		1		$\top$				1
										$\forall$	+		H	+		$\dagger$	+	7		G	W		1	$\dashv$	+				٦
									H				$\forall$	$\dagger$		+		+	2	40-2	1930	)2 C	oc †	$\forall$	$\forall$				1
																	$\top$			1					T				1
														$\dagger$	+	$\dagger$	+	1							$\top$				1
Possible Hazard Identification Non-Hazard Tammable in Irrita	nt Poise	on B	Jnkn	own			S				( A fee		assesse Disposa			are r		long		n l n		nths							1
Special Instructions/QC Requirements & Comments:  Submit all results through Cadena at jtomalia@cadenaco Level IV Reporting requested.	CC Boston	€203728																											
Relinquished by:  J. Ny1:7	Company:	dis		Date/Tir ひひ[	201	125	10	ا، و	5	Recei	NEG pa	(	ble	Sta	0/27	シ		C	ompa	ny:	10	(5			D	ate/Time: 02/20/	なし	6:15	1
Relinquished by	Company:	CAPIS	I	2/2	me:		1	34	5	9	you by	2	U		4	Comptany:								ate/Time:		1350	,		
Relipquished by:	Company: A (Cadis UNIVITS   Company: ANCADIS Date/Time: 2/21/25   Company: Date/Time: 2/21/25   Date/Time: 2/21/25   Date/Time: 2/21/25						135	Received in Laboratory by:							05	SKO Company:								D	Date/Time: 2 22 25 054				

TestAmerica & Design " are trademerks of TestAmerica Laboratories, Inc.

# **Definitions/Glossary**

Client: Arcadis US Inc. Job ID: 240-219302-1

Project/Site: Ford LTP

# **Qualifiers**

GC/MS VOA	
Qualifier	<b>Qualifier Description</b>

Surrogate recovery exceeds control limits, high biased. U Indicates the analyte was analyzed for but not detected.

# Glossary

Giossary								
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							
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) TEQ Toxicity Equivalent Quotient (Dioxin)

**TNTC** Too Numerous To Count

**Eurofins Cleveland** 

Page 4 of 20

# **Client Sample Results**

Client: Arcadis US Inc. Job ID: 240-219302-1

Project/Site: Ford LTP

Client Sample ID: TRIP BLANK\_25

Date Received: 02/22/25 08:00

Lab Sample ID: 240-219302-1 Date Collected: 02/20/25 00:00

**Matrix: Water** 

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			02/25/25 17:54	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/25/25 17:54	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/25/25 17:54	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/25/25 17:54	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/25/25 17:54	1
Vinyl chloride	<del>-1.0</del>	<del>-U-</del> UJ	1.0	0.45	ug/L			02/25/25 17:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	122		62 - 137			•		02/25/25 17:54	1
4-Bromofluorobenzene (Surr)	80		56 <sub>-</sub> 136					02/25/25 17:54	1
Toluene-d8 (Surr)	89		78 - 122					02/25/25 17:54	1
Dibromofluoromethane (Surr)	124	S1+	73 - 120					02/25/25 17:54	1

**Eurofins Cleveland** 

Page 9 of 20

# **Client Sample Results**

Client: Arcadis US Inc. Job ID: 240-219302-1

Project/Site: Ford LTP

Date Received: 02/22/25 08:00

**Client Sample ID: MW-177S\_022025** 

Lab Sample ID: 240-219302-2 Date Collected: 02/20/25 14:35

**Matrix: Water** 

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/25/25 17:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		68 - 127			-		02/25/25 17:56	1
- Method: SW846 8260D - Volat	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			02/25/25 20:53	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/25/25 20:53	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/25/25 20:53	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/25/25 20:53	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/25/25 20:53	1
Vinyl chloride	<del>1.0</del>	<del>U</del> UJ	1.0	0.45	ug/L			02/25/25 20:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	128		62 - 137			-		02/25/25 20:53	1
4-Bromofluorobenzene (Surr)	75		56 <sub>-</sub> 136					02/25/25 20:53	1
Toluene-d8 (Surr)	86		78 - 122					02/25/25 20:53	1
Dibromofluoromethane (Surr)	129	S1+	73 - 120					02/25/25 20:53	1