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ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Megan Meckley
Arcadis US Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

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JOB DESCRIPTION

Ford LTP

JOB NUMBER

240-215294-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

myEOL

Job Notes

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

Table of Contents

Definitions/Glossary

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

Job ID: 240-215294-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD 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
240-215294-1

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

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

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

Receipt
The samples were received on 11/20/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.5°C and 1.9°C.

GC/MS VOA
Method 8260D: The laboratory control sample (LCS) for analytical batch 240-636481 recovered outside control limits for the following analytes: cis-1,2-Dichloroethene and Trichloroethene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 240-636491 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.

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

Method Summary

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

Job ID: 240-215294-1

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 US Inc.
Project/Site: Ford LTP

Job ID: 240-215294-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-215294-1	TRIP BLANK_60	Water	11/18/24 00:00	11/20/24 08:00
240-215294-2	MW-33_111824	Water	11/18/24 09:30	11/20/24 08:00
240-215294-3	MW-01_111824	Water	11/18/24 10:50	11/20/24 08:00
240-215294-4	MW-224S_111824	Water	11/18/24 11:50	11/20/24 08:00
240-215294-5	MW-25_111824	Water	11/18/24 13:10	11/20/24 08:00

Detection Summary

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

Job ID: 240-215294-1

Client Sample ID: TRIP BLANK_60 — Lab Sample ID: 240-215294-1

No Detections.

Client Sample ID: MW-33_111824 — Lab Sample ID: 240-215294-2

No Detections.

Client Sample ID: MW-01_111824 — Lab Sample ID: 240-215294-3

No Detections.

Client Sample ID: MW-224S_111824 — Lab Sample ID: 240-215294-4

No Detections.

Client Sample ID: MW-25_111824 — Lab Sample ID: 240-215294-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.1		2.0	0.86	ug/L	1		8260D SIM	Total/NA

This Detection Summary does not include radiochemical test results.

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

Job ID: 240-215294-1

Client Sample ID: TRIP BLANK_60
Date Collected: 11/18/24 00:00
Date Received: 11/20/24 08:00

Lab Sample ID: 240-215294-1
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			11/23/24 20:20	1
cis-1,2-Dichloroethene	1.0	U *+	1.0	0.46	ug/L			11/23/24 20:20	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/23/24 20:20	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/23/24 20:20	1
Trichloroethene	1.0	U *+	1.0	0.44	ug/L			11/23/24 20:20	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/23/24 20:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*62 - 137*		*11/23/24 20:20*	*1*
4-Bromofluorobenzene (Surr)	*96*		*56 - 136*		*11/23/24 20:20*	*1*
Toluene-d8 (Surr)	*101*		*78 - 122*		*11/23/24 20:20*	*1*
Dibromofluoromethane (Surr)	*99*		*73 - 120*		*11/23/24 20:20*	*1*

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

Job ID: 240-215294-1

Client Sample ID: MW-33_111824
Date Collected: 11/18/24 09:30
Date Received: 11/20/24 08:00

Lab Sample ID: 240-215294-2
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			11/25/24 19:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*68 - 127*		*11/25/24 19:17*	*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			11/24/24 01:29	1
cis-1,2-Dichloroethene	1.0	U F2 *+	1.0	0.46	ug/L			11/24/24 01:29	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/24/24 01:29	1
trans-1,2-Dichloroethene	1.0	U F2	1.0	0.51	ug/L			11/24/24 01:29	1
Trichloroethene	1.0	U F2 *+	1.0	0.44	ug/L			11/24/24 01:29	1
Vinyl chloride	1.0	U F2	1.0	0.45	ug/L			11/24/24 01:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*62 - 137*		*11/24/24 01:29*	*1*
4-Bromofluorobenzene (Surr)	*87*		*56 - 136*		*11/24/24 01:29*	*1*
Toluene-d8 (Surr)	*93*		*78 - 122*		*11/24/24 01:29*	*1*
Dibromofluoromethane (Surr)	*96*		*73 - 120*		*11/24/24 01:29*	*1*

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

Job ID: 240-215294-1

Client Sample ID: MW-01_111824
Date Collected: 11/18/24 10:50
Date Received: 11/20/24 08:00

Lab Sample ID: 240-215294-3
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			11/25/24 17:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*68 - 127*		*11/25/24 17:20*	*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			11/24/24 00:18	1
cis-1,2-Dichloroethene	1.0	U *+	1.0	0.46	ug/L			11/24/24 00:18	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/24/24 00:18	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/24/24 00:18	1
Trichloroethene	1.0	U *+	1.0	0.44	ug/L			11/24/24 00:18	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/24/24 00:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*62 - 137*		*11/24/24 00:18*	*1*
4-Bromofluorobenzene (Surr)	*95*		*56 - 136*		*11/24/24 00:18*	*1*
Toluene-d8 (Surr)	*101*		*78 - 122*		*11/24/24 00:18*	*1*
Dibromofluoromethane (Surr)	*97*		*73 - 120*		*11/24/24 00:18*	*1*

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

Job ID: 240-215294-1

Client Sample ID: MW-224S_111824
Date Collected: 11/18/24 11:50
Date Received: 11/20/24 08:00

Lab Sample ID: 240-215294-4
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			11/26/24 20:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*68 - 127*		*11/26/24 20:05*	*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			11/24/24 17:43	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/24/24 17:43	1
Tetrachloroethene	1.0	U F1	1.0	0.44	ug/L			11/24/24 17:43	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/24/24 17:43	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/24/24 17:43	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/24/24 17:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*62 - 137*		*11/24/24 17:43*	*1*
4-Bromofluorobenzene (Surr)	*99*		*56 - 136*		*11/24/24 17:43*	*1*
Toluene-d8 (Surr)	*99*		*78 - 122*		*11/24/24 17:43*	*1*
Dibromofluoromethane (Surr)	*96*		*73 - 120*		*11/24/24 17:43*	*1*

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

Job ID: 240-215294-1

Client Sample ID: MW-25_111824

Date Collected: 11/18/24 13:10
Date Received: 11/20/24 08:00

Lab Sample ID: 240-215294-5

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	2.1		2.0	0.86	ug/L			11/25/24 17:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*68 - 127*		*11/25/24 17:44*	*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			11/24/24 00:41	1
cis-1,2-Dichloroethene	1.0	U *+	1.0	0.46	ug/L			11/24/24 00:41	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/24/24 00:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/24/24 00:41	1
Trichloroethene	1.0	U *+	1.0	0.44	ug/L			11/24/24 00:41	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/24/24 00:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*62 - 137*		*11/24/24 00:41*	*1*
4-Bromofluorobenzene (Surr)	*94*		*56 - 136*		*11/24/24 00:41*	*1*
Toluene-d8 (Surr)	*104*		*78 - 122*		*11/24/24 00:41*	*1*
Dibromofluoromethane (Surr)	*96*		*73 - 120*		*11/24/24 00:41*	*1*

Surrogate Summary

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

Job ID: 240-215294-1

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)
240-215294-1	TRIP BLANK_60	96	96	101	99
240-215294-2	MW-33_111824	96	87	93	96
240-215294-2 MS	MW-33-MS_111824	94	88	93	99
240-215294-2 MSD	MW-33-MSD_111824	93	103	99	97
240-215294-3	MW-01_111824	95	95	101	97
240-215294-4	MW-224S_111824	112	99	99	96
240-215294-4 MS	MW-224S-MS_111824	103	100	102	92
240-215294-4 MSD	MW-224S-MSD_111824	103	101	101	94
240-215294-5	MW-25_111824	94	94	104	96
LCS 240-636481/5	Lab Control Sample	100	104	108	105
LCS 240-636491/3	Lab Control Sample	102	101	102	94
MB 240-636481/9	Method Blank	95	93	99	97
MB 240-636491/8	Method Blank	113	99	101	98

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)
240-215294-2	MW-33_111824	99
240-215294-2 MS	MW-33-MS_111824	107
240-215294-2 MSD	MW-33-MSD_111824	95
240-215294-3	MW-01_111824	111
240-215294-4	MW-224S_111824	110
240-215294-4 MS	MW-224S-MS_111824	111
240-215294-4 MSD	MW-224S-MSD_111824	100
240-215294-5	MW-25_111824	106
LCS 240-636646/6	Lab Control Sample	102
LCS 240-636809/5	Lab Control Sample	109
MB 240-636646/8	Method Blank	97
MB 240-636809/7	Method Blank	107

Surrogate Legend

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

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

Lab Sample ID: MB 240-636481/9
Matrix: Water
Analysis Batch: 636481

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			11/23/24 18:45	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/23/24 18:45	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/23/24 18:45	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/23/24 18:45	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/23/24 18:45	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/23/24 18:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*62 - 137*		*11/23/24 18:45*	*1*
4-Bromofluorobenzene (Surr)	*93*		*56 - 136*		*11/23/24 18:45*	*1*
Toluene-d8 (Surr)	*99*		*78 - 122*		*11/23/24 18:45*	*1*
Dibromofluoromethane (Surr)	*97*		*73 - 120*		*11/23/24 18:45*	*1*

Lab Sample ID: LCS 240-636481/5
Matrix: Water
Analysis Batch: 636481

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	23.1		ug/L		116	63 - 134
cis-1,2-Dichloroethene	20.0	24.8	*+	ug/L		124	77 - 123
Tetrachloroethene	20.0	23.4		ug/L		117	76 - 123
trans-1,2-Dichloroethene	20.0	23.1		ug/L		116	75 - 124
Trichloroethene	20.0	24.6	*+	ug/L		123	70 - 122
Vinyl chloride	20.0	25.7		ug/L		128	60 - 144

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*62 - 137*
4-Bromofluorobenzene (Surr)	*104*		*56 - 136*
Toluene-d8 (Surr)	*108*		*78 - 122*
Dibromofluoromethane (Surr)	*105*		*73 - 120*

Lab Sample ID: 240-215294-2 MS
Matrix: Water
Analysis Batch: 636481

Client Sample ID: MW-33-MS_111824
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	17.6		ug/L		88	56 - 135
cis-1,2-Dichloroethene	1.0	U F2 *+	20.0	18.8		ug/L		94	66 - 128
Tetrachloroethene	1.0	U	20.0	18.3		ug/L		91	62 - 131
trans-1,2-Dichloroethene	1.0	U F2	20.0	17.5		ug/L		88	56 - 136
Trichloroethene	1.0	U F2 *+	20.0	18.8		ug/L		94	61 - 124
Vinyl chloride	1.0	U F2	20.0	19.5		ug/L		98	43 - 157

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*62 - 137*
4-Bromofluorobenzene (Surr)	*88*		*56 - 136*
Toluene-d8 (Surr)	*93*		*78 - 122*

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

Lab Sample ID: 240-215294-2 MS
Matrix: Water
Analysis Batch: 636481

Client Sample ID: MW-33-MS_111824
Prep Type: Total/NA

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

Lab Sample ID: 240-215294-2 MSD
Matrix: Water
Analysis Batch: 636481

Client Sample ID: MW-33-MSD_111824
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	21.6		ug/L		108	56 - 135	20	26
cis-1,2-Dichloroethene	1.0	U F2 *+	20.0	23.2	F2	ug/L		116	66 - 128	21	14
Tetrachloroethene	1.0	U	20.0	21.2		ug/L		106	62 - 131	15	20
trans-1,2-Dichloroethene	1.0	U F2	20.0	21.3	F2	ug/L		107	56 - 136	19	15
Trichloroethene	1.0	U F2 *+	20.0	22.8	F2	ug/L		114	61 - 124	19	15
Vinyl chloride	1.0	U F2	20.0	25.6	F2	ug/L		128	43 - 157	27	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		62 - 137
4-Bromofluorobenzene (Surr)	103		56 - 136
Toluene-d8 (Surr)	99		78 - 122
Dibromofluoromethane (Surr)	97		73 - 120

Lab Sample ID: MB 240-636491/8
Matrix: Water
Analysis Batch: 636491

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			11/24/24 09:57	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/24/24 09:57	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/24/24 09:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/24/24 09:57	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/24/24 09:57	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/24/24 09:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		62 - 137		11/24/24 09:57	1
4-Bromofluorobenzene (Surr)	99		56 - 136		11/24/24 09:57	1
Toluene-d8 (Surr)	101		78 - 122		11/24/24 09:57	1
Dibromofluoromethane (Surr)	98		73 - 120		11/24/24 09:57	1

Lab Sample ID: LCS 240-636491/3
Matrix: Water
Analysis Batch: 636491

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	20.1		ug/L		81	63 - 134
cis-1,2-Dichloroethene	25.0	21.1		ug/L		85	77 - 123
Tetrachloroethene	25.0	19.9		ug/L		80	76 - 123
trans-1,2-Dichloroethene	25.0	20.6		ug/L		82	75 - 124
Trichloroethene	25.0	20.2		ug/L		81	70 - 122

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

Lab Sample ID: LCS 240-636491/3
Matrix: Water
Analysis Batch: 636491

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Vinyl chloride			25.0	25.7		ug/L		103	60 - 144		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*62 - 137*
4-Bromofluorobenzene (Surr)	*101*		*56 - 136*
Toluene-d8 (Surr)	*102*		*78 - 122*
Dibromofluoromethane (Surr)	*94*		*73 - 120*

Lab Sample ID: 240-215294-4 MS
Matrix: Water
Analysis Batch: 636491

Client Sample ID: MW-224S-MS_111824
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	25.0	18.1		ug/L		72	56 - 135		
cis-1,2-Dichloroethene	1.0	U	25.0	19.4		ug/L		78	66 - 128		
Tetrachloroethene	1.0	U F1	25.0	15.2	F1	ug/L		61	62 - 131		
trans-1,2-Dichloroethene	1.0	U	25.0	18.4		ug/L		74	56 - 136		
Trichloroethene	1.0	U	25.0	17.3		ug/L		69	61 - 124		
Vinyl chloride	1.0	U	25.0	23.6		ug/L		94	43 - 157		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*62 - 137*
4-Bromofluorobenzene (Surr)	*100*		*56 - 136*
Toluene-d8 (Surr)	*102*		*78 - 122*
Dibromofluoromethane (Surr)	*92*		*73 - 120*

Lab Sample ID: 240-215294-4 MSD
Matrix: Water
Analysis Batch: 636491

Client Sample ID: MW-224S-MSD_111824
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	25.0	15.9		ug/L		64	56 - 135	13	26
cis-1,2-Dichloroethene	1.0	U	25.0	18.5		ug/L		74	66 - 128	5	14
Tetrachloroethene	1.0	U F1	25.0	13.2	F1	ug/L		53	62 - 131	13	20
trans-1,2-Dichloroethene	1.0	U	25.0	16.7		ug/L		67	56 - 136	10	15
Trichloroethene	1.0	U	25.0	15.2		ug/L		61	61 - 124	13	15
Vinyl chloride	1.0	U	25.0	22.4		ug/L		89	43 - 157	5	24

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*62 - 137*
4-Bromofluorobenzene (Surr)	*101*		*56 - 136*
Toluene-d8 (Surr)	*101*		*78 - 122*
Dibromofluoromethane (Surr)	*94*		*73 - 120*

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

Lab Sample ID: MB 240-636646/8
Matrix: Water
Analysis Batch: 636646

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			11/25/24 13:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*68 - 127*		*11/25/24 13:26*	*1*

Lab Sample ID: LCS 240-636646/6
Matrix: Water
Analysis Batch: 636646

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	8.93		ug/L		89	75 - 121		

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

Lab Sample ID: 240-215294-2 MS
Matrix: Water
Analysis Batch: 636646

Client Sample ID: MW-33-MS_111824
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	7.45		ug/L		74	20 - 180		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*107*		*68 - 127*

Lab Sample ID: 240-215294-2 MSD
Matrix: Water
Analysis Batch: 636646

Client Sample ID: MW-33-MSD_111824
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	8.72		ug/L		87	20 - 180	16	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*68 - 127*

Lab Sample ID: MB 240-636809/7
Matrix: Water
Analysis Batch: 636809

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			11/26/24 12:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*68 - 127*		*11/26/24 12:39*	*1*

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

Lab Sample ID: LCS 240-636809/5
Matrix: Water
Analysis Batch: 636809

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	7.72		ug/L		77	75 - 121		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*109*		*68 - 127*

Lab Sample ID: 240-215294-4 MS
Matrix: Water
Analysis Batch: 636809

Client Sample ID: MW-224S-MS_111824
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	7.97		ug/L		80	20 - 180		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*111*		*68 - 127*

Lab Sample ID: 240-215294-4 MSD
Matrix: Water
Analysis Batch: 636809

Client Sample ID: MW-224S-MSD_111824
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	8.15		ug/L		81	20 - 180	2	20

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

GC/MS VOA

Analysis Batch: 636481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-215294-1	TRIP BLANK_60	Total/NA	Water	8260D	
240-215294-2	MW-33_111824	Total/NA	Water	8260D	
240-215294-3	MW-01_111824	Total/NA	Water	8260D	
240-215294-5	MW-25_111824	Total/NA	Water	8260D	
MB 240-636481/9	Method Blank	Total/NA	Water	8260D	
LCS 240-636481/5	Lab Control Sample	Total/NA	Water	8260D	
240-215294-2 MS	MW-33-MS_111824	Total/NA	Water	8260D	
240-215294-2 MSD	MW-33-MSD_111824	Total/NA	Water	8260D	

Analysis Batch: 636491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-215294-4	MW-224S_111824	Total/NA	Water	8260D	
MB 240-636491/8	Method Blank	Total/NA	Water	8260D	
LCS 240-636491/3	Lab Control Sample	Total/NA	Water	8260D	
240-215294-4 MS	MW-224S-MS_111824	Total/NA	Water	8260D	
240-215294-4 MSD	MW-224S-MSD_111824	Total/NA	Water	8260D	

Analysis Batch: 636646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-215294-2	MW-33_111824	Total/NA	Water	8260D SIM	
240-215294-3	MW-01_111824	Total/NA	Water	8260D SIM	
240-215294-5	MW-25_111824	Total/NA	Water	8260D SIM	
MB 240-636646/8	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-636646/6	Lab Control Sample	Total/NA	Water	8260D SIM	
240-215294-2 MS	MW-33-MS_111824	Total/NA	Water	8260D SIM	
240-215294-2 MSD	MW-33-MSD_111824	Total/NA	Water	8260D SIM	

Analysis Batch: 636809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-215294-4	MW-224S_111824	Total/NA	Water	8260D SIM	
MB 240-636809/7	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-636809/5	Lab Control Sample	Total/NA	Water	8260D SIM	
240-215294-4 MS	MW-224S-MS_111824	Total/NA	Water	8260D SIM	
240-215294-4 MSD	MW-224S-MSD_111824	Total/NA	Water	8260D SIM	

Lab Chronicle

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

Job ID: 240-215294-1

Client Sample ID: TRIP BLANK_60

Lab Sample ID: 240-215294-1

Date Collected: 11/18/24 00:00

Matrix: Water

Date Received: 11/20/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	636481	CS	EET CLE	11/23/24 20:20

Client Sample ID: MW-33_111824

Lab Sample ID: 240-215294-2

Date Collected: 11/18/24 09:30

Matrix: Water

Date Received: 11/20/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	636481	CS	EET CLE	11/24/24 01:29
Total/NA	Analysis	8260D SIM		1	636646	R5XG	EET CLE	11/25/24 19:17

Client Sample ID: MW-01_111824

Lab Sample ID: 240-215294-3

Date Collected: 11/18/24 10:50

Matrix: Water

Date Received: 11/20/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	636481	CS	EET CLE	11/24/24 00:18
Total/NA	Analysis	8260D SIM		1	636646	R5XG	EET CLE	11/25/24 17:20

Client Sample ID: MW-224S_111824

Lab Sample ID: 240-215294-4

Date Collected: 11/18/24 11:50

Matrix: Water

Date Received: 11/20/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	636491	CS	EET CLE	11/24/24 17:43
Total/NA	Analysis	8260D SIM		1	636809	R5XG	EET CLE	11/26/24 20:05

Client Sample ID: MW-25_111824

Lab Sample ID: 240-215294-5

Date Collected: 11/18/24 13:10

Matrix: Water

Date Received: 11/20/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	636481	CS	EET CLE	11/24/24 00:41
Total/NA	Analysis	8260D SIM		1	636646	R5XG	EET CLE	11/25/24 17:44

Laboratory References:

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

Accreditation/Certification Summary

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

Job ID: 240-215294-1

Laboratory: Eurofins Cleveland

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Connecticut	State	PH-0806	12-31-26
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	08-31-25
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 Hampshire	NELAP	225024	09-30-25
New Jersey	NELAP	OH001	07-03-25
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	08-31-25
Texas	NELAP	T104704517-22-19	08-31-25
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-25
West Virginia DEP	State	210	12-31-24

Chain of Custody Record

MICHIGAN 190

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	Telephone: 248-994-2240	Telephone: 248-994-2240	Telephone: 330-497-9396	1 of 1 COCs
Address: 28550 Cabot Drive, Suite 500	Email: kristoffer.hinskey@arcadis.com	Analysis Turnaround Time	Analyses	For lab use only
City/State/Zip: Novi, MI, 48377	Sampler Name: Garrett Link	TAT if different from below: ☐ 3 weeks ☑ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day; 10 day		Walk-in client: Lab sampling:
Phone: 248-994-2240	Method of Shipment/Carrier:			Job/SDG No:
Project Name: Ford LTP	Shipping/Tracking No:			
Project Number: 30206169.0401.03				
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_60	----	---		1						1					N	G	X	X	X	X	X	X		1 Trip Blank
MW-33_111824	11/18/24	9:30		6						6					N	G	x	x	x	x	x	x	x	3 VOAs for 8260D Perform 3 VOAs for 8260D SIM
MW-33-MS_111824	11/18/24	9:30		6						6					N	G	x	x	x	x	x	x	x	Perform MS/MSD
MW-33-MSD_111824	11/18/24	9:30		6						6					N	G	x	x	x	x	x	x	x	
MW-01_111824	11/18/24	1050		6						6					N	G	x	x	x	x	x	x	x	
MW-224s_111824	11/18/24	1150		6						6					N	G	x	x	x	x	x	x	x	Perform
MW-224s-MS_111824	11/18/24	1150		6						6					N	G	x	x	x	x	x	x	x	MS/MSD
MW-224s-MSD_111824	11/18/24	1150		6						6					N	G	x	x	x	x	x	x	x	
MW-25_111824	11/18/24	1310		6						6					N	G	x	x	x	x	x	x	x	

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.

240-215294 COC

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
	Arcadis	11/18/24 1400	Novi Cold Storage	Arcadis	11/18/24 1400
	Arcadis	11/19/24 1120		EETA	11/19/24 1120
	EETA	11/19/24 1250		EC	11-20-24 800

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

Client Arcadis Site Name

Cooler Received on 11-20-24 Opened on 11-20-24

Cooler unpacked by:

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 # 17 (CF +0.1 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2	(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)?	(Y)	
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# HC448976
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 #	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

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:

Login # : ______________

Eurofins - Cleveland Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
(EC) Client Box Other	IR GUN #: 13	1.4	1.5	Wet Ice Blue Ice Dry Ice Water None
(EC) Client Box Other	IR GUN #: 13	1.8	1.9	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 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 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 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
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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
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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

☐ See Temperature Excursion Form

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

DATA VERIFICATION REPORT

November 30, 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: 30206169.0401.04_WA-03
Event Specific Scope of Work References: Sample COC
Laboratory: Eurofins Environment Testing LLC - Cleveland
Laboratory submittal: 215294-1
Sample date: 2024-11-18
Report received by CADENA: 2024-11-29
Initial Data Verification completed by CADENA: 2024-11-30
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:

MSD - GCMS VOC sample -004 MS and MSD recovery outliers were outliers with the recovery biased low for the following analyte: TETRACHLOROETHENE. Client sample results for these analytes should be considered to be estimated and qualified with a UJ flag if non-detect.

GCMS VOC QC batch LCS recoveries were outliers biased high for the following analytes: CIS-1,2-DICHLOROETHENE and TRICHLOROETHENE. Associated client sample results were non-detect so qualification was not required based on these high bias QC outliers.

GCMS VOC sample -002 MS/MSD RPD only were outliers for CIS-1,2-DICHLOROETHENE, TRANS-1,2-DICHLOROETHENE, VINYL CHLORIDE and TRICHLOROETHENE so client sample results were not qualified based on these QC outliers alone.

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 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.

Qualified Results Summary

CADENA Project ID: E203728
Laboratory: Eurofins Environment Testing LLC - Cleveland
Laboratory Submittal: 215294-1

Sample Name: MW-224S_111824
Lab Sample ID: 2402152944
Sample Date: 11/18/2024

Analyte	Cas No.	Result	Report Limit	Units	Valid Qualifier
GC/MS VOC					
OSW-8260D					
Tetrachloroethene	127-18-4	ND	1.0	ug/l	UJ

Analytical Results Summary

CADENA Project ID: E203728
Laboratory: Eurofins Environment Testing LLC - Cleveland
Laboratory Submittal: 215294-1

		Sample Name:	TRIP BLANK_60				MW-33_111824				MW-01_111824				MW-224S_111824				MW-25_111824			
		Lab Sample ID:	2402152941				2402152942				2402152943				2402152944				2402152945			
		Sample Date:	11/18/2024				11/18/2024				11/18/2024				11/18/2024				11/18/2024			
	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
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	---
	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	---
	Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	UJ	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	---
	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	---
	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	---
	OSW-8260DSIM																					
	1,4-Dioxane	123-91-1					ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	2.1	2.0	ug/l	---