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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

240-215041-1

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 US Inc.
Job ID: 240-215041-1
Project/Site: Ford LTP

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
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

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Job Narrative
240-215041-1

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 11/15/2024 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 4 coolers at receipt time were 1.1°C, 1.3°C, 1.4°C and 2.3°C.

GC/MS VOA
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: 240-215041-1

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: 240-215041-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-215041-1	TRIP BLANK_63	Water	11/14/24 00:00	11/15/24 08:00
240-215041-2	MW-67_111424	Water	11/14/24 10:05	11/15/24 08:00
240-215041-3	MW-48R_111424	Water	11/14/24 11:10	11/15/24 08:00
240-215041-4	MW-47_111424	Water	11/14/24 12:20	11/15/24 08:00

Detection Summary

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

Job ID: 240-215041-1

Client Sample ID: TRIP BLANK_63 — Lab Sample ID: 240-215041-1

No Detections.

Client Sample ID: MW-67_111424 — Lab Sample ID: 240-215041-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.9		1.0	0.46	ug/L	1		8260D	Total/NA
Trichloroethene	44		1.0	0.44	ug/L	1		8260D	Total/NA

Client Sample ID: MW-48R_111424 — Lab Sample ID: 240-215041-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	5.7		2.0	0.86	ug/L	1		8260D SIM	Total/NA

Client Sample ID: MW-47_111424 — Lab Sample ID: 240-215041-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.9	J	2.0	0.86	ug/L	1		8260D SIM	Total/NA
cis-1,2-Dichloroethene	5.5		1.0	0.46	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	0.92	J	1.0	0.51	ug/L	1		8260D	Total/NA
Vinyl chloride	10		1.0	0.45	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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

Job ID: 240-215041-1

Client Sample ID: TRIP BLANK_63
Date Collected: 11/14/24 00:00
Date Received: 11/15/24 08:00

Lab Sample ID: 240-215041-1
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			11/21/24 15:38	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/21/24 15:38	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/21/24 15:38	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/21/24 15:38	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/21/24 15:38	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/21/24 15:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*62 - 137*		*11/21/24 15:38*	*1*
4-Bromofluorobenzene (Surr)	*101*		*56 - 136*		*11/21/24 15:38*	*1*
Toluene-d8 (Surr)	*102*		*78 - 122*		*11/21/24 15:38*	*1*
Dibromofluoromethane (Surr)	*94*		*73 - 120*		*11/21/24 15:38*	*1*

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

Job ID: 240-215041-1

Client Sample ID: MW-67_111424

Date Collected: 11/14/24 10:05
Date Received: 11/15/24 08:00

Lab Sample ID: 240-215041-2

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			11/22/24 04:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*68 - 127*		*11/22/24 04:58*	*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			11/21/24 16:01	1
cis-1,2-Dichloroethene	**1.9**		1.0	0.46	ug/L			11/21/24 16:01	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/21/24 16:01	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/21/24 16:01	1
Trichloroethene	**44**		1.0	0.44	ug/L			11/21/24 16:01	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/21/24 16:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*62 - 137*		*11/21/24 16:01*	*1*
4-Bromofluorobenzene (Surr)	*103*		*56 - 136*		*11/21/24 16:01*	*1*
Toluene-d8 (Surr)	*104*		*78 - 122*		*11/21/24 16:01*	*1*
Dibromofluoromethane (Surr)	*97*		*73 - 120*		*11/21/24 16:01*	*1*

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

Job ID: 240-215041-1

Client Sample ID: MW-48R_111424

Date Collected: 11/14/24 11:10
Date Received: 11/15/24 08:00

Lab Sample ID: 240-215041-3

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	5.7		2.0	0.86	ug/L			11/22/24 18:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*68 - 127*		*11/22/24 18:50*	*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			11/21/24 16:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/21/24 16:24	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/21/24 16:24	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/21/24 16:24	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/21/24 16:24	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/21/24 16:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*62 - 137*		*11/21/24 16:24*	*1*
4-Bromofluorobenzene (Surr)	*98*		*56 - 136*		*11/21/24 16:24*	*1*
Toluene-d8 (Surr)	*101*		*78 - 122*		*11/21/24 16:24*	*1*
Dibromofluoromethane (Surr)	*96*		*73 - 120*		*11/21/24 16:24*	*1*

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

Job ID: 240-215041-1

Client Sample ID: MW-47_111424
Date Collected: 11/14/24 12:20
Date Received: 11/15/24 08:00

Lab Sample ID: 240-215041-4
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	**1.9**	**J**	2.0	0.86	ug/L			11/22/24 15:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*68 - 127*		*11/22/24 15:42*	*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			11/21/24 16:47	1
cis-1,2-Dichloroethene	**5.5**		1.0	0.46	ug/L			11/21/24 16:47	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/21/24 16:47	1
trans-1,2-Dichloroethene	**0.92**	**J**	1.0	0.51	ug/L			11/21/24 16:47	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/21/24 16:47	1
Vinyl chloride	**10**		1.0	0.45	ug/L			11/21/24 16:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*62 - 137*		*11/21/24 16:47*	*1*
4-Bromofluorobenzene (Surr)	*100*		*56 - 136*		*11/21/24 16:47*	*1*
Toluene-d8 (Surr)	*104*		*78 - 122*		*11/21/24 16:47*	*1*
Dibromofluoromethane (Surr)	*97*		*73 - 120*		*11/21/24 16:47*	*1*

Surrogate Summary

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

Job ID: 240-215041-1

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)
240-215041-1	TRIP BLANK_63	103	101	102	94
240-215041-2	MW-67_111424	104	103	104	97
240-215041-3	MW-48R_111424	102	98	101	96
240-215041-4	MW-47_111424	103	100	104	97
240-215045-B-2 MS	Matrix Spike	97	103	103	94
240-215045-B-2 MSD	Matrix Spike Duplicate	98	106	106	95
LCS 240-636192/4	Lab Control Sample	99	103	101	91
MB 240-636192/7	Method Blank	103	102	103	95

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)
240-215041-2	MW-67_111424	109
240-215041-2 MS	MW-67_111424	108
240-215041-2 MSD	MW-67_111424	110
240-215041-3	MW-48R_111424	108
240-215041-4	MW-47_111424	108
240-215140-E-9 MS	Matrix Spike	109
240-215140-E-9 MSD	Matrix Spike Duplicate	105
LCS 240-636236/4	Lab Control Sample	108
LCS 240-636372/6	Lab Control Sample	104
MB 240-636236/6	Method Blank	106
MB 240-636372/8	Method Blank	103

Surrogate Legend

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

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

Lab Sample ID: MB 240-636192/7
Matrix: Water
Analysis Batch: 636192

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			11/21/24 12:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/21/24 12:34	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/21/24 12:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/21/24 12:34	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/21/24 12:34	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/21/24 12:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*62 - 137*		*11/21/24 12:34*	*1*
4-Bromofluorobenzene (Surr)	*102*		*56 - 136*		*11/21/24 12:34*	*1*
Toluene-d8 (Surr)	*103*		*78 - 122*		*11/21/24 12:34*	*1*
Dibromofluoromethane (Surr)	*95*		*73 - 120*		*11/21/24 12:34*	*1*

Lab Sample ID: LCS 240-636192/4
Matrix: Water
Analysis Batch: 636192

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	22.2		ug/L		89	63 - 134		
cis-1,2-Dichloroethene			25.0	23.7		ug/L		95	77 - 123		
Tetrachloroethene			25.0	23.1		ug/L		92	76 - 123		
trans-1,2-Dichloroethene			25.0	21.1		ug/L		84	75 - 124		
Trichloroethene			25.0	21.6		ug/L		86	70 - 122		
Vinyl chloride			12.5	12.8		ug/L		102	60 - 144		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*62 - 137*
4-Bromofluorobenzene (Surr)	*103*		*56 - 136*
Toluene-d8 (Surr)	*101*		*78 - 122*
Dibromofluoromethane (Surr)	*91*		*73 - 120*

Lab Sample ID: 240-215045-B-2 MS
Matrix: Water
Analysis Batch: 636192

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	25.0	21.6		ug/L		87	56 - 135		
cis-1,2-Dichloroethene	1.0	U	25.0	23.1		ug/L		92	66 - 128		
Tetrachloroethene	1.0	U	25.0	23.3		ug/L		93	62 - 131		
trans-1,2-Dichloroethene	1.0	U	25.0	21.0		ug/L		84	56 - 136		
Trichloroethene	1.0	U	25.0	21.0		ug/L		84	61 - 124		
Vinyl chloride	1.0	U	12.5	12.4		ug/L		99	43 - 157		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*62 - 137*
4-Bromofluorobenzene (Surr)	*103*		*56 - 136*
Toluene-d8 (Surr)	*103*		*78 - 122*

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

Lab Sample ID: 240-215045-B-2 MS
Matrix: Water
Analysis Batch: 636192

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

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	*94*		*73 - 120*

Lab Sample ID: 240-215045-B-2 MSD
Matrix: Water
Analysis Batch: 636192

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	25.0	21.6		ug/L		87	56 - 135	0	26
cis-1,2-Dichloroethene	1.0	U	25.0	23.3		ug/L		93	66 - 128	1	14
Tetrachloroethene	1.0	U	25.0	23.4		ug/L		94	62 - 131	0	20
trans-1,2-Dichloroethene	1.0	U	25.0	20.2		ug/L		81	56 - 136	3	15
Trichloroethene	1.0	U	25.0	21.0		ug/L		84	61 - 124	0	15
Vinyl chloride	1.0	U	12.5	11.9		ug/L		95	43 - 157	4	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*98*		*62 - 137*
4-Bromofluorobenzene (Surr)	*106*		*56 - 136*
Toluene-d8 (Surr)	*106*		*78 - 122*
Dibromofluoromethane (Surr)	*95*		*73 - 120*

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

Lab Sample ID: MB 240-636236/6
Matrix: Water
Analysis Batch: 636236

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			11/21/24 21:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*106*		*68 - 127*		*11/21/24 21:08*	*1*

Lab Sample ID: LCS 240-636236/4
Matrix: Water
Analysis Batch: 636236

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	9.69		ug/L		97	75 - 121

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*108*		*68 - 127*

Lab Sample ID: 240-215041-2 MS
Matrix: Water
Analysis Batch: 636236

Client Sample ID: MW-67_111424
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	8.83		ug/L		88	20 - 180

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

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		68 - 127

Lab Sample ID: 240-215041-2 MSD — **Client Sample ID: MW-67_111424**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 636236

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	10.3		ug/L		103	20 - 180	15	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	110		68 - 127

Lab Sample ID: MB 240-636372/8 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 636372

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			11/22/24 12:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		68 - 127		11/22/24 12:58	1

Lab Sample ID: LCS 240-636372/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 636372

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,4-Dioxane			10.0	8.70		ug/L		87	75 - 121		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		68 - 127

Lab Sample ID: 240-215140-E-9 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 636372

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
1,4-Dioxane	270		30.0	288	4	ug/L		55	20 - 180		

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

Lab Sample ID: 240-215140-E-9 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 636372

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane	270		30.0	279	4	ug/L		26	20 - 180	3	20

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

Lab Sample ID: 240-215140-E-9 MSD
Matrix: Water
Analysis Batch: 636372

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*105*		*68 - 127*

QC Association Summary

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

Job ID: 240-215041-1

GC/MS VOA

Analysis Batch: 636192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-215041-1	TRIP BLANK_63	Total/NA	Water	8260D	
240-215041-2	MW-67_111424	Total/NA	Water	8260D	
240-215041-3	MW-48R_111424	Total/NA	Water	8260D	
240-215041-4	MW-47_111424	Total/NA	Water	8260D	
MB 240-636192/7	Method Blank	Total/NA	Water	8260D	
LCS 240-636192/4	Lab Control Sample	Total/NA	Water	8260D	
240-215045-B-2 MS	Matrix Spike	Total/NA	Water	8260D	
240-215045-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 636236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-215041-2	MW-67_111424	Total/NA	Water	8260D SIM	
MB 240-636236/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-636236/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-215041-2 MS	MW-67_111424	Total/NA	Water	8260D SIM	
240-215041-2 MSD	MW-67_111424	Total/NA	Water	8260D SIM	

Analysis Batch: 636372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-215041-3	MW-48R_111424	Total/NA	Water	8260D SIM	
240-215041-4	MW-47_111424	Total/NA	Water	8260D SIM	
MB 240-636372/8	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-636372/6	Lab Control Sample	Total/NA	Water	8260D SIM	
240-215140-E-9 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-215140-E-9 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

Lab Chronicle

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

Job ID: 240-215041-1

Client Sample ID: TRIP BLANK_63

Lab Sample ID: 240-215041-1

Date Collected: 11/14/24 00:00

Matrix: Water

Date Received: 11/15/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	636192	LEE	EET CLE	11/21/24 15:38

Client Sample ID: MW-67_111424

Lab Sample ID: 240-215041-2

Date Collected: 11/14/24 10:05

Matrix: Water

Date Received: 11/15/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	636192	LEE	EET CLE	11/21/24 16:01
Total/NA	Analysis	8260D SIM		1	636236	R5XG	EET CLE	11/22/24 04:58

Client Sample ID: MW-48R_111424

Lab Sample ID: 240-215041-3

Date Collected: 11/14/24 11:10

Matrix: Water

Date Received: 11/15/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	636192	LEE	EET CLE	11/21/24 16:24
Total/NA	Analysis	8260D SIM		1	636372	R5XG	EET CLE	11/22/24 18:50

Client Sample ID: MW-47_111424

Lab Sample ID: 240-215041-4

Date Collected: 11/14/24 12:20

Matrix: Water

Date Received: 11/15/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	636192	LEE	EET CLE	11/21/24 16:47
Total/NA	Analysis	8260D SIM		1	636372	R5XG	EET CLE	11/22/24 15:42

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: 240-215041-1

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

DATA VERIFICATION REPORT

November 26, 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: 215041-1
Sample date: 2024-11-14
Report received by CADENA: 2024-11-26
Initial Data Verification completed by CADENA: 2024-11-26
Number of Samples:4
Sample Matrices:Water
Test Categories:GCMS VOC
Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

There were no significant QC anomalies or exceptions to report.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, 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.

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

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: 215041-1

		Sample Name:	TRIP BLANK_63				MW-67_111424				MW-48R_111424				MW-47_111424			
		Lab Sample ID:	2402150411				2402150412				2402150413				2402150414			
		Sample Date:	11/14/2024				11/14/2024				11/14/2024				11/14/2024			
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
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	---
cis-1,2-Dichloroethene	156-59-2		ND	1.0	ug/l	---	1.9	1.0	ug/l	---	ND	1.0	ug/l	---	5.5	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	---
trans-1,2-Dichloroethene	156-60-5		ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	0.92	1.0	ug/l	J
Trichloroethene	79-01-6		ND	1.0	ug/l	---	44	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	---	10	1.0	ug/l	---
OSW-8260DSIM																		
1,4-Dioxane	123-91-1						ND	2.0	ug/l	---	5.7	2.0	ug/l	---	1.9	2.0	ug/l	J