



ANALYTICAL REPORT

PREPARED FOR

Attn: Kristoffer Hinskey
Arcadis U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Generated 6/7/2024 6:24:54 AM

JOB DESCRIPTION

Ford LTP

JOB NUMBER

240-205319-1

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
6/7/2024 6:24:54 AM

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



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	20
Lab Chronicle	21
Certification Summary	22
Chain of Custody	23
Receipt Checklists	25

Definitions/Glossary

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

Job ID: 240-205319-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
E	Result exceeded calibration range.
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.
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	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

Case Narrative

Client: Arcadis U.S., Inc.
Project: Ford LTP

Job ID: 240-205319-1

Job ID: 240-205319-1

Eurofins Cleveland

Job Narrative 240-205319-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

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

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

Receipt

The samples were received on 5/29/2024 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 1.5°C.

GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 240-615398 was outside the method criteria for the following analyte(s): Vinyl chloride. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

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

Eurofins Cleveland

Method Summary

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

Job ID: 240-205319-1

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

Protocol References:

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

Laboratory References:

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



Sample Summary

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

Job ID: 240-205319-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-205319-1	TRIP BLANK_89	Water	05/24/24 00:00	05/29/24 08:00
240-205319-2	MW-07_052424	Water	05/24/24 09:25	05/29/24 08:00
240-205319-3	MW-63_052424	Water	05/24/24 10:55	05/29/24 08:00
240-205319-4	MW-48R_052424	Water	05/24/24 13:05	05/29/24 08:00
240-205319-5	MW-47_052424	Water	05/24/24 14:40	05/29/24 08:00

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

Detection Summary

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

Job ID: 240-205319-1

Client Sample ID: TRIP BLANK_89

Lab Sample ID: 240-205319-1

No Detections.

Client Sample ID: MW-07_052424

Lab Sample ID: 240-205319-2

No Detections.

Client Sample ID: MW-63_052424

Lab Sample ID: 240-205319-3

No Detections.

Client Sample ID: MW-48R_052424

Lab Sample ID: 240-205319-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
1,4-Dioxane	9.6		2.0	0.86	ug/L	1			8260D SIM	Total/NA

Client Sample ID: MW-47_052424

Lab Sample ID: 240-205319-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
1,4-Dioxane	1.5	J	2.0	0.86	ug/L	1			8260D SIM	Total/NA
cis-1,2-Dichloroethene	5.7		1.0	0.46	ug/L	1			8260D	Total/NA
trans-1,2-Dichloroethene	0.88	J	1.0	0.51	ug/L	1			8260D	Total/NA
Vinyl chloride	14		1.0	0.45	ug/L	1			8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cleveland

Client Sample Results

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

Job ID: 240-205319-1

Client Sample ID: TRIP BLANK_89

Lab Sample ID: 240-205319-1

Date Collected: 05/24/24 00:00

Matrix: Water

Date Received: 05/29/24 08:00

Method: SW846 8260D - Volatile 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			06/04/24 16:03	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			06/04/24 16:03	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/04/24 16:03	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/04/24 16:03	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/04/24 16:03	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			06/04/24 16:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		62 - 137		06/04/24 16:03	1
4-Bromofluorobenzene (Surr)	84		56 - 136		06/04/24 16:03	1
Toluene-d8 (Surr)	100		78 - 122		06/04/24 16:03	1
Dibromofluoromethane (Surr)	112		73 - 120		06/04/24 16:03	1

Client Sample Results

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

Job ID: 240-205319-1

Client Sample ID: MW-07_052424

Lab Sample ID: 240-205319-2

Date Collected: 05/24/24 09:25

Matrix: Water

Date Received: 05/29/24 08:00

Method: SW846 8260D SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			06/04/24 17:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		68 - 127					06/04/24 17:24	1

Method: SW846 8260D - Volatile 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			06/04/24 16:28	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			06/04/24 16:28	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/04/24 16:28	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/04/24 16:28	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/04/24 16:28	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			06/04/24 16:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		62 - 137					06/04/24 16:28	1
4-Bromofluorobenzene (Surr)	83		56 - 136					06/04/24 16:28	1
Toluene-d8 (Surr)	99		78 - 122					06/04/24 16:28	1
Dibromofluoromethane (Surr)	109		73 - 120					06/04/24 16:28	1

Client Sample Results

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

Job ID: 240-205319-1

Client Sample ID: MW-63_052424

Lab Sample ID: 240-205319-3

Date Collected: 05/24/24 10:55

Matrix: Water

Date Received: 05/29/24 08:00

Method: SW846 8260D SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			06/05/24 19:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		68 - 127					06/05/24 19:39	1

Method: SW846 8260D - Volatile 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			06/04/24 16:53	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			06/04/24 16:53	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/04/24 16:53	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/04/24 16:53	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/04/24 16:53	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			06/04/24 16:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		62 - 137					06/04/24 16:53	1
4-Bromofluorobenzene (Surr)	81		56 - 136					06/04/24 16:53	1
Toluene-d8 (Surr)	96		78 - 122					06/04/24 16:53	1
Dibromofluoromethane (Surr)	112		73 - 120					06/04/24 16:53	1

Client Sample Results

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

Job ID: 240-205319-1

Client Sample ID: MW-48R_052424

Lab Sample ID: 240-205319-4

Date Collected: 05/24/24 13:05

Matrix: Water

Date Received: 05/29/24 08:00

Method: SW846 8260D SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	9.6		2.0	0.86	ug/L			06/04/24 17:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		68 - 127					06/04/24 17:47	1

Method: SW846 8260D - Volatile 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			06/04/24 17:18	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			06/04/24 17:18	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/04/24 17:18	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/04/24 17:18	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/04/24 17:18	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			06/04/24 17:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		62 - 137					06/04/24 17:18	1
4-Bromofluorobenzene (Surr)	83		56 - 136					06/04/24 17:18	1
Toluene-d8 (Surr)	98		78 - 122					06/04/24 17:18	1
Dibromofluoromethane (Surr)	113		73 - 120					06/04/24 17:18	1

Client Sample Results

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

Job ID: 240-205319-1

Client Sample ID: MW-47_052424

Lab Sample ID: 240-205319-5

Date Collected: 05/24/24 14:40

Matrix: Water

Date Received: 05/29/24 08:00

Method: SW846 8260D SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.5	J	2.0	0.86	ug/L			06/04/24 18:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		68 - 127					06/04/24 18:11	1

Method: SW846 8260D - Volatile 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			06/04/24 15:59	1
cis-1,2-Dichloroethene	5.7		1.0	0.46	ug/L			06/04/24 15:59	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/04/24 15:59	1
trans-1,2-Dichloroethene	0.88	J	1.0	0.51	ug/L			06/04/24 15:59	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/04/24 15:59	1
Vinyl chloride	14		1.0	0.45	ug/L			06/04/24 15:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	118		62 - 137					06/04/24 15:59	1
4-Bromofluorobenzene (Surr)	95		56 - 136					06/04/24 15:59	1
Toluene-d8 (Surr)	99		78 - 122					06/04/24 15:59	1
Dibromofluoromethane (Surr)	101		73 - 120					06/04/24 15:59	1

Surrogate Summary

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

Job ID: 240-205319-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (62-137)	BFB (56-136)	TOL (78-122)	DBFM (73-120)
240-205257-A-26 MS	Matrix Spike	113	105	103	103
240-205257-A-26 MSD	Matrix Spike Duplicate	113	101	96	99
240-205319-1	TRIP BLANK_89	116	84	100	112
240-205319-2	MW-07_052424	116	83	99	109
240-205319-3	MW-63_052424	115	81	96	112
240-205319-3 MS	MW-63-MS_052424	100	91	99	99
240-205319-3 MSD	MW-63-MSD_052424	99	91	99	98
240-205319-4	MW-48R_052424	117	83	98	113
240-205319-5	MW-47_052424	118	95	99	101
LCS 240-615398/4	Lab Control Sample	100	94	102	96
LCS 240-615403/4	Lab Control Sample	110	102	103	97
MB 240-615398/7	Method Blank	111	89	101	107
MB 240-615403/7	Method Blank	119	97	96	105

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (68-127)
240-205255-A-3 MS	Matrix Spike	109
240-205255-A-3 MSD	Matrix Spike Duplicate	111
240-205319-2	MW-07_052424	106
240-205319-3	MW-63_052424	106
240-205319-3 MS	MW-63-MS_052424	103
240-205319-3 MSD	MW-63-MSD_052424	104
240-205319-4	MW-48R_052424	103
240-205319-5	MW-47_052424	107
LCS 240-615386/4	Lab Control Sample	106
LCS 240-615567/4	Lab Control Sample	102
MB 240-615386/8	Method Blank	102
MB 240-615567/6	Method Blank	102

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-205319-1

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

Lab Sample ID: MB 240-615398/7

Matrix: Water

Analysis Batch: 615398

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			06/04/24 12:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			06/04/24 12:41	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/04/24 12:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/04/24 12:41	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/04/24 12:41	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			06/04/24 12:41	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	111		62 - 137		06/04/24 12:41	1
4-Bromofluorobenzene (Surr)	89		56 - 136		06/04/24 12:41	1
Toluene-d8 (Surr)	101		78 - 122		06/04/24 12:41	1
Dibromofluoromethane (Surr)	107		73 - 120		06/04/24 12:41	1

Lab Sample ID: LCS 240-615398/4

Matrix: Water

Analysis Batch: 615398

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,2-Dichloroethene	25.0	23.9		ug/L		96	77 - 123
Tetrachloroethene	25.0	27.7		ug/L		111	76 - 123
trans-1,2-Dichloroethene	25.0	23.5		ug/L		94	75 - 124
Trichloroethene	25.0	24.2		ug/L		97	70 - 122
Vinyl chloride	12.5	8.32		ug/L		67	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	100		62 - 137
4-Bromofluorobenzene (Surr)	94		56 - 136
Toluene-d8 (Surr)	102		78 - 122
Dibromofluoromethane (Surr)	96		73 - 120

Lab Sample ID: 240-205319-3 MS

Matrix: Water

Analysis Batch: 615398

Client Sample ID: MW-63-MS_052424

Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	25.0	23.5		ug/L		94	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	24.1		ug/L		97	66 - 128
Tetrachloroethene	1.0	U	25.0	22.6		ug/L		90	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	22.7		ug/L		91	56 - 136
Trichloroethene	1.0	U	25.0	22.6		ug/L		90	61 - 124
Vinyl chloride	1.0	U	12.5	7.01		ug/L		56	43 - 157

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	100		62 - 137
4-Bromofluorobenzene (Surr)	91		56 - 136
Toluene-d8 (Surr)	99		78 - 122

Eurofins Cleveland

QC Sample Results

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

Job ID: 240-205319-1

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

Lab Sample ID: 240-205319-3 MS
Matrix: Water
Analysis Batch: 615398

Client Sample ID: MW-63-MS_052424
Prep Type: Total/NA

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	99		73 - 120

Lab Sample ID: 240-205319-3 MSD
Matrix: Water
Analysis Batch: 615398

Client Sample ID: MW-63-MSD_052424
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits			
1,1-Dichloroethene	1.0	U	25.0	23.7		ug/L		95	56 - 135	1	26	
cis-1,2-Dichloroethene	1.0	U	25.0	25.0		ug/L		100	66 - 128	4	14	
Tetrachloroethene	1.0	U	25.0	24.0		ug/L		96	62 - 131	6	20	
trans-1,2-Dichloroethene	1.0	U	25.0	23.3		ug/L		93	56 - 136	2	15	
Trichloroethene	1.0	U	25.0	23.8		ug/L		95	61 - 124	5	15	
Vinyl chloride	1.0	U	12.5	7.56		ug/L		60	43 - 157	8	24	

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	99		62 - 137
4-Bromofluorobenzene (Surr)	91		56 - 136
Toluene-d8 (Surr)	99		78 - 122
Dibromofluoromethane (Surr)	98		73 - 120

Lab Sample ID: MB 240-615403/7
Matrix: Water
Analysis Batch: 615403

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L		06/04/24 13:17	1	
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L		06/04/24 13:17	1	
Tetrachloroethene	1.0	U	1.0	0.44	ug/L		06/04/24 13:17	1	
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L		06/04/24 13:17	1	
Trichloroethene	1.0	U	1.0	0.44	ug/L		06/04/24 13:17	1	
Vinyl chloride	1.0	U	1.0	0.45	ug/L		06/04/24 13:17	1	

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	119		62 - 137		06/04/24 13:17	1
4-Bromofluorobenzene (Surr)	97		56 - 136		06/04/24 13:17	1
Toluene-d8 (Surr)	96		78 - 122		06/04/24 13:17	1
Dibromofluoromethane (Surr)	105		73 - 120		06/04/24 13:17	1

Lab Sample ID: LCS 240-615403/4
Matrix: Water
Analysis Batch: 615403

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
1,1-Dichloroethene	25.0	24.1		ug/L		96	63 - 134
cis-1,2-Dichloroethene	25.0	24.0		ug/L		96	77 - 123
Tetrachloroethene	25.0	25.9		ug/L		104	76 - 123
trans-1,2-Dichloroethene	25.0	22.9		ug/L		91	75 - 124
Trichloroethene	25.0	22.7		ug/L		91	70 - 122

Eurofins Cleveland

QC Sample Results

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

Job ID: 240-205319-1

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

Lab Sample ID: LCS 240-615403/4

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 615403

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl chloride	12.5	12.0		ug/L		96	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	110		62 - 137
4-Bromofluorobenzene (Surr)	102		56 - 136
Toluene-d8 (Surr)	103		78 - 122
Dibromofluoromethane (Surr)	97		73 - 120

Lab Sample ID: 240-205257-A-26 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 615403

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	10	U	250	218		ug/L		87	56 - 135
cis-1,2-Dichloroethene	510	F1	250	673	E F1	ug/L		63	66 - 128
Tetrachloroethene	10	U	250	219		ug/L		87	62 - 131
trans-1,2-Dichloroethene	10	U	250	216		ug/L		86	56 - 136
Trichloroethene	10	U	250	200		ug/L		80	61 - 124
Vinyl chloride	340	F1	125	349	F1	ug/L		5	43 - 157

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	113		62 - 137
4-Bromofluorobenzene (Surr)	105		56 - 136
Toluene-d8 (Surr)	103		78 - 122
Dibromofluoromethane (Surr)	103		73 - 120

Lab Sample ID: 240-205257-A-26 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 615403

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethene	10	U	250	221		ug/L		88	56 - 135	1	26
cis-1,2-Dichloroethene	510	F1	250	676	E F1	ug/L		65	66 - 128	0	14
Tetrachloroethene	10	U	250	227		ug/L		91	62 - 131	4	20
trans-1,2-Dichloroethene	10	U	250	215		ug/L		86	56 - 136	1	15
Trichloroethene	10	U	250	213		ug/L		85	61 - 124	6	15
Vinyl chloride	340	F1	125	362	F1	ug/L		16	43 - 157	4	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	113		62 - 137
4-Bromofluorobenzene (Surr)	101		56 - 136
Toluene-d8 (Surr)	96		78 - 122
Dibromofluoromethane (Surr)	99		73 - 120

QC Sample Results

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

Job ID: 240-205319-1

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

Lab Sample ID: MB 240-615386/8
Matrix: Water
Analysis Batch: 615386

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			06/04/24 12:42	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		68 - 127					06/04/24 12:42	1

Lab Sample ID: LCS 240-615386/4
Matrix: Water
Analysis Batch: 615386

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	10.0	9.53		ug/L		95	75 - 121
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	106		68 - 127				

Lab Sample ID: 240-205255-A-3 MS
Matrix: Water
Analysis Batch: 615386

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	1.4	J	10.0	11.8		ug/L		104	20 - 180
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	109		68 - 127						

Lab Sample ID: 240-205255-A-3 MSD
Matrix: Water
Analysis Batch: 615386

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane	1.4	J	10.0	11.8		ug/L		103	20 - 180	1	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	111		68 - 127								

Lab Sample ID: MB 240-615567/6
Matrix: Water
Analysis Batch: 615567

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			06/05/24 12:13	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		68 - 127					06/05/24 12:13	1

Eurofins Cleveland

QC Sample Results

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

Job ID: 240-205319-1

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

Lab Sample ID: LCS 240-615567/4

Matrix: Water

Analysis Batch: 615567

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	10.0	9.74		ug/L		97	75 - 121
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	102		68 - 127				

Lab Sample ID: 240-205319-3 MS

Matrix: Water

Analysis Batch: 615567

Client Sample ID: MW-63-MS_052424

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	2.0	U	10.0	10.1		ug/L		101	20 - 180
Surrogate	%Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	103		68 - 127						

Lab Sample ID: 240-205319-3 MSD

Matrix: Water

Analysis Batch: 615567

Client Sample ID: MW-63-MSD_052424

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	9.62		ug/L		96	20 - 180	5	20
Surrogate	%Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	104		68 - 127								

QC Association Summary

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

Job ID: 240-205319-1

GC/MS VOA

Analysis Batch: 615386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-205319-2	MW-07_052424	Total/NA	Water	8260D SIM	
240-205319-4	MW-48R_052424	Total/NA	Water	8260D SIM	
240-205319-5	MW-47_052424	Total/NA	Water	8260D SIM	
MB 240-615386/8	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-615386/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-205255-A-3 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-205255-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

Analysis Batch: 615398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-205319-1	TRIP BLANK_89	Total/NA	Water	8260D	
240-205319-2	MW-07_052424	Total/NA	Water	8260D	
240-205319-3	MW-63_052424	Total/NA	Water	8260D	
240-205319-4	MW-48R_052424	Total/NA	Water	8260D	
MB 240-615398/7	Method Blank	Total/NA	Water	8260D	
LCS 240-615398/4	Lab Control Sample	Total/NA	Water	8260D	
240-205319-3 MS	MW-63-MS_052424	Total/NA	Water	8260D	
240-205319-3 MSD	MW-63-MSD_052424	Total/NA	Water	8260D	

Analysis Batch: 615403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-205319-5	MW-47_052424	Total/NA	Water	8260D	
MB 240-615403/7	Method Blank	Total/NA	Water	8260D	
LCS 240-615403/4	Lab Control Sample	Total/NA	Water	8260D	
240-205257-A-26 MS	Matrix Spike	Total/NA	Water	8260D	
240-205257-A-26 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 615567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-205319-3	MW-63_052424	Total/NA	Water	8260D SIM	
MB 240-615567/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-615567/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-205319-3 MS	MW-63-MS_052424	Total/NA	Water	8260D SIM	
240-205319-3 MSD	MW-63-MSD_052424	Total/NA	Water	8260D SIM	

Lab Chronicle

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

Job ID: 240-205319-1

Client Sample ID: TRIP BLANK_89

Lab Sample ID: 240-205319-1

Date Collected: 05/24/24 00:00

Matrix: Water

Date Received: 05/29/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	615398	LEE	EET CLE	06/04/24 16:03

Client Sample ID: MW-07_052424

Lab Sample ID: 240-205319-2

Date Collected: 05/24/24 09:25

Matrix: Water

Date Received: 05/29/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	615398	LEE	EET CLE	06/04/24 16:28
Total/NA	Analysis	8260D SIM		1	615386	MDH	EET CLE	06/04/24 17:24

Client Sample ID: MW-63_052424

Lab Sample ID: 240-205319-3

Date Collected: 05/24/24 10:55

Matrix: Water

Date Received: 05/29/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	615398	LEE	EET CLE	06/04/24 16:53
Total/NA	Analysis	8260D SIM		1	615567	MDH	EET CLE	06/05/24 19:39

Client Sample ID: MW-48R_052424

Lab Sample ID: 240-205319-4

Date Collected: 05/24/24 13:05

Matrix: Water

Date Received: 05/29/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	615398	LEE	EET CLE	06/04/24 17:18
Total/NA	Analysis	8260D SIM		1	615386	MDH	EET CLE	06/04/24 17:47

Client Sample ID: MW-47_052424

Lab Sample ID: 240-205319-5

Date Collected: 05/24/24 14:40

Matrix: Water

Date Received: 05/29/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	615403	LEE	EET CLE	06/04/24 15:59
Total/NA	Analysis	8260D SIM		1	615386	MDH	EET CLE	06/04/24 18:11

Laboratory References:

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

Accreditation/Certification Summary

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

Job ID: 240-205319-1

Laboratory: Eurofins Cleveland

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-27-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	06-30-24
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24

Chain of Custody Record

1.5 / 1.5

1/2

TestAmerica Laboratory location: Brighton — 10448 Citation Drive, Suite 200 / Brighton, MI 48116 / 810-229-2763

Client Contact			Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other														TestAmerica Laboratories, Inc.											
Company Name: Arcadis			Client Project Manager: Kris Hinskey				Site Contact: Christina Weaver				Lab Contact: Mike DelMonico				COC No: _____													
Address: 28550 Cabot Drive, Suite 500			Telephone: 248-994-2240				Telephone: 248-994-2240				Telephone: 330-497-9396				1 of 1 COCs													
City/State/Zip: Novi, MI, 48377			Email: kristoffer.hinskey@arcadis.com				Analysis Turnaround Time				Analyses				For lab use only													
Phone: 248-994-2240			Sampler Name: <i>Noah Downie</i>				TAT if different from below								Walk-in client													
Project Name: Ford LTP			Method of Shipment/Carrier: _____				10 day								Lab sampling													
Project Number: 30206169.0401.03			Shipping/Tracking No: _____				<input type="checkbox"/> 3 weeks <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day								Job/SDG No: _____													
PO # US3410018772																	Sample Specific Notes / Special Instructions:											
Sample Identification	Sample Date	Sample Time	Matrix					Containers & Preservatives					Filtered Sample (Y/N)	Composite=C/Grab=G	1,1-DCE 8260D	cis-1,2-DCE 8260D	Trans-1,2-DCE 8260D	PCE 8260D	TCE 8260D	Vinyl Chloride 8260D	1,4-Dioxane 8260D SIM							
			Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl	NaOH	ZnAc												NaOH	Unpres	Other:		
TRIP BLANK_89	---	---	1					1							NG	X	X	X	X	X	X							1 Trip Blank
MW-07-052424	05/24/24	9:25	6					6							NG	X	X	X	X	X	X							3 VOAs for 8260D 3 VOAs for 8260D SIM
MW-63-052424	05/24/24	10:55	6					6							NG	X	X	X	X	X	X							
MW-63-MS-052424	05/24/24	10:55	6					6							NG	X	X	X	X	X	X							Run MSI/MSD
MW-63-MSD-052424	05/24/24	10:55	6					6							NG	X	X	X	X	X	X							Run MSI/MSD
MW-48R-052424	05/24/24	13:05	6					6							NG	X	X	X	X	X	X							
MW-47-052424	05/24/24	14:40	6					6							NG	X	X	X	X	X	X							



Possible Hazard Identification: Non-Hazard Flammable Irritant 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 _____ Months

Special Instructions/QC Requirements & Comments:

Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203728
Level IV Reporting requested.

Relinquished by: <i>Noah Downie</i>	Company: <i>Arcadis</i>	Date/Time: <i>05/24/24/17:00</i>	Received by: <i>Novi cold storage</i>	Company: <i>Arcadis</i>	Date/Time: <i>05/24/24/17:00</i>
Relinquished by: <i>Erin Crisp</i>	Company: <i>Arcadis</i>	Date/Time: <i>5/28/24 1600</i>	Received by: <i>George Manan</i>	Company: <i>EETA</i>	Date/Time: <i>5/28/24 1600</i>
Relinquished by: <i>George Manan</i>	Company: <i>EETA</i>	Date/Time: <i>5/28/24 1605</i>	Received in Laboratory by: <i>MALISSA LOAR</i>	Company: <i>EETA</i>	Date/Time: <i>5/29/24 8am</i>

©2008 TestAmerica Laboratories, Inc. All rights reserved. TestAmerica & Design are trademarks of TestAmerica Laboratories, Inc.

Eurofins - Cleveland Sample Receipt Form/Narrative
Barberton Facility

Login #

Client ARCADIS

Site Name

Cooler unpacked by:
MALISSA LOAR

Cooler Received on 5-29-24

Opened on 5-29-24

Other

FedEx, 1st Grd Exp UPS FAX Waypoint

Client Drop Off

Eurofins Courier

Receipt After-hours Drop-off Date/Time

Storage Location

Eurofins Cooler # 22

Foam Box

Client Cooler

Box

Other

Packing material used: Bubble Wrap Wet Ice Blue Ice

Foam Plastic Bag None Other

1 Cooler temperature upon receipt

IR GUN # 18 (CF 8) °C

Observed Cooler Temp 15 °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity

-Were the seals on the outside of the cooler(s) signed & dated? Yes NA

-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes NO

-Were tamper/custody seals intact and uncompromised? Yes NO NA

3 Shippers' packing slip attached to the cooler(s)? Yes NO

4. Did custody papers accompany the sample(s)? Yes NO

5 Were the custody papers relinquished & signed in the appropriate place? Yes NO

6 Was/were the person(s) who collected the samples clearly identified on the COC? Yes NO

7 Did all bottles arrive in good condition (Unbroken)? Yes NO

8 Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes NO

9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?

10 Were correct bottle(s) used for the test(s) indicated? Yes NO

11 Sufficient quantity received to perform indicated analyses? Yes NO

12. Are these work share samples and all listed on the COC? Yes NO

If Yes, Questions 13-17 have been checked at the originating laboratory

13 Were all preserved sample(s) at the correct pH upon receipt? Yes NO NA pH Strip Lot# HC339814

14. Were VOA's on the COC? Yes NO

15 Were air bubbles >6 mm in any VOA vials? Yes NO NA

16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # Yes NO

17 Was a LL Hg or Me Hg trip blank present? Yes NO

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

Tests that are not checked for pH by Receiving.
VOAs
Oil and Grease
TOC

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES additional next page Samples processed by:

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired

Sample(s) _____ were received in a broken container

Sample(s) _____ were received with bubble >6 mm in diameter (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory

Time preserved _____ Preservative(s) added/Lot number(s) _____

VOA Sample Preservation - Date/Time VOAs Frozen _____

Login Sample Receipt Checklist

Client: Arcadis U.S., Inc.

Job Number: 240-205319-1

Login Number: 205319

List Number: 1

Creator: Loar, Malissa

List Source: Eurofins Cleveland

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



DATA VERIFICATION REPORT



June 07, 2024

Megan Meckley
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728
Project: Ford Livonia Transmission Plant - Soil Gas, Ground Water and Soil
Project number: 30206169.401.03
Event Specific Scope of Work References: Sample COC
Laboratory: Eurofins Environment Testing LLC - Cleveland
Laboratory submittal: 205319-1
Sample date: 2024-05-24
Report received by CADENA: 2024-06-07
Initial Data Verification completed by CADENA: 2024-06-07
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:

GCMS VOC QC batch CCV response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD 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 <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.
B	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 contaminants) 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.
E	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 contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

Analytical Results Summary

CADENA Project ID: E203728

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory Submittal: 205319-1

Sample Name: TRIP BLANK_89	MW-07_052424	MW-63_052424	MW-48R_052424	MW-47_052424
Lab Sample ID: 2402053191	2402053192	2402053193	2402053194	2402053195
Sample Date: 5/24/2024	5/24/2024	5/24/2024	5/24/2024	5/24/2024

Analyte	Cas No.	Report				Valid				Report				Valid				Report				Valid			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MSVOC																									
<u>OSW-8260D</u>																									
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	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	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	5.7	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	---	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	---	ND	1.0	ug/l	---	0.88	1.0	ug/l	---	ND	1.0	ug/l	J
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	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	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	14	1.0	ug/l	---	ND	1.0	ug/l	---
<u>OSW-8260DSIM</u>																									
1,4-Dioxane	123-91-1					ND	2.0	ug/l	---	ND	2.0	ug/l	---	9.6	2.0	ug/l	---	1.5	2.0	ug/l	---	ND	2.0	ug/l	J