11

13

14

ANALYTICAL REPORT

PREPARED FOR

Attn: Kristoffer Hinskey ARCADIS US Inc 28550 Cabot Drive Suite 500 Novi, Michigan 48377 Generated 6/4/2023 10:29:27 PM

JOB DESCRIPTION

Ford LTP - On Site

JOB NUMBER

240-185728-1

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 6/4/2023 10:29:27 PM

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

Client: ARCADIS US Inc Project/Site: Ford LTP - On Site Laboratory Job ID: 240-185728-1

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	14
QC Sample Results	15
QC Association Summary	18
Lab Chronicle	19
Certification Summary	20
Chain of Custody	21
Receipt Checklists	25

3

4

8

9

1 U

12

Definitions/Glossary

Client: ARCADIS US Inc

Project/Site: Ford LTP - On Site

Job ID: 240-185728-1

Qualifiers

G	\sim	/ B. A	\ /	$\overline{}$	•
		/ IV	v	u	Д

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
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 NC

Not Calculated

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

NEG Negative / Absent

Method Quantitation Limit

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 25 6/4/2023

Case Narrative

Client: ARCADIS US Inc

Job ID: 240-185728-1

Project/Site: Ford LTP - On Site

Job ID: 240-185728-1

Laboratory: Eurofins Cleveland

Narrative

Job Narrative 240-185728-1

Receipt

The samples were received on 5/20/2023 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 1.8°C

GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 460-911906 recovered above the upper control limit for cis-1,2-Dichloroethene and trans-1,2-Dichloroethene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The laboratory control sample (LCS) for analytical batch 460-911906 recovered outside control limits for the following analyte: cis-1,2-Dichloroethene. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method 8260D: Four surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: TRIP BLANK_36 (240-185728-1). These results have been reported and qualified.

Method 8260D_SIM: Internal standard (ISTD) response for Fluorobenzene for the following samples in analytical batch 460-911865 was outside acceptance criteria: MW-52_051823 (240-185728-2), MW-43_051823 (240-185728-3), MW-42_051823 (240-185728-4) and DUP-04 (240-185728-5). This ISTD does not correspond to any of the requested target compounds reported from this analytical batch; therefore, the data have been reported.

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

4

4

7

_

10

13

14

Method Summary

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

Job ID: 240-185728-1

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

Protocol References:

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

Laboratory References:

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

Sample Summary

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

Job ID: 240-185728-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-185728-1	TRIP BLANK_36	Water	05/18/23 00:00	05/20/23 08:00
240-185728-2	MW-52_051823	Water	05/18/23 09:42	05/20/23 08:00
240-185728-3	MW-43_051823	Water	05/18/23 10:40	05/20/23 08:00
240-185728-4	MW-42_051823	Water	05/18/23 11:35	05/20/23 08:00
240-185728-5	DUP-04	Water	05/18/23 00:00	05/20/23 08:00

A

6

_

9

11

12

14

Detection Summary

Client: ARCADIS US Inc Job ID: 240-185728-1

Project/Site: Ford LTP - On Site

Client Sample ID: TRIP BLANK_36 Lab Sample ID: 240-185728-1

No Detections.

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.8		2.0	0.86	ug/L	1		8260D SIM	Total/NA
Vinyl chloride	1.4		1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: MW-43_051823 Lab Sample ID: 240-185728-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
1,4-Dioxane	1.3	J	2.0	0.86	ug/L		1		8260D SIM	Total/NA

Client Sample ID: MW-42_051823 Lab Sample ID: 240-185728-4

Analyte	Result	Qualifier	RL	MDL Unit	Dil Fac	Method	Prep Type
Vinyl chloride	0.69	J	1.0	0.45 ug/L	1	8260D	Total/NA

Client Sample ID: DUP-04 Lab Sample ID: 240-185728-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
1,4-Dioxane	3.0		2.0	0.86	ug/L	1	8260D SIM	Total/NA
Vinyl chloride	1.5		1.0	0.45	ug/L	1	8260D	Total/NA

5

0

_

9

10

12

13

14

Client: ARCADIS US Inc Job ID: 240-185728-1

Project/Site: Ford LTP - On Site

Client Sample ID: TRIP BLANK_36

Lab Sample ID: 240-185728-1 Date Collected: 05/18/23 00:00

Matrix: Water

Date Received: 05/20/23 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			05/28/23 06:52	1
cis-1,2-Dichloroethene	1.0	U *+	1.0	0.46	ug/L			05/28/23 06:52	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/28/23 06:52	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/28/23 06:52	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/28/23 06:52	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/28/23 06:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 128					05/28/23 06:52	1
Dibromofluoromethane (Surr)	115		77 - 124					05/28/23 06:52	1
Toluene-d8 (Surr)	68	S1-	80 - 120					05/28/23 06:52	1
4-Bromofluorobenzene	106		76 - 120					05/28/23 06:52	1

Eurofins Cleveland

Page 9 of 25 6/4/2023

Client: ARCADIS US Inc Job ID: 240-185728-1

Project/Site: Ford LTP - On Site

Client Sample ID: MW-52_051823

Date Collected: 05/18/23 09:42 Date Received: 05/20/23 08:00

4-Bromofluorobenzene

Lab Sample ID: 240-185728-2

05/28/23 09:31

Matrix: Water

Method: SW846 8260D SIM	- volatile Organic C	ompounas	(GC/MS)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.8		2.0	0.86	ug/L			05/27/23 10:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		75 - 133			_		05/27/23 10:41	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/28/23 09:31	1
cis-1,2-Dichloroethene	1.0	U *+	1.0	0.46	ug/L			05/28/23 09:31	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/28/23 09:31	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/28/23 09:31	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/28/23 09:31	1
Vinyl chloride	1.4		1.0	0.45	ug/L			05/28/23 09:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 128			_		05/28/23 09:31	1
Dibromofluoromethane (Surr)	103		77 - 124					05/28/23 09:31	1
Toluene-d8 (Surr)	98		80 - 120					05/28/23 09:31	1

76 - 120

Client: ARCADIS US Inc Job ID: 240-185728-1

Project/Site: Ford LTP - On Site

Date Received: 05/20/23 08:00

trans-1,2-Dichloroethene

Trichloroethene

Client Sample ID: MW-43_051823

Lab Sample ID: 240-185728-3 Date Collected: 05/18/23 10:40

Matrix: Water

05/28/23 09:54

05/28/23 09:54

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.3	J	2.0	0.86	ug/L			05/27/23 11:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98					-		05/27/23 11:03	
=									
Method: SW846 8260D - Vol	atile Organic Comp	ounds by G	GC/MS						
Method: SW846 8260D - Vol Analyte		ounds by G	GC/MS RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
		Qualifier		MDL 0.49		<u>D</u> .	Prepared	Analyzed 05/28/23 09:54	Dil Fac
Analyte	Result 1.0	Qualifier	RL		ug/L	<u>D</u> -	Prepared		Dil Fac 1

Vinyl chloride	1.0	U	1.0	0.45 ug/L		05/28/23 09:54	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 128			05/28/23 09:54	1
Dibromofluoromethane (Surr)	105		77 - 124			05/28/23 09:54	1
Toluene-d8 (Surr)	96		80 - 120			05/28/23 09:54	1
4-Bromofluorobenzene	100		76 - 120			05/28/23 09:54	1

1.0

1.0

0.51 ug/L

0.44 ug/L

1.0 U

1.0 U

Eurofins Cleveland

Client: ARCADIS US Inc Job ID: 240-185728-1

Project/Site: Ford LTP - On Site

Date Received: 05/20/23 08:00

Client Sample ID: MW-42_051823

Lab Sample ID: 240-185728-4 Date Collected: 05/18/23 11:35

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			05/27/23 11:25	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		 75 - 133			_		05/27/23 11:25	

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/28/23 10:17	1
cis-1,2-Dichloroethene	1.0	U *+	1.0	0.46	ug/L			05/28/23 10:17	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/28/23 10:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/28/23 10:17	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/28/23 10:17	1
Vinyl chloride	0.69	J	1.0	0.45	ug/L			05/28/23 10:17	1
Surrogate	%Recovery	Qualifier	Limits			_	Prepared	Analyzed	Dil Fac
						_			

	Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
	1,2-Dichloroethane-d4 (Surr)	104		70 - 128		05/28/23 10:17	1
	Dibromofluoromethane (Surr)	104		77 - 124		05/28/23 10:17	1
	Toluene-d8 (Surr)	98		80 - 120		05/28/23 10:17	1
L	4-Bromofluorobenzene	101		76 - 120		05/28/23 10:17	1

Client: ARCADIS US Inc Job ID: 240-185728-1

Project/Site: Ford LTP - On Site

Date Collected: 05/18/23 00:00

Date Received: 05/20/23 08:00

Client Sample ID: DUP-04

Lab Sample ID: 240-185728-5

Matrix: Water

Method: SW846 8260D SIM	- Volatile Organic C	ompounds	(GC/MS)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	3.0		2.0	0.86	ug/L			05/27/23 11:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		75 - 133					05/27/23 11:46	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/28/23 10:40	1
cis-1,2-Dichloroethene	1.0	U *+	1.0	0.46	ug/L			05/28/23 10:40	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/28/23 10:40	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/28/23 10:40	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/28/23 10:40	1
Vinyl chloride	1.5		1.0	0.45	ug/L			05/28/23 10:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 128			-		05/28/23 10:40	1
Dibromofluoromethane (Surr)	101		77 - 124					05/28/23 10:40	1
Toluene-d8 (Surr)	98		80 - 120					05/28/23 10:40	1
4-Bromofluorobenzene	98		76 - 120					05/28/23 10:40	1

Surrogate Summary

Client: ARCADIS US Inc Job ID: 240-185728-1

Project/Site: Ford LTP - On Site

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

Matrix: Water Prep Type: Total/NA

				Percent Sur	rogate Reco
		DCA	DBFM	TOL	BFB
Lab Sample ID	Client Sample ID	(70-128)	(77-124)	(80-120)	(76-120)
240-185728-1	TRIP BLANK_36	109	115	68 S1-	106
240-185728-2	MW-52_051823	103	103	98	100
240-185728-3	MW-43_051823	93	105	96	100
240-185728-4	MW-42_051823	104	104	98	101
240-185728-5	DUP-04	101	101	98	98
240-185730-A-2 MS	Matrix Spike	86	96	97	104
240-185730-A-2 MSD	Matrix Spike Duplicate	85	96	109	110
LCS 460-911906/2	Lab Control Sample	88	101	91	116
MB 460-911906/6	Method Blank	98	103	97	105

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 L
		BFB	
ab Sample ID	Client Sample ID	(75-133)	
40-185728-2	MW-52_051823	97	
40-185728-3	MW-43_051823	98	
40-185728-4	MW-42_051823	98	
40-185728-5	DUP-04	97	
.CS 460-911865/2	Lab Control Sample	86	
.CSD 460-911865/3	Lab Control Sample Dup	94	
/IB 460-911865/6	Method Blank	95	

Surrogate Legend

BFB = 4-Bromofluorobenzene

Eurofins Cleveland

Page 14 of 25

Client: ARCADIS US Inc Job ID: 240-185728-1

Project/Site: Ford LTP - On Site

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

Lab Sample ID: MB 460-911906/6

Matrix: Water

Analysis Batch: 911906

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

	IVID	IVID							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/28/23 06:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/28/23 06:07	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/28/23 06:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/28/23 06:07	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/28/23 06:07	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/28/23 06:07	1

	MB	MB				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 128		05/28/23 06:07	1
Dibromofluoromethane (Surr)	103		77 - 124		05/28/23 06:07	1
Toluene-d8 (Surr)	97		80 - 120		05/28/23 06:07	1
4-Bromofluorobenzene	105		76 - 120		05/28/23 06:07	1
	1,2-Dichloroethane-d4 (Surr) Dibromofluoromethane (Surr) Toluene-d8 (Surr)	Surrogate %Recovery 1,2-Dichloroethane-d4 (Surr) 98 Dibromofluoromethane (Surr) 103 Toluene-d8 (Surr) 97	1,2-Dichloroethane-d4 (Surr) 98 Dibromofluoromethane (Surr) 103 Toluene-d8 (Surr) 97	Surrogate %Recovery Qualifier Limits 1,2-Dichloroethane-d4 (Surr) 98 70 - 128 Dibromofluoromethane (Surr) 103 77 - 124 Toluene-d8 (Surr) 97 80 - 120	Surrogate %Recovery Qualifier Limits Prepared 1,2-Dichloroethane-d4 (Surr) 98 70 - 128 Dibromofluoromethane (Surr) 103 77 - 124 Toluene-d8 (Surr) 97 80 - 120	Surrogate %Recovery Qualifier Limits Prepared Analyzed 1,2-Dichloroethane-d4 (Surr) 98 70 - 128 05/28/23 06:07 Dibromofluoromethane (Surr) 103 77 - 124 05/28/23 06:07 Toluene-d8 (Surr) 97 80 - 120 05/28/23 06:07

Lab Sample ID: LCS 460-911906/2

Matrix: Water

Analysis Batch: 911906

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

	Spike	LCS L	.cs				%Rec	
Analyte	Added	Result Q	Qualifier	Unit	D	%Rec	Limits	
1,1-Dichloroethene	20.0	23.9		ug/L		120	68 - 133	
cis-1,2-Dichloroethene	20.0	24.7 *-	+	ug/L		123	78 - 121	
Tetrachloroethene	20.0	22.1		ug/L		111	70 - 127	
trans-1,2-Dichloroethene	20.0	25.2		ug/L		126	74 - 126	
Trichloroethene	20.0	23.7		ug/L		119	71 - 121	
Vinyl chloride	20.0	23.2		ug/L		116	55 - 144	
I and the second se								

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		70 - 128
Dibromofluoromethane (Surr)	101		77 - 124
Toluene-d8 (Surr)	91		80 - 120
4-Bromofluorobenzene	116		76 - 120

Lab Sample ID: 240-185730-A-2 MS

Matrix: Water

Analysis Batch: 911906

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	20.0	20.0		ug/L		100	68 - 133	
cis-1,2-Dichloroethene	1.0	U *+	20.0	19.8		ug/L		99	78 - 121	
Tetrachloroethene	1.0	U	20.0	21.2		ug/L		106	70 - 127	
trans-1,2-Dichloroethene	1.0	U	20.0	19.5		ug/L		98	74 - 126	
Trichloroethene	1.0	U	20.0	19.3		ug/L		96	71 - 121	
Vinyl chloride	1.0	U F1	20.0	26.6		ug/L		133	55 - 144	

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		70 - 128
Dibromofluoromethane (Surr)	96		77 - 124
Toluene-d8 (Surr)	97		80 - 120

Eurofins Cleveland

6/4/2023

Project/Site: Ford LTP - On Site

Client: ARCADIS US Inc Job ID: 240-185728-1

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

Lab Sample ID: 240-185730-A-2 MS

Matrix: Water

Analysis Batch: 911906

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

MS MS

Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene 104 76 - 120

Lab Sample ID: 240-185730-A-2 MSD

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

Matrix: Water

Analysis Batch: 911906

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,1-Dichloroethene	1.0	U	20.0	20.4		ug/L		102	68 - 133	2	30
cis-1,2-Dichloroethene	1.0	U *+	20.0	21.1		ug/L		105	78 - 121	6	30
Tetrachloroethene	1.0	U	20.0	24.8		ug/L		124	70 - 127	16	30
trans-1,2-Dichloroethene	1.0	U	20.0	20.6		ug/L		103	74 - 126	5	30
Trichloroethene	1.0	U	20.0	20.4		ug/L		102	71 - 121	6	30
Vinyl chloride	1.0	U F1	20.0	29.1	F1	ug/L		145	55 - 144	9	30

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	85		70 - 128
Dibromofluoromethane (Surr)	96		77 - 124
Toluene-d8 (Surr)	109		80 - 120
4-Bromofluorobenzene	110		76 - 120

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

Lab Sample ID: MB 460-911865/6

Matrix: Water

Analysis Batch: 911865

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/27/23 07:29	1

MB MB

MR MR

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		75 - 133		05/27/23 07:29	1

Lab Sample ID: LCS 460-911865/2

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analysis Batch: 911865

Matrix: Water

	Spike	LCS	LCS			%Rec	
Analyte	Added	Result	Qualifier Unit	D	%Rec	Limits	
1,4-Dioxane	5.00	4.57	ug/L		91	57 - 124	

LCS LCS

Surrogate	%Recovery Quali	fier Limits
4-Bromofluorobenzene	86	75 - 133

Lab Sample ID: LCSD 460-911865/3

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Matrix: Water

Analysis Batch: 911865

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,4-Dioxane	5.00	5.01		ug/L		100	57 - 124	9	30

Eurofins Cleveland

Page 16 of 25

QC Sample Results

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

Job ID: 240-185728-1

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

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	94		75 - 133

QC Association Summary

Client: ARCADIS US Inc Job ID: 240-185728-1

Project/Site: Ford LTP - On Site

GC/MS VOA

Analysis Batch: 911865

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-185728-2	MW-52_051823	Total/NA	Water	8260D SIM	
240-185728-3	MW-43_051823	Total/NA	Water	8260D SIM	
240-185728-4	MW-42_051823	Total/NA	Water	8260D SIM	
240-185728-5	DUP-04	Total/NA	Water	8260D SIM	
MB 460-911865/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 460-911865/2	Lab Control Sample	Total/NA	Water	8260D SIM	
LCSD 460-911865/3	Lab Control Sample Dup	Total/NA	Water	8260D SIM	

Analysis Batch: 911906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-185728-1	TRIP BLANK_36	Total/NA	Water	8260D	
240-185728-2	MW-52_051823	Total/NA	Water	8260D	
240-185728-3	MW-43_051823	Total/NA	Water	8260D	
240-185728-4	MW-42_051823	Total/NA	Water	8260D	
240-185728-5	DUP-04	Total/NA	Water	8260D	
MB 460-911906/6	Method Blank	Total/NA	Water	8260D	
LCS 460-911906/2	Lab Control Sample	Total/NA	Water	8260D	
240-185730-A-2 MS	Matrix Spike	Total/NA	Water	8260D	
240-185730-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

5

7

10

11

12

Job ID: 240-185728-1

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

Client Sample ID: TRIP BLANK_36

Date Collected: 05/18/23 00:00 Date Received: 05/20/23 08:00

Lab Sample ID: 240-185728-1

Matrix: Water

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D		1	911906	SZD	EET EDI	05/28/23 06:52

Lab Sample ID: 240-185728-2 Client Sample ID: MW-52_051823

Date Collected: 05/18/23 09:42 **Matrix: Water**

Date Received: 05/20/23 08:00

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D		1	911906	SZD	EET EDI	05/28/23 09:31
Total/NA	Analysis	8260D SIM		1	911865	SZD	EET EDI	05/27/23 10:41

Lab Sample ID: 240-185728-3 Client Sample ID: MW-43_051823

Date Collected: 05/18/23 10:40 **Matrix: Water**

Date Received: 05/20/23 08:00

Batch Batch Dilution Batch Prepared Prep Type Туре Method Run Factor **Number Analyst** or Analyzed Lab 05/28/23 09:54 8260D SZD Total/NA Analysis 911906 EET EDI 05/27/23 11:03 Total/NA Analysis 8260D SIM 911865 SZD EET EDI 1

Client Sample ID: MW-42_051823 Lab Sample ID: 240-185728-4

Date Collected: 05/18/23 11:35 **Matrix: Water**

Date Received: 05/20/23 08:00

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D			911906	SZD	EET EDI	05/28/23 10:17
Total/NA	Analysis	8260D SIM		1	911865	SZD	EET EDI	05/27/23 11:25

Client Sample ID: DUP-04 Lab Sample ID: 240-185728-5

Date Collected: 05/18/23 00:00 **Matrix: Water**

Date Received: 05/20/23 08:00

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D			911906	SZD	EET EDI	05/28/23 10:40
Total/NA	Analysis	8260D SIM		1	911865	SZD	EET EDI	05/27/23 11:46

Laboratory References:

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

Eurofins Cleveland

Accreditation/Certification Summary

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

Job ID: 240-185728-1

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

- 0

6

0

10

11

13

14

8.08

Client Contact	Regulate	Regulatory program:	MO		NPDES	DW NPDES RCBA COthor	Other		***	ANTERIOR ANTERIOR ANTERIOR		
Company Name: Arcadis	T						5	, nove				Took A week.
Address: 28550 Cabot Drive, Suite 500	Client Project N	Client Project Manager: Kris Hinskey	ıskey	Sit	e Contact: C	Site Contact: Christina Weaver	_	Lab Cor	Lab Contact: Mike DelMonico	DelMonico		COC No:
City/State/Zip: Novi, MI, 48377	Telephone: 248-994-2240	-994-2240		Tel	Telephone: 248-994-2240	3-994-2240		Telepho	Telephone: 330-497-9396	-9396		
Phone: 248,004,7340	Email: kristoffe	Email: kristoffer.hinskey@arcadis.com	lis.com		Analysis T	Analysis Turnaround Time				Analyses		For lab use only
Project Name: Ford LTP On-Site	Sampler Name:			TA	FAT if different from below 3 w.	om below 3 weeks	1					Walk-in client
Project Number: 30167538.401.03	Method of Shipment/Carrier:	ment/Carrier:	S C ().		10 day	2 weeks 1 week	-					Lab sampling
PO # 30167538.401.03	Shipping/Tracking No:	ing No:		I		2 days 1 day	Of what there	809	10978			Jop/SDG.No:
			Matrix		Containers	Containers & Preservatives	to take t	Z8 ∃	8	3 əb		
Sample Identification	Sample Date	Sample Date Sample Time	snoonby	Огћет:		NaOH NaOH Unpres Other:	Filtered Sa Composite	1,1-DCE 82	Trans-1,2-[TCE 8260B		Sample Specific Notes / Special Instructions:
$\mathfrak g$ TRIP BLANK_ $5\mathcal b$	2/8/10	-	_		~		U Z	×	₩	×		1 Trip Blank
628150-ES- MW 0	~	2460	0		2		921	X X	X X	X X X		3 VOAs for 8260B 3 VOAs for 8260B SIM
8 MW-43-051823		oh0!	9		<u>_</u> @		5	\(\times\)	X	XXX		
528150-1h-MW PAGE		11.35	2		2		PG	X	X	XXX		
トローごうの 3							2	シン	>	XXX		-)
of 25												
												- man
						240-18	5728 Chai	240-185728 Chain of Custody				35
							_					
	cin Irritant Poison B		Jnknown		Sample Disp Returr	Sample Disposal (A fee may be assessed if samples are retained longer than I month) Return to Chent ' Disposal By Lab Archive For Mo	be assessed if sam Disposal By Lab	f samples are re y Lab	tained longer t	er than 1 month)	nth) Months	
Special Instructions/QC Requirements & Comments: Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203728 Level IV Reporting requested.	denaco.com. Cadena #E	203728										
Relinquished by: 40 VP V.	Company:	71.6	Date/Times	7 1.6	17.45 F	Reger ged by	7 171	low of	0	Company:	,	- 1
- 1 1	Company	× >	CS (S C	2		2 2 -	5 50	7		NCCR	2	0/18/23 1CYS

TestAmerica

Chain of Custody Record

8-119-1

Date/Time: 11:00

Eurofins - Canton Sample Receipt Form/Narrative Login # : Barberton Facility		nd-control (indicenteration)
	Cooler unp	acked by:
	Mar	
Cooler Received on 5-20-23 Opened on 5-20-23	1 / / / / / /	Mary
FedEx: 1st Grd Exp UPS FAS Clippe Client Drop Off Eurofins Courier Ot Receipt After-hours: Drop-off Date/Time Storage Location	her	
Eurofins Cooler # Foam Box Client Cooler Box Other		
COOLANT: Wet Ice Blue Ice Dry Ice Water None		and a second sec
1. Cooler temperature upon receipt See Multiple Cooler Fo	orm	
IR GUN # (CF °C) Observed Cooler Temp°C (Corrected Coole	r Temp. °C
	2 No [
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity	S 11	Tests that are not
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?		checked for pH by
-Were tamper/custody seals intact and uncompromised?		Receiving:
3. Shippers' packing slip attached to the cooler(s)? Ye	s (Ng	VOAs
4. Did custody papers accompany the sample(s)?	s No 9 No 8 No	Oil and Grease
5. Were the custody papers relinquished & signed in the appropriate place? Ye	8 No	тос
6. Was/were the person(s) who collected the samples clearly identified on the COC? Ye	No -	
7. Did all bottles arrive in good condition (Unbroken)?	No	
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?		
9. For each sample, does the COC specify preservatives (VN), # of containers (V/N), and so	. 1	rab/comp(@/AN)?
	No No	
	s (N)	
If yes, Questions 13-17 have been checked at the originating laboratory.		
	s No 🕅 pH	I Strip Lot# HC208070
	No No	
	s 🕦 NA	
6. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #		
7. Was a LL Hg or Me Hg trip blank present?Yes	s No	
Contacted PM Date by via Verbal V	oice Mail Othe	er
Concerning		
8. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES additional next page	Samples proce	assad hv
is. CHAIN OF CUSTOD! & SAMILE DISCRET ANCIES — 2 additional leat page	Samples proc	csscu by.
9. SAMPLE CONDITION		
ample(s)were received after the recommended hold	ing time had exp	pired.
ample(s) were received	l in a broken cor	ntainer.
ample(s)were received with bubble >6 mm i	in diameter. (No	tify PM)
0. SAMPLE PRESERVATION		
ample(s) were fu	ther preserved i	n the laboratory.
ime preserved:Preservative(s) added/Lot number(s):were full	F	
OA Sample Preservation - Date/Time VOAs Frozen:		

L	ogin	#	:	
	vym	77	,	

				Eurofins - Canto	n Sample Receipt I	Multiple Cool	er Form	
C	ooler D		iption	IR Gun #	Observed	Cor	rected	Coolant
6	<u>√ (Ci</u>	rcle)		(Circle)	Temp °C	Ten	np ºC	(Circle)
(ES	Client	Вох	Other	IR GUN #:	1.8		1-8	Wet ice Blue Ice Dry Ice Water None
(EC)	Client	Вох	Other	IR GUN #:	1.2		1.2	Wet ice Blue ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet ice Blue ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet Ice Blue Ice Dry Ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet ice Blue Ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet ice Blue ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:	r			Wet ice Blue ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet Ice Blue Ice Dry Ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet Ice Blue Ice Dry Ice Water None
€C	Client	Вох	Other	IR GUN #:				Wet ice Blue ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet ice Blue Ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet ice Blue ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:	A CALL SECTION AND STREET, ASSESSMENT OF THE SECTION OF THE SECTIO			Wet ice Blue ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Wet ice Blue ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:			-	Wet ice Blue ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet ice Blue ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet ice Blue Ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet ice Blue Ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:			A	Wet ice Blue ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet Ice Blue Ice Dry Ice Water None
EC	Client	Box	Other	IR GUN #:				Wet ice Blue Ice Dry ice Water None
EC	Client	Box	Other	IR GUN #:				Wet ice Blue Ice Dry ice Water None
EC	Client	Box	Other	IR GUN #:				Wet Ice Blue Ice Dry Ice Water None
EC	Client	Box	Other	IR GUN #:				Wet Ice Blue Ice Dry Ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet ice Blue ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet ice Blue ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet ice Blue ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet ice Blue ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet ice Blue ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet Ice Blue Ice Dry Ice Water None
EC	Client	Вох	Öther	IR GUN #:				Wet Ice Blue Ice Dry Ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet ice Blue ice Dry ice Water None
EC	Client	Вох	Other	IR GUN #:				Wet Ice Blue Ice Dry Ice Water None
EC	Client	Box	Other	IR GUN #:				Wet Ice Blue Ice Dry Ice Water None
							See Tempo	erature Excursion Form

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

💸 eurofins | Environment Testing

Chain of Custody Record

Eurofins Cleveland 180 S. Van Buren Avenue

Barberton OH 44203 Phone: 330-497-9396 Fax: 330-497-0772				Environment T
	Sampler		Carrier Tracking No(s):	COC No:
Client Information (Sub Contract Lab)		DelMonico, Michael		240-168393.1
Client Contact:	Phone:		Ë	Page:
Shipping/Receiving		Michael.DelMonico@et.eurofinsus.com	Michigan	Page 1 of 1

Client Information (Sub Contract Lab)				Del	DelMonico, Michael	Michael			_					240-168393.1	
Client Contact: Shipping/Receiving	Phone:	i i		E-Mail: Micha	E-Mail: Michael.DelMonico@et.eurofinsus.com	/onico@	et.eur	ofinsus.c	Εō	State of Origin: Michigan	Origin: an			Page: Page 1 of 1	
Company. Eurofins Environment Testing Northeast					Accredita	tions Red	Accreditations Required (See note):	e note):						Job #: 240-185728-1	
Address:	Due Date Requested:	. .									١.			odes:	
777 New Durham Road,	6/4/2023							Analysis Requested	is Rec	ueste	اچ			∑ ≥	Hexane
City: Edison	TAT Requested (days):	ays):												cetate Co o	None AsNaO2 Na2O4S
State, Zp. NJ, 08817	T						•							E NaHSO4 P. Na	Na2SO3 Na2S2O3
Phone: 732-549-3900(Tel) 732-549-3679(Fax)	PO#:				10									Amchlor T	H2SO4 TSP Dodecahydrate
Email:	wo #												- BU	lce V Di Water W	MCAA pH 4-5
Project Name: Ford LTP - On Site	Project #: 24015353												enisin		Trizma other (specify)
Sriec	SSOW#:												oo 10	Other	
		Sample	Sample Type (C=comp,	(W=water, S=solid, O=wastefoli, BT=Tissue,	beredija bli MisM moh	90D/8030C (W							sedmuN lst		
Sample Identification - Client ID (Lab ID)	Sample Date	Time	G=grab)	A=Air)	MEGNA .	-				A. S.) <u>1</u>)	Special Instructions/Note	ions/Note:
		\langle	Preserva	Preservation Code;	XX				Section 2	- C		1	4	The second secon	
MRIP BLANK_36 (240-185728-1)	5/18/23	Eastem		Water		×							*		
QMW-52_051823 (240-185728-2)	5/18/23	09:42 Eastern		Water		×							9		
GMW 43_051823 (240-185728-3)	5/18/23	10:40 Eastern		Water		×							9		
MW-42_051823 (240-185728-4)	5/18/23	11:35 Eastem		Water		×							Ø		
DUP-04 (240-185728-5)	5/18/23	Eastern		Water		×							6		
						<u></u>									
							<u> </u>								

laboratory does not currently 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 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. Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Possible Hazard Identification

Unconfirmed			Return To Client Disposal By Lab	ab Archive For	Months
Deliverable Requested 1, II, III, IV Other (specify)	Primary Deliverable Rank: 2	ගී	Sedi		
Empty Kit Relinquished by	Date:	Time:		Method of Shipment:	
Reinodishel by:	301 3AX	いろう	Received by Strange 1	Date/Time;	Company
(jisknauistede);	Pate/Time:	Сотрапу	Received by:	Date/Time:	Company
N Felinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
 Custody Seals Intact: Custody Seal No. Δ Yes Δ No 	a H	55-1 b	Cooler Temperature(s) °C and Other Remarks:	5 6 7 8	2 3 4

Client: ARCADIS US Inc

Job Number: 240-185728-1

List Source: Eurofins Edison
List Number: 2
List Source: Eurofins Edison
List Creation: 05/25/23 10:14 AM

Creator: Rivera, Kenneth

oroator. Atvora, Admidti		
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.	True	2059440
Sample custody seals, if present, are intact.	True	
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	1.2°C, IR #9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is 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	

N/A

Eurofins Cleveland

Residual Chlorine Checked.

DATA VERIFICATION REPORT



June 05, 2023

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

CADENA project ID: E203728

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

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

Laboratory submittal: 185728-1 Sample date: 2023-05-18

Report received by CADENA: 2023-06-05

Initial Data Verification completed by CADENA: 2023-06-05

Number of Samples:5 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:

SUR - GCMS VOC surrogate recoveries were outside of laboratory control limits biased low but greater than 10% for at least 1 surrogate. These client sample results should be considered estimated and qualified with J flags if detected and UJ flags if non-detect: GCMS VOC sample -001 (trip blank) - UJ flags - all results.

LCS recoveries were outliers biased HIGH for these tests and analytes (or one LCS and the associated LCS/LCSD RPD). All associated client sample results were non-detect for these analytes so were not affected by the high bias and qualification was not required: GCMS VOC QC batch 911906 - cis-1,2-dichloroethylene.

MS/MSD recovery outliers or sample duplicate RPD outliers were not determined using a client sample from this submittal for the test and QC batch noted so qualification was not required based on these sample-specific QC outliers: GCMS VOC QC batch 911906.

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.

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

Qualifiers added during verification have been added to the electronic data which is available for download from the CADENA CLMS. Refer to the attached table of analytical results that have been qualified during verification.

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

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

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

CADENA Valid Qualifiers

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

Qualified Results Summary

CADENA Project ID: E203728

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory Submittal: 185728-1

Sample Name: TRIP BLANK_36
Lab Sample ID: 2401857281
Sample Date: 5/18/2023

		Sample Date:	5/18/20	23		
				Report		Valid
	Analyte	Cas No.	Result	Limit	Units	Qualifier
GC/MS VOC						
OSW-8260	<u>)D</u>					
	1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	UJ
	cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	UJ
	Tetrachloroethene	127-18-4	ND	1.0	ug/l	UJ
	trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	UJ
	Trichloroethene	79-01-6	ND	1.0	ug/l	UJ
	Vinyl chloride	75-01-4	ND	1.0	ug/l	UJ

Analytical Results Summary

CADENA Project ID: E203728

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory Submittal: 185728-1

		Sample Name:	TRIP BLA	ANK_36			MW-52	_051823			MW-43	_051823			MW-42	_051823			DUP-04			
		Lab Sample ID:	2401857	7281			2401857	7282			240185	7283			240185	7284			2401857	/285		
		Sample Date:	5/18/20	23			5/18/20	23			5/18/20	23			5/18/20	23			5/18/20	23		
				Report		Valid		Report		Valid		Report		Valid		Report		Valid		Report		Valid
	Analyte	Cas No.	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC																						
OSW-8260	<u>ID</u>																					
	1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	UJ	ND	1.0	ug/l		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	UJ	ND	1.0	ug/l		ND	1.0	ug/l		ND	1.0	ug/l		ND	1.0	ug/l	
	Tetrachloroethene	127-18-4	ND	1.0	ug/l	UJ	ND	1.0	ug/l		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	UJ	ND	1.0	ug/l		ND	1.0	ug/l		ND	1.0	ug/l		ND	1.0	ug/l	
	Trichloroethene	79-01-6	ND	1.0	ug/l	UJ	ND	1.0	ug/l		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	UJ	1.4	1.0	ug/l		ND	1.0	ug/l		0.69	1.0	ug/l	J	1.5	1.0	ug/l	
OSW-8260	<u>DDSIM</u>																					
	1,4-Dioxane	123-91-1					2.8	2.0	ug/l		1.3	2.0	ug/l	J	ND	2.0	ug/l		3.0	2.0	ug/l	