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ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

Ford LTP

JOB NUMBER

240-205155-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

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

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Table of Contents

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

Job ID: 240-205155-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.
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

Job Narrative
240-205155-1

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 5/24/2024 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 1.8°C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) analyzed in batch 240-615106 was outside the method criteria for the following analyte(s): Tetrachloroethene. 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.

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 240-615160 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.

Method 8260D_SIM: The following sample(s) was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The samples were analyzed outside the 7-day holding time specified for unpreserved samples but within the 14-day holding time specified for preserved samples: (240-205154-A-3 MS) and (240-205154-A-3 MSD).

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

Method Summary

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

Job ID: 240-205155-1

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: 240-205155-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-205155-1	TRIP BLANK_74	Water	05/22/24 00:00	05/24/24 08:00
240-205155-2	MW-67_052224	Water	05/22/24 08:40	05/24/24 08:00
240-205155-3	MW-69_052224	Water	05/22/24 09:55	05/24/24 08:00
240-205155-4	MW-58_052224	Water	05/22/24 11:10	05/24/24 08:00
240-205155-5	MW-09_052224	Water	05/22/24 12:40	05/24/24 08:00
240-205155-6	DUP-03	Water	05/22/24 00:00	05/24/24 08:00

Detection Summary

Client: Arcadis U.S., Inc.
Job ID: 240-205155-1
Project/Site: Ford LTP

Client Sample ID: TRIP BLANK_74 — Lab Sample ID: 240-205155-1

No Detections.

Client Sample ID: MW-67_052224 — Lab Sample ID: 240-205155-2

No Detections.

Client Sample ID: MW-69_052224 — Lab Sample ID: 240-205155-3

No Detections.

Client Sample ID: MW-58_052224 — Lab Sample ID: 240-205155-4

No Detections.

Client Sample ID: MW-09_052224 — Lab Sample ID: 240-205155-5

No Detections.

Client Sample ID: DUP-03 — Lab Sample ID: 240-205155-6

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 240-205155-1

Client Sample ID: TRIP BLANK_74
Date Collected: 05/22/24 00:00
Date Received: 05/24/24 08:00

Lab Sample ID: 240-205155-1
Matrix: Water

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			06/03/24 11:21	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			06/03/24 11:21	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/03/24 11:21	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/03/24 11:21	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/03/24 11:21	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			06/03/24 11:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*62 - 137*		*06/03/24 11:21*	*1*
4-Bromofluorobenzene (Surr)	*92*		*56 - 136*		*06/03/24 11:21*	*1*
Toluene-d8 (Surr)	*97*		*78 - 122*		*06/03/24 11:21*	*1*
Dibromofluoromethane (Surr)	*100*		*73 - 120*		*06/03/24 11:21*	*1*

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

Job ID: 240-205155-1

Client Sample ID: MW-67_052224
Date Collected: 05/22/24 08:40
Date Received: 05/24/24 08:00

Lab Sample ID: 240-205155-2
Matrix: Water

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			06/03/24 05:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*68 - 127*		*06/03/24 05:17*	*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			06/01/24 03:27	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			06/01/24 03:27	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/01/24 03:27	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/01/24 03:27	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/01/24 03:27	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			06/01/24 03:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*124*		*62 - 137*		*06/01/24 03:27*	*1*
4-Bromofluorobenzene (Surr)	*86*		*56 - 136*		*06/01/24 03:27*	*1*
Toluene-d8 (Surr)	*102*		*78 - 122*		*06/01/24 03:27*	*1*
Dibromofluoromethane (Surr)	*105*		*73 - 120*		*06/01/24 03:27*	*1*

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

Job ID: 240-205155-1

Client Sample ID: MW-69_052224

Date Collected: 05/22/24 09:55
Date Received: 05/24/24 08:00

Lab Sample ID: 240-205155-3

Matrix: Water

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			06/03/24 05:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*68 - 127*		*06/03/24 05:40*	*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			06/01/24 03:51	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			06/01/24 03:51	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/01/24 03:51	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/01/24 03:51	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/01/24 03:51	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			06/01/24 03:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*124*		*62 - 137*		*06/01/24 03:51*	*1*
4-Bromofluorobenzene (Surr)	*87*		*56 - 136*		*06/01/24 03:51*	*1*
Toluene-d8 (Surr)	*103*		*78 - 122*		*06/01/24 03:51*	*1*
Dibromofluoromethane (Surr)	*106*		*73 - 120*		*06/01/24 03:51*	*1*

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

Job ID: 240-205155-1

Client Sample ID: MW-58_052224

Date Collected: 05/22/24 11:10
Date Received: 05/24/24 08:00

Lab Sample ID: 240-205155-4

Matrix: Water

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			06/03/24 06:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*68 - 127*		*06/03/24 06:04*	*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			06/01/24 04:15	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			06/01/24 04:15	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/01/24 04:15	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/01/24 04:15	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/01/24 04:15	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			06/01/24 04:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*125*		*62 - 137*		*06/01/24 04:15*	*1*
4-Bromofluorobenzene (Surr)	*87*		*56 - 136*		*06/01/24 04:15*	*1*
Toluene-d8 (Surr)	*104*		*78 - 122*		*06/01/24 04:15*	*1*
Dibromofluoromethane (Surr)	*109*		*73 - 120*		*06/01/24 04:15*	*1*

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

Job ID: 240-205155-1

Client Sample ID: MW-09_052224

Date Collected: 05/22/24 12:40
Date Received: 05/24/24 08:00

Lab Sample ID: 240-205155-5

Matrix: Water

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			06/03/24 06:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*68 - 127*		*06/03/24 06:27*	*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			06/01/24 04:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			06/01/24 04:39	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/01/24 04:39	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/01/24 04:39	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/01/24 04:39	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			06/01/24 04:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*125*		*62 - 137*		*06/01/24 04:39*	*1*
4-Bromofluorobenzene (Surr)	*88*		*56 - 136*		*06/01/24 04:39*	*1*
Toluene-d8 (Surr)	*105*		*78 - 122*		*06/01/24 04:39*	*1*
Dibromofluoromethane (Surr)	*107*		*73 - 120*		*06/01/24 04:39*	*1*

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

Job ID: 240-205155-1

Client Sample ID: DUP-03

Date Collected: 05/22/24 00:00
Date Received: 05/24/24 08:00

Lab Sample ID: 240-205155-6

Matrix: Water

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			06/03/24 06:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*68 - 127*		*06/03/24 06:51*	*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			06/01/24 05:03	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			06/01/24 05:03	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/01/24 05:03	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/01/24 05:03	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/01/24 05:03	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			06/01/24 05:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*125*		*62 - 137*		*06/01/24 05:03*	*1*
4-Bromofluorobenzene (Surr)	*87*		*56 - 136*		*06/01/24 05:03*	*1*
Toluene-d8 (Surr)	*104*		*78 - 122*		*06/01/24 05:03*	*1*
Dibromofluoromethane (Surr)	*107*		*73 - 120*		*06/01/24 05:03*	*1*

Surrogate Summary

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

Job ID: 240-205155-1

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(62-137)	(56-136)	(78-122)	(73-120)
240-205155-1	TRIP BLANK_74	111	92	97	100
240-205155-2	MW-67_052224	124	86	102	105
240-205155-3	MW-69_052224	124	87	103	106
240-205155-4	MW-58_052224	125	87	104	109
240-205155-5	MW-09_052224	125	88	105	107
240-205155-6	DUP-03	125	87	104	107
240-205156-B-11 MS	Matrix Spike	120	89	105	106
240-205156-B-11 MSD	Matrix Spike Duplicate	127	88	103	109
240-205215-B-5 MS	Matrix Spike	102	111	103	100
240-205215-B-5 MSD	Matrix Spike Duplicate	101	109	104	98
LCS 240-615106/3	Lab Control Sample	118	91	106	108
LCS 240-615160/4	Lab Control Sample	102	111	102	100
MB 240-615106/7	Method Blank	121	87	103	105
MB 240-615160/7	Method Blank	110	95	99	100

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		DCA
Lab Sample ID	Client Sample ID	(68-127)
240-205154-A-3 MS	Matrix Spike	101
240-205154-A-3 MSD	Matrix Spike Duplicate	102
240-205155-2	MW-67_052224	105
240-205155-3	MW-69_052224	106
240-205155-4	MW-58_052224	103
240-205155-5	MW-09_052224	103
240-205155-6	DUP-03	103
LCS 240-615140/4	Lab Control Sample	103
MB 240-615140/6	Method Blank	101

Surrogate Legend

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

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

Lab Sample ID: MB 240-615106/7
Matrix: Water
Analysis Batch: 615106

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			06/01/24 03:04	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			06/01/24 03:04	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/01/24 03:04	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/01/24 03:04	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/01/24 03:04	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			06/01/24 03:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*121*		*62 - 137*		*06/01/24 03:04*	*1*
4-Bromofluorobenzene (Surr)	*87*		*56 - 136*		*06/01/24 03:04*	*1*
Toluene-d8 (Surr)	*103*		*78 - 122*		*06/01/24 03:04*	*1*
Dibromofluoromethane (Surr)	*105*		*73 - 120*		*06/01/24 03:04*	*1*

Lab Sample ID: LCS 240-615106/3
Matrix: Water
Analysis Batch: 615106

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,1-Dichloroethene			20.0	18.2		ug/L		91	63 - 134		
cis-1,2-Dichloroethene			20.0	18.5		ug/L		92	77 - 123		
Tetrachloroethene			20.0	16.2		ug/L		81	76 - 123		
trans-1,2-Dichloroethene			20.0	17.6		ug/L		88	75 - 124		
Trichloroethene			20.0	17.1		ug/L		86	70 - 122		
Vinyl chloride			20.0	17.8		ug/L		89	60 - 144		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*118*		*62 - 137*
4-Bromofluorobenzene (Surr)	*91*		*56 - 136*
Toluene-d8 (Surr)	*106*		*78 - 122*
Dibromofluoromethane (Surr)	*108*		*73 - 120*

Lab Sample ID: 240-205156-B-11 MS
Matrix: Water
Analysis Batch: 615106

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		
1,1-Dichloroethene	1.0	U	20.0	18.7		ug/L		94	56 - 135		
Tetrachloroethene	1.0	U	20.0	17.4		ug/L		87	62 - 131		
trans-1,2-Dichloroethene	28		20.0	43.7		ug/L		80	56 - 136		
Trichloroethene	1.0	U	20.0	17.8		ug/L		89	61 - 124		
Vinyl chloride	1.0	U	20.0	17.3		ug/L		87	43 - 157		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*120*		*62 - 137*
4-Bromofluorobenzene (Surr)	*89*		*56 - 136*
Toluene-d8 (Surr)	*105*		*78 - 122*
Dibromofluoromethane (Surr)	*106*		*73 - 120*

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

Lab Sample ID: 240-205156-B-11 MSD
Matrix: Water
Analysis Batch: 615106

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
1,1-Dichloroethene	1.0	U	20.0	18.9		ug/L		94	56 - 135	1	26
Tetrachloroethene	1.0	U	20.0	16.6		ug/L		83	62 - 131	5	20
trans-1,2-Dichloroethene	28		20.0	45.1		ug/L		87	56 - 136	3	15
Trichloroethene	1.0	U	20.0	17.5		ug/L		88	61 - 124	1	15
Vinyl chloride	1.0	U	20.0	17.8		ug/L		89	43 - 157	3	24

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*127*		*62 - 137*
4-Bromofluorobenzene (Surr)	*88*		*56 - 136*
Toluene-d8 (Surr)	*103*		*78 - 122*
Dibromofluoromethane (Surr)	*109*		*73 - 120*

Lab Sample ID: MB 240-615160/7
Matrix: Water
Analysis Batch: 615160

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			06/03/24 10:53	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			06/03/24 10:53	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/03/24 10:53	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/03/24 10:53	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/03/24 10:53	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			06/03/24 10:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*62 - 137*		*06/03/24 10:53*	*1*
4-Bromofluorobenzene (Surr)	*95*		*56 - 136*		*06/03/24 10:53*	*1*
Toluene-d8 (Surr)	*99*		*78 - 122*		*06/03/24 10:53*	*1*
Dibromofluoromethane (Surr)	*100*		*73 - 120*		*06/03/24 10:53*	*1*

Lab Sample ID: LCS 240-615160/4
Matrix: Water
Analysis Batch: 615160

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	25.0	27.0		ug/L		108	63 - 134
cis-1,2-Dichloroethene	25.0	25.6		ug/L		102	77 - 123
Tetrachloroethene	25.0	25.9		ug/L		103	76 - 123
trans-1,2-Dichloroethene	25.0	25.9		ug/L		104	75 - 124
Trichloroethene	25.0	24.7		ug/L		99	70 - 122
Vinyl chloride	12.5	9.68		ug/L		77	60 - 144

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*62 - 137*
4-Bromofluorobenzene (Surr)	*111*		*56 - 136*
Toluene-d8 (Surr)	*102*		*78 - 122*
Dibromofluoromethane (Surr)	*100*		*73 - 120*

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

Lab Sample ID: 240-205215-B-5 MS
Matrix: Water
Analysis Batch: 615160

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
1,1-Dichloroethene	200	U	5000	5330		ug/L		107	56 - 135
cis-1,2-Dichloroethene	17000	E F1	5000	19000	E F1	ug/L		44	66 - 128
Tetrachloroethene	200	U	5000	4780		ug/L		96	62 - 131
trans-1,2-Dichloroethene	200	U	5000	4890		ug/L		98	56 - 136
Trichloroethene	250		5000	4790		ug/L		91	61 - 124
Vinyl chloride	200	U	2500	2010		ug/L		80	43 - 157

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*62 - 137*
4-Bromofluorobenzene (Surr)	*111*		*56 - 136*
Toluene-d8 (Surr)	*103*		*78 - 122*
Dibromofluoromethane (Surr)	*100*		*73 - 120*

Lab Sample ID: 240-205215-B-5 MSD
Matrix: Water
Analysis Batch: 615160

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
1,1-Dichloroethene	200	U	5000	5360		ug/L		107	56 - 135	1	26
cis-1,2-Dichloroethene	17000	E F1	5000	19500	E F1	ug/L		54	66 - 128	3	14
Tetrachloroethene	200	U	5000	4840		ug/L		97	62 - 131	1	20
trans-1,2-Dichloroethene	200	U	5000	5050		ug/L		101	56 - 136	3	15
Trichloroethene	250		5000	4870		ug/L		93	61 - 124	2	15
Vinyl chloride	200	U	2500	1980		ug/L		79	43 - 157	1	24

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*62 - 137*
4-Bromofluorobenzene (Surr)	*109*		*56 - 136*
Toluene-d8 (Surr)	*104*		*78 - 122*
Dibromofluoromethane (Surr)	*98*		*73 - 120*

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

Lab Sample ID: MB 240-615140/6
Matrix: Water
Analysis Batch: 615140

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			06/02/24 23:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*68 - 127*		*06/02/24 23:25*	*1*

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

Lab Sample ID: LCS 240-615140/4
Matrix: Water
Analysis Batch: 615140

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	9.65		ug/L		97	75 - 121		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*68 - 127*

Lab Sample ID: 240-205154-A-3 MS
Matrix: Water
Analysis Batch: 615140

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	2.8		10.0	13.0		ug/L		103	20 - 180		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*68 - 127*

Lab Sample ID: 240-205154-A-3 MSD
Matrix: Water
Analysis Batch: 615140

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	2.8		10.0	12.2		ug/L		95	20 - 180	6	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*68 - 127*

QC Association Summary

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

Job ID: 240-205155-1

GC/MS VOA

Analysis Batch: 615106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-205155-2	MW-67_052224	Total/NA	Water	8260D	
240-205155-3	MW-69_052224	Total/NA	Water	8260D	
240-205155-4	MW-58_052224	Total/NA	Water	8260D	
240-205155-5	MW-09_052224	Total/NA	Water	8260D	
240-205155-6	DUP-03	Total/NA	Water	8260D	
MB 240-615106/7	Method Blank	Total/NA	Water	8260D	
LCS 240-615106/3	Lab Control Sample	Total/NA	Water	8260D	
240-205156-B-11 MS	Matrix Spike	Total/NA	Water	8260D	
240-205156-B-11 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 615140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-205155-2	MW-67_052224	Total/NA	Water	8260D SIM	
240-205155-3	MW-69_052224	Total/NA	Water	8260D SIM	
240-205155-4	MW-58_052224	Total/NA	Water	8260D SIM	
240-205155-5	MW-09_052224	Total/NA	Water	8260D SIM	
240-205155-6	DUP-03	Total/NA	Water	8260D SIM	
MB 240-615140/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-615140/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-205154-A-3 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-205154-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

Analysis Batch: 615160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-205155-1	TRIP BLANK_74	Total/NA	Water	8260D	
MB 240-615160/7	Method Blank	Total/NA	Water	8260D	
LCS 240-615160/4	Lab Control Sample	Total/NA	Water	8260D	
240-205215-B-5 MS	Matrix Spike	Total/NA	Water	8260D	
240-205215-B-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

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

Job ID: 240-205155-1

Client Sample ID: TRIP BLANK_74

Lab Sample ID: 240-205155-1

Date Collected: 05/22/24 00:00

Matrix: Water

Date Received: 05/24/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	615160	TJL2	EET CLE	06/03/24 11:21

Client Sample ID: MW-67_052224

Lab Sample ID: 240-205155-2

Date Collected: 05/22/24 08:40

Matrix: Water

Date Received: 05/24/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	615106	HMB	EET CLE	06/01/24 03:27
Total/NA	Analysis	8260D SIM		1	615140	MDH	EET CLE	06/03/24 05:17

Client Sample ID: MW-69_052224

Lab Sample ID: 240-205155-3

Date Collected: 05/22/24 09:55

Matrix: Water

Date Received: 05/24/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	615106	HMB	EET CLE	06/01/24 03:51
Total/NA	Analysis	8260D SIM		1	615140	MDH	EET CLE	06/03/24 05:40

Client Sample ID: MW-58_052224

Lab Sample ID: 240-205155-4

Date Collected: 05/22/24 11:10

Matrix: Water

Date Received: 05/24/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	615106	HMB	EET CLE	06/01/24 04:15
Total/NA	Analysis	8260D SIM		1	615140	MDH	EET CLE	06/03/24 06:04

Client Sample ID: MW-09_052224

Lab Sample ID: 240-205155-5

Date Collected: 05/22/24 12:40

Matrix: Water

Date Received: 05/24/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	615106	HMB	EET CLE	06/01/24 04:39
Total/NA	Analysis	8260D SIM		1	615140	MDH	EET CLE	06/03/24 06:27

Client Sample ID: DUP-03

Lab Sample ID: 240-205155-6

Date Collected: 05/22/24 00:00

Matrix: Water

Date Received: 05/24/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	615106	HMB	EET CLE	06/01/24 05:03
Total/NA	Analysis	8260D SIM		1	615140	MDH	EET CLE	06/03/24 06:51

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: 240-205155-1

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

MICHIGAN
190

Chain of Custody Record

7/9

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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

Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc.

Client Contact	Client Project Manager: Kris Hinskey	Site Contact: Christina Weaver	Lab Contact: Mike DelMonico	COC No:
Company Name: Arcadis				1 of 1 COCs
Address: 28550 Cabot Drive, Suite 500	Telephone: 248-994-2240	Telephone: 248-994-2240	Telephone: 330-497-9396	
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: Seth Turner	TAT if different from below: ☐ 3 weeks ☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day; 10 day		Walk-in client: Lab sampling:
Project Name: Ford LTP	Method of Shipment/Carrier:			
Project Number: 30206169.0401.03	Shipping/Tracking No:			Job/SDG No:
PO # US3410018772				

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other:	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other:	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	Sample Specific Notes / Special Instructions:
TRIP BLANK_74	----	---		1						1					N	G	X	X	X	X	X	X		1 Trip Blank
MW-67_052224	5/22/24	840		6						6					N	G	X	X	X	X	X	X	X	3 VOAs for 8260D 3 VOAs for 8260D SIM
MW-69_052224		955																						
MW-58_052224		1110																						
MW-09_052224		1240																						
Dup-03																								

240-205155 Chain of Custody

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin 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:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Seth Turner	Arcadis	5/22/24 1410	Now Cold Storage	Arcadis	5/22/24 1410
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	Arcadis	5/23/24 1620		EENA	5/23/24
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
	EENA	5/23/24 1630	TAMMY ROYER	EETNC	5-24-24 800

Eurofins - Cleveland Sample Receipt Form/Narrative Login # : 205155
Barberton Facility

Client Arcadis Site Name

Cooler unpacked by: TAMMY ROYER

Cooler Received on 5-24-24 Opened on 5-24-24

FedEx. 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other

Receipt After-hours Drop-off Date/Time Storage Location

Eurofins Cooler # EC Foam Box Client Cooler Box Other

Packing material used: ~~Bubble Wrap~~ Foam Plastic Bag None Other

COOLANT: ~~Wet Ice~~ Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN # 18 (CF 0.0 °C) Observed Cooler Temp 1.8 °C Corrected Cooler Temp 1.8 °C

2	Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	Yes	No
	-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No 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
14	Were VOAs on the COC?	Yes	No
15	Were air bubbles >6 mm in any VOA vials? ● ← Larger than this.	Yes	No NA
16	Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # Covered	Yes	No
17	Was a LL Hg or Me Hg trip blank present?	Yes	No

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

TR-52424

pH Strip Lot# HC339814

Contacted PM Date by via Verbal Voice Mail Other

Concerning

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

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

Sample(s) were received in a broken container

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

20. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory

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

VOA Sample Preservation - Date/Time VOAs Frozen.

5/24/2024

Login Container Summary Report

240-205155

6/6/2024

Temperature readings _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservation Added	Preservation Lot Number
TRIP BLANK_74	240-205155-A-1	Voa Vial 40ml - Hydrochloric Acid				
MW-67_052224	240-205155-A-2	Voa Vial 40ml - Hydrochloric Acid				
MW-67_052224	240-205155-B-2	Voa Vial 40ml - Hydrochloric Acid				
MW-67_052224	240-205155-C-2	Voa Vial 40ml - Hydrochloric Acid				
MW-67_052224	240-205155-D-2	Voa Vial 40ml - Hydrochloric Acid				
MW-67_052224	240-205155-E-2	Voa Vial 40ml - Hydrochloric Acid				
MW-67_052224	240-205155-F-2	Voa Vial 40ml - Hydrochloric Acid				
MW-69_052224	240-205155-A-3	Voa Vial 40ml - Hydrochloric Acid				
MW-69_052224	240-205155-B-3	Voa Vial 40ml - Hydrochloric Acid				
MW-69_052224	240-205155-C-3	Voa Vial 40ml - Hydrochloric Acid				
MW-69_052224	240-205155-D-3	Voa Vial 40ml - Hydrochloric Acid				
MW-69_052224	240-205155 E-3	Voa Vial 40ml - Hydrochloric Acid				
MW-69_052224	240-205155-F-3	Voa Vial 40ml - Hydrochloric Acid				
MW-58_052224	240-205155-A-4	Voa Vial 40ml - Hydrochloric Acid				
MW-58_052224	240-205155-B-4	Voa Vial 40ml - Hydrochloric Acid				
MW-58_052224	240-205155-C-4	Voa Vial 40ml - Hydrochloric Acid				
MW-58_052224	240-205155-D-4	Voa Vial 40ml - Hydrochloric Acid				
MW-58_052224	240-205155-E-4	Voa Vial 40ml - Hydrochloric Acid				
MW-58_052224	240-205155-F-4	Voa Vial 40ml - Hydrochloric Acid				
MW-09_052224	240-205155-A-5	Voa Vial 40ml - Hydrochloric Acid				
MW-09_052224	240-205155-B-5	Voa Vial 40ml - Hydrochloric Acid				
MW-09_052224	240-205155-C-5	Voa Vial 40ml - Hydrochloric Acid				
MW-09_052224	240-205155-D-5	Voa Vial 40ml - Hydrochloric Acid				
MW-09_052224	240-205155-E-5	Voa Vial 40ml - Hydrochloric Acid				
MW-09_052224	240-205155-F-5	Voa Vial 40ml - Hydrochloric Acid				
DUP-03	240-205155-A-6	Voa Vial 40ml - Hydrochloric Acid				
DUP-03	240-205155-B-6	Voa Vial 40ml - Hydrochloric Acid				
DUP-03	240-205155-C-6	Voa Vial 40ml - Hydrochloric Acid				
DUP-03	240-205155-D-6	Voa Vial 40ml - Hydrochloric Acid				
DUP-03	240-205155-E-6	Voa Vial 40ml - Hydrochloric Acid				
DUP-03	240-205155-F-6	Voa Vial 40ml - Hydrochloric Acid				

DATA VERIFICATION REPORT

June 06, 2024

Megan Meckley
Arcadis
28550 Cabot Drive
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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: 205155-1
Sample date: 2024-05-22
Report received by CADENA: 2024-06-06
Initial Data Verification completed by CADENA: 2024-06-06
Number of Samples:6
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 MS/MSD recovery outliers were not determined using a client sample so qualification was not required based on these sample-specific QC outliers.

GCMS VOC SIM sample -003MS/MSD preservation issues did not result in qualification of client sample data.

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

Analytical Results Summary

CADENA Project ID: E203728
Laboratory: Eurofins Environment Testing LLC - Cleveland
Laboratory Submittal: 205155-1

		Sample Name:	TRIP BLANK_74				MW-67_052224				MW-69_052224				MW-58_052224				MW-09_052224				DUP-03			
		Lab Sample ID:	2402051551				2402051552				2402051553				2402051554				2402051555				2402051556			
		Sample Date:	5/22/2024				5/22/2024				5/22/2024				5/22/2024				5/22/2024				5/22/2024			
Analyte	Cas No.		Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier
GC/MS VOC																										
OSW-8260D																										
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	---	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	---	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	---	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	---	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	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
OSW-8260DSIM																										
1,4-Dioxane	123-91-1						ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---