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# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Kristoffer Hinskey ARCADIS US Inc 28550 Cabot Drive Suite 500 Novi, Michigan 48377 Generated 5/17/2023 9:47:48 PM

# **JOB DESCRIPTION**

Ford LTP - Off Site

# **JOB NUMBER**

240-184633-1

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.

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# **Authorization**

Generated 5/17/2023 9:47:48 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 - Off Site Laboratory Job ID: 240-184633-1

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# **Definitions/Glossary**

Client: ARCADIS US Inc Job ID: 240-184633-1

Project/Site: Ford LTP - Off Site

# **Qualifiers**

# **GC/MS VOA**

Qualifier Description

U Indicates the analyte was analyzed for but not detected.

### **Glossary**

DL, RA, RE, IN

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)

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)

MCL EPA recommended "Maximum Contaminant Level"

MDA Minimum Detectable Activity (Radiochemistry)

MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)
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

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# **Case Narrative**

Client: ARCADIS US Inc

Job ID: 240-184633-1

Project/Site: Ford LTP - Off Site

Job ID: 240-184633-1

**Laboratory: Eurofins Cleveland** 

Narrative

Job Narrative 240-184633-1

### Receipt

The samples were received on 5/4/2023 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 1.2°C and 1.6°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

Job ID: 240-184633-1

Project/Site: Ford LTP - Off Site

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

5/17/2023

# **Sample Summary**

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

Job ID: 240-184633-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-184633-1	TRIP BLANK_156	Water	05/02/23 00:00	05/04/23 08:00
240-184633-2	MW-87_050223	Water	05/02/23 13:45	05/04/23 08:00
240-184633-3	MW-87S_050223	Water	05/02/23 15:05	05/04/23 08:00

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# **Detection Summary**

Project/Site: Ford LTP - Off Site

Client Sample ID: TRIP BLANK\_156

No Detections.

Client Sample ID: MW-87\_050223

No Detections.

Client Sample ID: MW-87S\_050223

Lab Sample ID: 240-184633-2

Lab Sample ID: 240-184633-3

No Detections.

Client: ARCADIS US Inc

Job ID: 240-184633-1

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Client: ARCADIS US Inc Job ID: 240-184633-1

Project/Site: Ford LTP - Off Site

Date Received: 05/04/23 08:00

Toluene-d8 (Surr)

4-Bromofluorobenzene

Client Sample ID: TRIP BLANK\_156

Lab Sample ID: 240-184633-1 Date Collected: 05/02/23 00:00

**Matrix: Water** 

05/11/23 20:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS Result Qualifier RLMDL Unit D Prepared Analyzed Dil Fac 1.0 1,1-Dichloroethene 1.0 U 0.49 ug/L 05/11/23 20:00 cis-1,2-Dichloroethene 1.0 U 1.0 0.46 ug/L 05/11/23 20:00 Tetrachloroethene 1.0 U 1.0 0.44 ug/L 05/11/23 20:00 trans-1,2-Dichloroethene 1.0 U 1.0 0.51 ug/L 05/11/23 20:00 Trichloroethene 1.0 U 1.0 0.44 ug/L 05/11/23 20:00 Vinyl chloride 0.45 ug/L 1.0 U 1.0 05/11/23 20:00 %Recovery Qualifier Surrogate Limits Prepared Analyzed Dil Fac 1,2-Dichloroethane-d4 (Surr) 94 70 - 128 05/11/23 20:00 Dibromofluoromethane (Surr) 92 05/11/23 20:00 77 - 124 116 05/11/23 20:00

80 - 120

76 - 120

Client: ARCADIS US Inc Job ID: 240-184633-1

Project/Site: Ford LTP - Off Site

Client Sample ID: MW-87\_050223

Date Collected: 05/02/23 13:45 Date Received: 05/04/23 08:00

Tetrachloroethene

Lab Sample ID: 240-184633-2

05/11/23 22:57

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			05/13/23 05:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene			75 - 133					05/13/23 05:33	
-	113		75 - 755					03/13/23 03.33	,
Method: SW846 8260D - Vola		ounds by G						00/10/20 00:30	1
-	atile Organic Comp	ounds by G		MDL	Unit	D	Prepared	Analyzed	Dil Fac
Method: SW846 8260D - Vola	atile Organic Comp	Qualifier	C/MS		Unit ug/L	<u>D</u> .	Prepared		Dil Fac

trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L		05/11/23 22:57	1
Trichloroethene	1.0	U	1.0	0.44	ug/L		05/11/23 22:57	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L		05/11/23 22:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 128				05/11/23 22:57	1
Dibromofluoromethane (Surr)	103		77 - 124				05/11/23 22:57	1
Toluene-d8 (Surr)	117		80 - 120				05/11/23 22:57	1

1.0

0.44 ug/L

1.0 U

Client: ARCADIS US Inc Job ID: 240-184633-1

Project/Site: Ford LTP - Off Site

Client Sample ID: MW-87S\_050223

Lab Sample ID: 240-184633-3 Date Collected: 05/02/23 15:05

Matrix: Water

05/11/23 23:19

05/11/23 23:19 05/11/23 23:19

05/11/23 23:19

Date Received: 05/04/23 08:00

1,2-Dichloroethane-d4 (Surr)

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			05/13/23 05:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	113		75 - 133			-		05/13/23 05:55	1
- Method: SW846 8260D - Vola	atile 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			05/11/23 23:19	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/11/23 23:19	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/11/23 23:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/11/23 23:19	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/11/23 23:19	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/11/23 23:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac

70 - 128

77 - 124

80 - 120

76 - 120

96

100

113

97

**Eurofins Cleveland** 

# **Surrogate Summary**

Client: ARCADIS US Inc

Job ID: 240-184633-1

Project/Site: Ford LTP - Off Site

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

Matrix: Water Prep Type: Total/NA

				Percent Sur	rrogate Reco
		DCA	DBFM	TOL	BFB
Lab Sample ID	Client Sample ID	(70-128)	(77-124)	(80-120)	(76-120)
240-184633-1	TRIP BLANK_156	94	92	116	89
240-184633-2	MW-87_050223	100	103	117	98
240-184633-3	MW-87S_050223	96	100	113	97
LCS 460-908766/4	Lab Control Sample	89	86	109	91
LCSD 460-908766/5	Lab Control Sample Dup	95	95	112	96
MB 460-908766/10	Method Blank	96	97	117	81

# 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)	
240-184633-2	MW-87_050223	113	
240-184633-3	MW-87S_050223	113	
LCS 460-908909/4	Lab Control Sample	114	
LCSD 460-908909/5	Lab Control Sample Dup	115	
MB 460-908909/8	Method Blank	111	

BFB = 4-Bromofluorobenzene

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Client: ARCADIS US Inc Job ID: 240-184633-1

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

Lab Sample ID: MB 460-908766/10

**Matrix: Water** 

Analysis Batch: 908766

Project/Site: Ford LTP - Off Site

Client Sa	mple ID:	Method	Blank
	D	Toward Ta	4 - 1/N I A

Prep Type: Total/NA

	МВ	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/11/23 18:53	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/11/23 18:53	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/11/23 18:53	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/11/23 18:53	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/11/23 18:53	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/11/23 18:53	1

MB MB %Recovery Qualifier Dil Fac Surrogate Limits Prepared Analyzed 1,2-Dichloroethane-d4 (Surr) 96 70 - 128 05/11/23 18:53 Dibromofluoromethane (Surr) 97 77 - 124 05/11/23 18:53 Toluene-d8 (Surr) 117 80 - 120 05/11/23 18:53 4-Bromofluorobenzene 81 76 - 120 05/11/23 18:53

Lab Sample ID: LCS 460-908766/4

**Matrix: Water** 

Analysis Batch: 908766

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

	Opike	LUJ	LUJ				/BIXEC	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1,1-Dichloroethene	20.0	19.5		ug/L		98	68 - 133	
cis-1,2-Dichloroethene	20.0	20.3		ug/L		101	78 - 121	
Tetrachloroethene	20.0	22.5		ug/L		112	70 - 127	
trans-1,2-Dichloroethene	20.0	19.5		ug/L		97	74 - 126	
Trichloroethene	20.0	19.8		ug/L		99	71 - 121	
Vinyl chloride	20.0	18.5		ug/L		92	55 - 144	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	89		70 - 128
Dibromofluoromethane (Surr)	86		77 - 124
Toluene-d8 (Surr)	109		80 - 120
4-Bromofluorobenzene	91		76 - 120

Lab Sample ID: LCSD 460-908766/5

**Matrix: Water** 

Analysis Batch: 908766

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

-	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,1-Dichloroethene	20.0	18.8		ug/L		94	68 - 133	4	30
cis-1,2-Dichloroethene	20.0	20.5		ug/L		102	78 - 121	1	30
Tetrachloroethene	20.0	20.9		ug/L		105	70 - 127	7	30
trans-1,2-Dichloroethene	20.0	19.2		ug/L		96	74 - 126	1	30
Trichloroethene	20.0	18.4		ug/L		92	71 - 121	7	30
Vinyl chloride	20.0	17.1		ug/L		85	55 - 144	8	30

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 128
Dibromofluoromethane (Surr)	95		77 - 124
Toluene-d8 (Surr)	112		80 - 120

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**Eurofins Cleveland** 

Client: ARCADIS US Inc Job ID: 240-184633-1

Project/Site: Ford LTP - Off Site

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

Lab Sample ID: LCSD 460-908766/5

**Matrix: Water** 

Analysis Batch: 908766

LCSD LCSD

2.0 U

LCS LCS

%Recovery Qualifier

114

115

Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene 96 76 - 120

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Type: Total/NA

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

Lab Sample ID: MB 460-908909/8

**Matrix: Water** 

1,4-Dioxane

**Matrix: Water** 

Analyte

1,4-Dioxane

Surrogate

Analysis Batch: 908909

Analysis Batch: 908909

MB MB Analyte Result Qualifier

MB MB

Surrogate 4-Bromofluorobenzene 111

%Recovery Qualifier

75 - 133

Spike

Added

Limits

75 - 133

Spike

Added

5.00

5.00

Limits

RL

2.0

LCS LCS

LCSD LCSD

Qualifier

Result

4.92

5.56

Result Qualifier

Unit

ug/L

Unit

ug/L

MDL Unit

0.86 ug/L

Prepared

Prepared

D

05/12/23 23:03

Client Sample ID: Method Blank

Analyzed

05/12/23 23:03

Analyzed

Dil Fac

Dil Fac

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Lab Sample ID: LCSD 460-908909/5

Lab Sample ID: LCS 460-908909/4

**Matrix: Water** 

4-Bromofluorobenzene

Analysis Batch: 908909

Analyte 1,4-Dioxane

Surrogate 4-Bromofluorobenzene

LCSD LCSD %Recovery Qualifier Limits Client Sample ID: Lab Control Sample Dup

D

%Rec

111

Prep Type: Total/NA

%Rec

Limits

57 - 124

%Rec RPD %Rec Limits RPD Limit 57 - 124 30

75 - 133

# **QC Association Summary**

Client: ARCADIS US Inc Job ID: 240-184633-1

Project/Site: Ford LTP - Off Site **GC/MS VOA** 

# Analysis Batch: 908766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-184633-1	TRIP BLANK_156	Total/NA	Water	8260D	
240-184633-2	MW-87_050223	Total/NA	Water	8260D	
240-184633-3	MW-87S_050223	Total/NA	Water	8260D	
MB 460-908766/10	Method Blank	Total/NA	Water	8260D	
LCS 460-908766/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 460-908766/5	Lab Control Sample Dup	Total/NA	Water	8260D	

# Analysis Batch: 908909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-184633-2	MW-87_050223	Total/NA	Water	8260D SIM	
240-184633-3	MW-87S_050223	Total/NA	Water	8260D SIM	
MB 460-908909/8	Method Blank	Total/NA	Water	8260D SIM	
LCS 460-908909/4	Lab Control Sample	Total/NA	Water	8260D SIM	
LCSD 460-908909/5	Lab Control Sample Dup	Total/NA	Water	8260D SIM	

# **Lab Chronicle**

Client: ARCADIS US Inc Job ID: 240-184633-1

Project/Site: Ford LTP - Off Site

Client Sample ID: TRIP BLANK\_156

Lab Sample ID: 240-184633-1 Date Collected: 05/02/23 00:00

Matrix: Water

Date Received: 05/04/23 08:00

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D		1	908766	EMM	EET EDI	05/11/23 20:00

Client Sample ID: MW-87\_050223 Lab Sample ID: 240-184633-2

Date Collected: 05/02/23 13:45 Matrix: Water

Date Received: 05/04/23 08:00

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D		1	908766	EMM	EET EDI	05/11/23 22:57
Total/NA	Analysis	8260D SIM		1	908909	KLB	EET EDI	05/13/23 05:33

Client Sample ID: MW-87S\_050223 Lab Sample ID: 240-184633-3

Date Collected: 05/02/23 15:05 Matrix: Water

Date Received: 05/04/23 08:00

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D		1	908766	EMM	EET EDI	05/11/23 23:19
Total/NA	Analysis	8260D SIM		1	908909	KLB	EET EDI	05/13/23 05:55

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 - Off Site

Job ID: 240-184633-1

# **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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		Chain of Custody Record		TestAmerica
Client Contact	TestAmerica Laboratory location; Brighton 10448 Citat Regulatory program; DW	10448 Citation Drive, Suite 200 / Brighton, MI 48116 / 810-229-2763  DW NPDES RCRA Other	29-2763	Terrior II AUMAIN CONTRACTOR AND TO STORE
Company Name: Arcadis	Client Project Manager: Kris Hinskey	Site Contact: Christina Weaver	Lab Contact: Mike DelMonico	TestAmerica Laboratories, Inc.
Address: 28550 Cabot Drive, Suite 500 City/State/Zin-Novi MI 48377	Telephone: 248-994-2240	Telephone: 248-994-2240	Telephone: 330-497-9396	
Dham. 249 604 1940	Email: kristoffer.hinskey@arcadis.com	Analysis Farnaround Time	Analyses	1 of 1 COCs For lab use only
Project Name: Ford LTP Off-Site Project Number: 30167538.402.04	Sampler Name:    Crit   Compression     Method of Shipment/Carrier:	()		Walk-in client Lab sampling
PO # 30167538.402.04	Shipping/Tracking No:	draD/	8560B E 8260B	Job/SDG No:
Sample Identification	Sample Date Sample Time Adversa Solid	HIGGS	cis-1,2-DCE 8  Trans-1,2-DCE 8  TCE 8260B  TCE 8260B  Vinyl Chloride	Sample Specific Notes / Special Instructions:
6 TRIP BLANK_ 1/5/6	5/2/23 11	1 N	×××××××××××××××××××××××××××××××××××××××	1 Trip Blank
0 MW-87-050223	5/2/13 1745 6	6 N G	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	3 VOAs for 8260B 3 VOAs for 8260B SIM
Dage 1	5/2/33 1565 6	9	X	
8 of 22				
		240-184633 Chain of Custody	MICH	IIGAN
				8
Possible Hazard Identification  Von-Hazard Flammable Skin Irri	lant Poison B Unknown	Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month) Return to Client Disposal By Lab Archive For Mou	riples are retained longer than 1 month)  b Archive For Months	
Secret Instructions/U. Requirements & Comments. Sample Address: Submit all results through Cadena & Howalla@cadenaco.com, Cadena #E203631 Level W Reporting requested.	1,5 L ROW. :o.com, Cadena #E203631			
Relinguished by:		1700 Received by: Cold	Storage Company	Date/Time: / 700
Reinquisted by	Company: Date/Time: 1 Company: 1	Received by (Received by A. C.	Company:	123
(5) C2008 Tesumenta Leboratorea, Inc. All spits reserved	2/43			

					1611.1	2
Eurofins - Canton Samp Barberton Facility	ole Receipt Form/Narra	tive	Log	in # :	18943	
Client Arcadis	S	Site Name			Cooler unp	packed by:
Cooler Received on S		Opened on S	473	- /	RAChel	110 Haidet
	100	ient Drop Off	Eurofins Courier	Othe		HE MAIGH
Receipt After-hours: Dro		ichi Diop Oli	Storage Loca		1	
Eurofins Cooler # EC.		ent Cooler	Box Other	1011		
Packing material used	Bubble Wrap Foan	n Plastic Bag	g None Oth	er		
		ry Ice Wate	er None			
1. Cooler temperature up	1		See Multiple Co			
IR GUN#	(CF + O °C)	Observed Cool	ler Temp	_°C Co	rrected Coole	er Temp°C
-Were the seals on the -Were tamper/custor -Were tamper/custor -Were tamper/custor 3. Shippers' packing slip at 194. Did custody papers acc 5. Were the custody paper 6. Was/were the person(s 7. Did all bottles arrive in 8. Could all bottle labels 9. For each sample, does 10. Were correct bottle(s) 11. Sufficient quantity rece 12. Are these work share s	company the sample(s)? rs relinquished & signed in a who collected the sample good condition (Unbroke (ID/Date/Time) be reconcited the COC specify preservatured for the test(s) indicated amples and all listed on the raple(s) at the correct pH up occ?	signed & dated bottle kits (LLI promised?  In the appropriate clearly identin)? Ided with the CC vives (YN), # o ed?  analyses?  e COC?  coriginating labor receipt?	e place? fied on the COC? CC? f containers (N), coratory.	Yes Yes Yes and sam Yes Yes	No NA No NA No N	Tests that are not checked for pH by Receiving:  VOAs Oil and Grease TOC  grab/comp()/N)?
17. Was a LL Hg or Me H	•	p 2 20t			No	
Contacted PM	Date	by	via Ve	rbal Vo	ice Mail Oth	er
Concerning						
18. CHAIN OF CUSTO	DY & SAMPLE DISCRE	PANCIES (	additional next p	page	Samples proc	cessed by:
19. SAMPLE CONDITI						
Sample(s)						
Sample(s)					n a broken co	
Sample(s)	····	were recei	ived with bubble >6	5 mm in	diameter. (No	otify PM)
20. SAMPLE PRESERV	ATION					
Sample(s)				£1	or mesos: 1	in the laborators
Sample(s) Time preserved:	Preservative(s) adde	d/Lot number(s	)·	ere rurth	ier preserved	in the laboratory.
- Into proservou.	110001141110(3) 44400	_ Lot mannoer(s	J	-		
VOA Sample Preservation	- Date/Time VOAs Froze	n:				

Login#: 184633

Cooler		ption	IR Gun#	Observed	Corrected	Coolant
	ircle)		(Circle)	Temp °C	Temp °C	(Circle) (Wet loe Blue Ice D
EC Client	Вох	Other	IR GUN #:	1.2	1.2	Water None
EC Client	Вох	Other	IR GUN #: _ d	1.6	1.6	Wet ice Blue ice Di Water None
EC Client	Вох	Other	IR GUN #:			Wet Ice Blue Ice Dr Water None
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EC Client	Box	Other	IR GUN #:			Water None Water Blue Ice Dry
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EC Client	Box	Other	IR GUN #:			Wet ice Blue ice Dry Water None
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EC Client	Box	Other	IR GUN #:			Wet ice Sive ice Dry k
EC Client	Box	Other	IR GUN 6:			Wet ice Blue ice Dry is Water None

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

Phone: 330-497-9396 Fax: 330-497-0772

180 S. Van Buren Avenue

Barberton, OH 44203

**Chain of Custody Record** 

**Environment Testing** 

💸 eurofins



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 laboratory maintain accreditation in the State of Origin listed above for analysis/lests/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 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. S - H2SO4 T - TSP Dodecahydrate Special Instructions/Note: Z - other (specify) Q - Na2SO3 R - Na2S2O3 N - None O - AsNaO2 P - Na2O4S U - Acetone W - pH 4-5 V - MCAA Y - Trizma Company Sompany Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Horive For Mon Preservation Codes: G - Amchlor H - Ascorbic Acid COC No: 240-167561.1 240-184633-1 A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 Page: Page 1 of 1 (S) 18 J - DI Water F - MeOH K - EDTA L - EDA Archive For - Ice Total Number of containers 9 9 くって Date/Time: Method of Shipment: 12.1 Carrier Tracking No(s) State of Origin: Michigan **Analysis Requested** Received by: Cooler Temperature(s) °C and Other Remarks: 210 Special Instructions/QC Requirements: Michael.DelMonico@et.eurofinsus.com O Accreditations Required (See note): 101 Received by: Lab PM: DelMonico, Michael 8560D\_SIM/5030C × × × SZEOD/SO30C (MOD) AOCs (SPOL LIST) Perform MS/MSD (Yes or No) Time: Filtered Sample (Yes or No) Company Preservation Code: Sesolid, Owwaste/oil, BT=Tissue, Water Water Water A=Air) Company (C=comp, G=grab) Sample Type Primary Deliverable Rank: 2 Eastern 15:05 Sample Eastern Eastern Time 13:45 Date: TAT Requested (days): Due Date Requested: 5/17/2023 Sample Date 5/2/23 5/2/23 5/2/23 Project #: 24015353 Date/Time: Phone: ₩OW Client Information (Sub Contract Lab) Deliverable Requested: I, II, III, IV, Other (specify) Custody Seal No.: Sample Identification - Client ID (Lab ID) **Eurofins Environment Testing Northeast** 732-549-3900(Tel) 732-549-3679(Fax) TRIP BLANK\_156 (240-184633-1) MW-87S\_050223 (240-184633-3) MW-87\_050223 (240-184633-2) Possible Hazard Identification Empty KityRelinquished by: Custody Seals Intact: 777 New Durham Road, Shipping/Receiving Ford LTP - Off Site telinquished by: Unconfirmed State, Zip: NJ, 08817 Project Name Edison Page

# **Login Sample Receipt Checklist**

Client: ARCADIS US Inc Job Number: 240-184633-1

List Source: Eurofins Edison
List Number: 2
List Creation: 05/05/23 12:42 PM

Creator: Armbruster, Chris

Greator: 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	
ls 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	

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# DATA VERIFICATION REPORT



May 18, 2023

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: 30167538.402.04 off-site

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

Laboratory submittal: 184633-1 Sample date: 2023-05-02

Report received by CADENA: 2023-05-18

Initial Data Verification completed by CADENA: 2023-05-18

Number of Samples:3 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.

There were no significant QC anomalies or exceptions to report.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, LCS/LCD RPD, 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 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:** E203631

**Laboratory:** Eurofins Environment Testing LLC - Cleveland

**Laboratory Submittal:** 184633-1

		Sample Name:	TRIP BLA	TRIP BLANK_156			MW-87_	_050223		MW-87S_050223				
		Lab Sample ID:	2401846	5331			2401846	5332			2401846	5333		
		Sample Date:	5/2/202	.3			5/2/202	.3			5/2/202	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-826	<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		ND	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		ND	1.0	ug/l	
OSW-826	<u>ODSIM</u>													
	1,4-Dioxane	123-91-1					ND	2.0	ug/l		ND	2.0	ug/l	



# Ford Motor Company – Livonia Transmission Project

# **Data Review**

# Livonia, Michigan

Volatile Organic Compounds (VOC) Analysis

SDG # 240-184633-1

CADENA Verification Report: 2023-05-18

Analyses Performed By: Eurofins North Canton, Ohio

Report # 49780R Review Level: Tier III Project: 30167538.402.02

# **SUMMARY**

This data quality assessment summarizes the review of Sample Delivery Group (SDG) # 240-184633-1 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 Collection		Analysis			
Sample ID	Lab ID	Matrix	Date	Parent Sample	voc	VOC SIM		
TRIP BLANK_156	240-184633-1	Water	05/02/23		Х			
MW-87_050223	240-184633-2	Water	05/02/23		Х	X		
MW-87S_050223	240-184633-3	Water	05/02/23		X	X		

# **ANALYTICAL DATA PACKAGE DOCUMENTATION**

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

Items Reviewed	Repo	orted		mance ptable	Not
	No	Yes	No	Yes	Required
Sample receipt condition		Х		Х	
2. Requested analyses and sample results		Х		Х	
Master tracking list		Х		Х	
4. Methods of analysis		Х		Х	
5. Reporting limits		Х		Х	
6. Sample collection date		Х		Х	
7. Laboratory sample received date		Х		X	
8. Sample preservation verification (as applicable)		Х		Х	
Sample preparation/extraction/analysis dates		Х		X	
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.

### 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	Reported		Reported Performance Acceptable		Acceptable Not	
	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			
lon 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		Х		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: Dilip Kumar

SIGNATURE:

DATE: June 12, 2023

PEER REVIEW: Andrew Korycinski

DATE: June 21, 2023

# NO CORRECTIONS/QUALIFERS ADDED TO SAMPLE ANALYSIS DATA SHEETS

# CHAIN OF CUSTODY CORRECTED SAMPLE ANALYSIS DATA SHEETS

# **Chain of Custody Record**



TestAmerica Laboratory location; Brighton -- 10448 Citation Drive, Suite 200 / Brighton, MI 48116 / 810-229-2763 Client Contact Regulatory program: DW NPDES RCRA Cther Company Name: Arcadis TestAmerica Laboratories, Inc. Client Project Manager: Kris Hinskey Site Contact: Christina Weaver Lab Contact: Mike DelMonico Address: 28550 Cabot Drive, Suite 500 Telephone: 248-994-2240 Telephone: 248-994-2240 Telephone: 330-497-9396 City/State/Zip: Novi, MI, 48377 COCs Analysis Turnaround Time Email: kristoffer.hinskey@arcadis.com Analyses For lab use only Phone: 248-994-2240 TAT if different from below Sampler Name: Walk-in client Project Name: Ford LTP Off-Site Method of Shipment/Carrier: 3 weeks 2 weeks Lab sampling Project Number: 30167538.402.04 1 week SIN Filtered Sample (Y / N) 2 days /inyl Chloride 8260B PO # 30167538.402.04 Shipping/Tracking No: I day Job/SDG No: Matrix Containers & Preservatives H2SO4 HN03 Sample Specific Notes / NaOH Special Instructions: Sample Identification Sample Date Sample Time TRIP BLANK\_ 156 5/2/2 G X X X X X X 1 Trip Blank 3 VOAs for 8260B MW-87-050223 1345 0 3 VOAs for 8260B SIM 6 MN-875-050223 of 650 Possible Hazard Identification Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month) ✓ Non-Hazard Flammable Skin Irritant Poison B Unknown Return to Client Disposal By Lab Archive For Special Instructions/QC Requirements & Comments; 3470 Standish ROW Sample Address: Submit all results through Cadena at itemalia@cadenaco.com. Cadena #E203631 Level IV Reporting requested. Relinguished by: Novi Hicadis 1700 5/3 Date/Time: 1237 Received in Laboratory by 800 52008. TresAmerica Laboratories, Inc. All rights reserved.

[onthreaca & Design \*\* are tradomarks of TestAmerica Laboratories. Inc.

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# **Eurofins Cleveland**

180 S. Van Buren Avenue Barberton, OH 44203

# **Chain of Custody Record**



eurofins

Environment Testing

Phone: 330-497-9396 Fax: 330-497-0772					_								1020							
Client Information (Sub Contract Lab)	Sampler:				PM: elMon	ico, l	Micha	ael				С	amer Tr	acking	No(s):			COC No: 240-167561.1		
Client Contact: Shipping/Receiving	Phone:			E-M	chael						us.com		tate of C lichiga				F	Page: Page 1 of 1		
Company: Eurofins Environment Testing Northeast,					Acc	redita	itions I	Requir	red (Se	e note	):							Job #: 240-184633-1		
Address: 777 New Durham Road, ,	Due Date Request 5/17/2023	ed:								Ana	lysis	Requ	este	d			- 1	Preservation Cod A - HCL	M - Hexar	ne
City: Edison	TAT Requested (da	FAT Requested (days):															B - NaOH C - Zn Acetate	N - None O - AsNa( P - Na2O		
State, Zip: NJ, 08817		O#:															88	E - NaHSO4 Q - Na2SO3 R - Na2S2O3		
Phone: 732-549-3900(Tel) 732-549-3679(Fax)	PO #:				<u>इ</u>		Short List)									<b>E</b>	G - Amchlor H - Ascorbic Acid		odecahydrate	
Email:	WO #:				sork	or No)										2	I - Ice J - DI Water	U - Acetor V - MCAA W - pH 4-		
Project Name: Ford LTP - Off Site	Project #: 24015353	015353				<b>es</b> or	\$) \$00										高	K - EDTA L - EDA	Y - Trizma Z - other (	1
Site:	SSOW#:						کم (۵۵ کم ا								1 1 .	of cont	Other:			
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Watrix W=water, S=solid, =waste/oil, T=Tissue, A=Air)		Perform MS/N	8260D/5030C (MOD) VOCs (Short	8260D_SIM/5030C									Total Number	Special In	struction	s/Note:
TOIR DI ANIK ASS (OAS ASSASS A)		$\sim$	Preservation	No. of Concession, Name of Street, or other Persons, Name of Street, or ot	X	X			經濟包								X	N. Contraction		and the state of t
TRIP BLANK_156 (240-184633-1)	5/2/23	Eastern 13:45	<del></del>	Water	$\mathbb{H}$		×	$\dashv$		_	_		_				1			
MW-87_050223 (240-184633-2)	5/2/23	Eastern 15:05	-	Water	+	4	X	X	+	+	-		_				6			
MW-87S_050223 (240-184633-3)	5/2/23	Eastern		Water	$\mathbb{H}$		X	×	+	+	-	$\vdash$	+		-		6			
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Note: Since laboratory accreditations are subject to change, Eurofins Environmer laboratory does not currently maintain accreditation in the State of Origin listed at accreditation status should be brought to Eurofins Environment Testing North Ce	ove for analysis/tests	matrix being	analyzed, the same	les must	be shi are cu	irrent	back to to date	to the e, retu	Eurofin im the s	s Envi	ronment Chain o	Testing f Custod	North C ly attesti	entral, ing to sa	LLC laboraid compli	atory or c ance to E	other Eurofi	instructions will be fins Environment Te	provided. A sting North (	nu obonose te
Possible Hazard Identification Unconfirmed						Sam			<b>osal (</b> To Cli		e may [	be ass	sessed sposal	<b>d if sa</b> By La	<b>mples a</b> b			<b>id longer than</b> 1 ive For	<mark>1 month)</mark> Mont	hs
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliver	able Rank:	2			Spec	cial Ir	nstru	ctions	/QC I	Requir	ements	s:							
Empty Kit Relinquished by:		Date:			Tin								Met	hod of S	Shipment:	1	-	der		
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Relinquished by:	Date/Time:		Con	pany		F	Receiv	ved by	:						Date/Time	e:			Company	
Custody Seals Intact: Custody Seal No.:  Δ Yes Δ No						(				. ,	and Oth	er Rema	arks:	12	-, \ (	,				
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Client: ARCADIS US Inc Job ID: 240-184633-1

Client Sample ID: TRIP BLANK\_156

Project/Site: Ford LTP - Off Site

Lab Sample ID: 240-184633-1

Date Collected: 05/02/23 00:00 **Matrix: Water** Date Received: 05/04/23 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			05/11/23 20:00	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/11/23 20:00	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/11/23 20:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/11/23 20:00	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/11/23 20:00	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/11/23 20:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 128			-		05/11/23 20:00	1
Dibromofluoromethane (Surr)	92		77 - 124					05/11/23 20:00	1
Toluene-d8 (Surr)	116		80 - 120					05/11/23 20:00	1
4-Bromofluorobenzene	89		76 - 120					05/11/23 20:00	1

Lab Sample ID: 240-184633-2 Client Sample ID: MW-87\_050223

Date Collected: 05/02/23 13:45 Date Received: 05/04/23 08:00

Method: SW846 8260D S	IM - Volatile Orga	anic Comp	ounds (GC/N	<b>1S</b> )					
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/13/23 05:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	113		75 - 133			-		05/13/23 05:33	1

Method: SW846 8260D - Vo	latile Organic	Compounds	by GC/MS						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/11/23 22:57	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/11/23 22:57	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/11/23 22:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/11/23 22:57	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/11/23 22:57	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/11/23 22:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 128		05/11/23 22:57	1
Dibromofluoromethane (Surr)	103		77 - 124		05/11/23 22:57	1
Toluene-d8 (Surr)	117		80 - 120		05/11/23 22:57	1
4-Bromofluorobenzene	98		76 - 120		05/11/23 22:57	1

Client Sample ID: MW-87S\_050223 Lab Sample ID: 240-184633-3

Date Collected: 05/02/23 15:05 Date Received: 05/04/23 08:00

Method: SW846 8260D SIM - \	Volatile Orga	anic Comp	ounds (GC/N	IS)					
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/13/23 05:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Bromofluorohenzene	113		75 133			-		05/13/23 05:55	1

**Eurofins Cleveland** 

**Matrix: Water** 

**Matrix: Water** 

Client: ARCADIS US Inc

Job ID: 240-184633-1

Project/Site: Ford LTP - Off Site

Date Collected: 05/02/23 15:05 Matrix: Water Date Received: 05/04/23 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			05/11/23 23:19	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/11/23 23:19	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/11/23 23:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/11/23 23:19	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/11/23 23:19	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/11/23 23:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 128					05/11/23 23:19	1
Dibromofluoromethane (Surr)	100		77 - 124					05/11/23 23:19	1
Toluene-d8 (Surr)	113		80 - 120					05/11/23 23:19	1
4-Bromofluorobenzene	97		76 - 120					05/11/23 23:19	1