

ANALYTICAL REPORT

PREPARED FOR

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Generated 12/3/2024 7:16:22 AM

JOB DESCRIPTION

Ford LTP

JOB NUMBER

240-215503-1

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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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Definitions/Glossary

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

Job ID: 240-215503-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Arcadis US Inc.
Project: Ford LTP

Job ID: 240-215503-1

Job ID: 240-215503-1

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Job Narrative 240-215503-1

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 11/22/2024 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 3.2°C.

GC/MS VOA

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

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Method Summary

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

Job ID: 240-215503-1

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

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Sample Summary

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

Job ID: 240-215503-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-215503-1	TRIP BLANK_95	Water	11/20/24 00:00	11/22/24 08:00
240-215503-2	MW-34_112024	Water	11/20/24 10:35	11/22/24 08:00
240-215503-3	MW-40_112024	Water	11/20/24 13:35	11/22/24 08:00

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Detection Summary

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

Job ID: 240-215503-1

Client Sample ID: TRIP BLANK_95

Lab Sample ID: 240-215503-1

No Detections.

Client Sample ID: MW-34_112024

Lab Sample ID: 240-215503-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	5.1		2.0	0.86	ug/L	1		8260D SIM	Total/NA
Vinyl chloride	1.5		1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: MW-40_112024

Lab Sample ID: 240-215503-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.7		1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	1.4		1.0	0.45	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 240-215503-1

Client Sample ID: TRIP BLANK_95

Lab Sample ID: 240-215503-1

Date Collected: 11/20/24 00:00

Matrix: Water

Date Received: 11/22/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			11/26/24 01:27	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/26/24 01:27	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/26/24 01:27	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/26/24 01:27	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/26/24 01:27	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/26/24 01:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		62 - 137		11/26/24 01:27	1
4-Bromofluorobenzene (Surr)	99		56 - 136		11/26/24 01:27	1
Toluene-d8 (Surr)	101		78 - 122		11/26/24 01:27	1
Dibromofluoromethane (Surr)	97		73 - 120		11/26/24 01:27	1

Client Sample Results

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

Job ID: 240-215503-1

Client Sample ID: MW-34_112024

Lab Sample ID: 240-215503-2

Date Collected: 11/20/24 10:35

Matrix: Water

Date Received: 11/22/24 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	5.1		2.0	0.86	ug/L			11/28/24 05:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		68 - 127					11/28/24 05:42	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			11/26/24 01:50	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/26/24 01:50	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/26/24 01:50	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/26/24 01:50	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/26/24 01:50	1
Vinyl chloride	1.5		1.0	0.45	ug/L			11/26/24 01:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		62 - 137					11/26/24 01:50	1
4-Bromofluorobenzene (Surr)	97		56 - 136					11/26/24 01:50	1
Toluene-d8 (Surr)	99		78 - 122					11/26/24 01:50	1
Dibromofluoromethane (Surr)	93		73 - 120					11/26/24 01:50	1

Client Sample Results

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

Job ID: 240-215503-1

Client Sample ID: MW-40_112024

Lab Sample ID: 240-215503-3

Date Collected: 11/20/24 13:35

Matrix: Water

Date Received: 11/22/24 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			11/28/24 06:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		68 - 127					11/28/24 06:05	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			11/26/24 02:13	1
cis-1,2-Dichloroethene	1.7		1.0	0.46	ug/L			11/26/24 02:13	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/26/24 02:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/26/24 02:13	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/26/24 02:13	1
Vinyl chloride	1.4		1.0	0.45	ug/L			11/26/24 02:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		62 - 137					11/26/24 02:13	1
4-Bromofluorobenzene (Surr)	98		56 - 136					11/26/24 02:13	1
Toluene-d8 (Surr)	100		78 - 122					11/26/24 02:13	1
Dibromofluoromethane (Surr)	98		73 - 120					11/26/24 02:13	1

Surrogate Summary

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

Job ID: 240-215503-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (62-137)	BFB (56-136)	TOL (78-122)	DBFM (73-120)
240-215503-1	TRIP BLANK_95	106	99	101	97
240-215503-2	MW-34_112024	105	97	99	93
240-215503-2 MS	MW-34_112024	100	103	102	95
240-215503-2 MSD	MW-34_112024	101	103	104	95
240-215503-3	MW-40_112024	108	98	100	98
LCS 240-636698/4	Lab Control Sample	99	103	103	93
MB 240-636698/7	Method Blank	105	101	101	94

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (68-127)
240-215503-2	MW-34_112024	111
240-215503-3	MW-40_112024	104
240-215598-B-2 MS	Matrix Spike	106
240-215598-B-2 MSD	Matrix Spike Duplicate	97
LCS 240-637038/5	Lab Control Sample	99
MB 240-637038/7	Method Blank	106

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-215503-1

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

Lab Sample ID: MB 240-636698/7

Matrix: Water

Analysis Batch: 636698

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			11/25/24 22:46	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/25/24 22:46	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/25/24 22:46	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/25/24 22:46	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/25/24 22:46	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/25/24 22:46	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	105		62 - 137		11/25/24 22:46	1
4-Bromofluorobenzene (Surr)	101		56 - 136		11/25/24 22:46	1
Toluene-d8 (Surr)	101		78 - 122		11/25/24 22:46	1
Dibromofluoromethane (Surr)	94		73 - 120		11/25/24 22:46	1

Lab Sample ID: LCS 240-636698/4

Matrix: Water

Analysis Batch: 636698

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
1,1-Dichloroethene	25.0	24.5		ug/L		98	63 - 134
cis-1,2-Dichloroethene	25.0	25.2		ug/L		101	77 - 123
Tetrachloroethene	25.0	23.7		ug/L		95	76 - 123
trans-1,2-Dichloroethene	25.0	23.4		ug/L		93	75 - 124
Trichloroethene	25.0	23.2		ug/L		93	70 - 122
Vinyl chloride	12.5	12.4		ug/L		99	60 - 144

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

Lab Sample ID: 240-215503-2 MS

Matrix: Water

Analysis Batch: 636698

Client Sample ID: MW-34_112024

Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
1,1-Dichloroethene	1.0	U	25.0	20.8		ug/L		83	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	22.6		ug/L		90	66 - 128
Tetrachloroethene	1.0	U	25.0	18.2		ug/L		73	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	20.0		ug/L		80	56 - 136
Trichloroethene	1.0	U	25.0	18.8		ug/L		75	61 - 124
Vinyl chloride	1.5		12.5	12.4		ug/L		87	43 - 157

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

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QC Sample Results

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

Job ID: 240-215503-1

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

Lab Sample ID: 240-215503-2 MS
Matrix: Water
Analysis Batch: 636698

Client Sample ID: MW-34_112024
Prep Type: Total/NA

	<i>MS</i>	<i>MS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
Dibromofluoromethane (Surr)	95		73 - 120

Lab Sample ID: 240-215503-2 MSD
Matrix: Water
Analysis Batch: 636698

Client Sample ID: MW-34_112024
Prep Type: Total/NA

Analyte	Sample		Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
1,1-Dichloroethene	1.0	U	25.0	21.1		ug/L		85	56 - 135	2	26	
cis-1,2-Dichloroethene	1.0	U	25.0	22.7		ug/L		91	66 - 128	0	14	
Tetrachloroethene	1.0	U	25.0	18.9		ug/L		76	62 - 131	4	20	
trans-1,2-Dichloroethene	1.0	U	25.0	20.5		ug/L		82	56 - 136	3	15	
Trichloroethene	1.0	U	25.0	19.3		ug/L		77	61 - 124	2	15	
Vinyl chloride	1.5		12.5	13.8		ug/L		98	43 - 157	11	24	

	<i>MSD</i>	<i>MSD</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	101		62 - 137
4-Bromofluorobenzene (Surr)	103		56 - 136
Toluene-d8 (Surr)	104		78 - 122
Dibromofluoromethane (Surr)	95		73 - 120

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

Lab Sample ID: MB 240-637038/7
Matrix: Water
Analysis Batch: 637038

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

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			11/27/24 22:16	1

	<i>MB</i>	<i>MB</i>							
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>			
1,2-Dichloroethane-d4 (Surr)	106		68 - 127		11/27/24 22:16	1			

Lab Sample ID: LCS 240-637038/5
Matrix: Water
Analysis Batch: 637038

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

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	RPD
1,4-Dioxane	10.0	7.60		ug/L		76	75 - 121	

	<i>LCS</i>	<i>LCS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	99		68 - 127

Lab Sample ID: 240-215598-B-2 MS
Matrix: Water
Analysis Batch: 637038

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

Analyte	Sample		Spike Added	MS		Unit	D	%Rec	%Rec	
	Result	Qualifier		Result	Qualifier				Limits	RPD
1,4-Dioxane	2.0	U	10.0	8.33		ug/L		83	20 - 180	

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QC Sample Results

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

Job ID: 240-215503-1

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

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	106		68 - 127

Lab Sample ID: 240-215598-B-2 MSD
Matrix: Water
Analysis Batch: 637038

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

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
1,4-Dioxane	2.0	U	10.0	9.06		ug/L		91	20 - 180	8	20

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	97		68 - 127

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QC Association Summary

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

Job ID: 240-215503-1

GC/MS VOA

Analysis Batch: 636698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-215503-1	TRIP BLANK_95	Total/NA	Water	8260D	
240-215503-2	MW-34_112024	Total/NA	Water	8260D	
240-215503-3	MW-40_112024	Total/NA	Water	8260D	
MB 240-636698/7	Method Blank	Total/NA	Water	8260D	
LCS 240-636698/4	Lab Control Sample	Total/NA	Water	8260D	
240-215503-2 MS	MW-34_112024	Total/NA	Water	8260D	
240-215503-2 MSD	MW-34_112024	Total/NA	Water	8260D	

Analysis Batch: 637038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-215503-2	MW-34_112024	Total/NA	Water	8260D SIM	
240-215503-3	MW-40_112024	Total/NA	Water	8260D SIM	
MB 240-637038/7	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-637038/5	Lab Control Sample	Total/NA	Water	8260D SIM	
240-215598-B-2 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-215598-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

Lab Chronicle

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

Job ID: 240-215503-1

Client Sample ID: TRIP BLANK_95

Lab Sample ID: 240-215503-1

Date Collected: 11/20/24 00:00

Matrix: Water

Date Received: 11/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	636698	LEE	EET CLE	11/26/24 01:27

Client Sample ID: MW-34_112024

Lab Sample ID: 240-215503-2

Date Collected: 11/20/24 10:35

Matrix: Water

Date Received: 11/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	636698	LEE	EET CLE	11/26/24 01:50
Total/NA	Analysis	8260D SIM		1	637038	R5XG	EET CLE	11/28/24 05:42

Client Sample ID: MW-40_112024

Lab Sample ID: 240-215503-3

Date Collected: 11/20/24 13:35

Matrix: Water

Date Received: 11/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	636698	LEE	EET CLE	11/26/24 02:13
Total/NA	Analysis	8260D SIM		1	637038	R5XG	EET CLE	11/28/24 06:05

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: 240-215503-1

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

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

Client Contact		Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other														TestAmerica Laboratories, Inc.										
Company Name: <u>Arcadis</u>		Client Project Manager: <u>Kris Hinsky</u>				Site Contact: <u>Christina Weaver</u>				Lab Contact: <u>Mike DelMonico</u>				COC No:												
Address: <u>28550 Cabot Drive, Suite 500</u>		Telephone: <u>248-994-2240</u>				Telephone: <u>248-994-2240</u>				Telephone: <u>330-497-9396</u>				1 of 1 COCs												
City/State/Zip: <u>Novi, MI, 48377</u>		Email: <u>kristoffer.hinsky@arcadis.com</u>														For lab use only										
Phone: <u>248-994-2240</u>		Analyzes Turnaround Time														Walk-in client										
Project Name: <u>Ford LTP</u>		TAT if different from below														Lab sampling										
Project Number: <u>30206169.0401.03</u>		<input checked="" type="checkbox"/> 10 day <input type="checkbox"/> 3 weeks <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day														Job/SDG No:										
PO # <u>US3410018772</u>		Shipping/Tracking No:														Sample Specific Notes / Special Instructions:										
Sample Identification		Sample Date	Sample Time	Matrix					Containers & Preservatives					Filtered Sample (Y/N)	Composite-C / Grab-G											
				Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Unpres	Other:			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		
✓	TRIP BLANK_95	---	---	1					1							NG	X	X	X	X	X	X			1 Trip Blank	
✓	MW-34_112024	11/20/24	1035	6					6							NG	X	X	X	X	X	X			3 VOAs for 8260D 3 VOAs for 8260D SIM	
✓	MW-40_112024	11/20/24	1335	6					6							NG	X	X	X	X	X	X				
Sg(2)	DUP 04	11/20/24	---	6					6							NG	X	X	X	X	X	X	X	X	---	



MICHIGAN
190

Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)													
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown		<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months													

Special Instructions/QC Requirements & Comments: <u>Onsite</u>					
Submit all results through Cadena at <u>jtomalia@cadenaco.com</u> . Cadena #E203728					
Level IV Reporting requested.					
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
<i>Mayyam Hanani</i>	<u>Arcadis</u>	11/20/24 1500	<u>Novi Cold Storage</u>	<u>Arcadis</u>	11/20/24 1500
<i>Commercial</i>	<u>Arcadis</u>	11/21/24 1225	<i>Nikolas</i>	<u>BETA</u>	11/21/24 12:20
<i>W.H.</i>	<u>BETA</u>	11/21/24 12:30	JESSE MOROSKO	<u>Euro</u>	11/27/24 0800

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

Client ARCADIS Site Name _____ Cooler unpacked by _____
 J MOROSKO

Cooler Received on 11/22/24 Opened on 11/22/24
 FedEx: 1st Grd Exp UPS FAS W/Print 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: White Blue Ice Dry Ice Water None _____
 1 Cooler temperature upon receipt See Multiple Cooler Form

IR GUN # 17 (CF TD.1 °C) Observed Cooler Temp. 31 °C Corrected Cooler Temp 32 °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____ (Yes) No (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 (NA)
 -Were tamper/custody seals intact and uncompromised? (Yes) No (NA)

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

- 3 Shippers' packing slip attached to the cooler(s)? (Yes) No (NO)
- 4. Did custody papers accompany the sample(s)? (Yes) No (NO)
- 5 Were the custody papers relinquished & signed in the appropriate place? (Yes) No (NO)
- 6. Was/were the person(s) who collected the samples clearly identified on the COC? (Yes) No (NO)
- 7 Did all bottles arrive in good condition (Unbroken)? (Yes) No (NO)
- 8 Could all bottle labels (ID/Date/Time) be reconciled with the COC? (Yes) No (NO)
- 9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? (Yes) No (NO)
- 10 Were correct bottle(s) used for the test(s) indicated? (Yes) No (NO)
- 11 Sufficient quantity received to perform indicated analyses? (Yes) No (NO)
- 12. Are these work share samples and all listed on the COC? (Yes) No (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 (NO)
- 15 Were air bubbles >6 mm in any VOA vials? Larger than this. (Yes) No (NO) NA
- 16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 63211 (Yes) No (NO)
- 17 Was a LL Hg or Me Hg trip blank present? (Yes) No (NO)

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. _____



11/22/2024

Login Container Summary Report

240-215503

12/3/2024

Temperature readings

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container pH</u>	<u>Preservation Temp</u>	<u>Preservation Added</u>	<u>Preservation Lot Number</u>
TRIP BLANK_95	240-215503-A-1	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-34_112024	240-215503-A-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-34_112024	240-215503-B-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-34_112024	240-215503-C-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-34_112024	240-215503-D-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-34_112024	240-215503-E-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-34_112024	240-215503-G-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-40_112024	240-215503-A-3	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-40_112024	240-215503-B-3	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-40_112024	240-215503-C-3	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-40_112024	240-215503-D-3	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-40_112024	240-215503-E-3	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-40_112024	240-215503-F-3	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____

DATA VERIFICATION REPORT



December 04, 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: 215503-1
Sample date: 2024-11-20
Report received by CADENA: 2024-12-03
Initial Data Verification completed by CADENA: 2024-12-04
Number of Samples:3
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.

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 Valid Qualifiers

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

Analytical Results Summary

CADENA Project ID: E203728

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory Submittal: 215503-1

Sample Name: TRIP BLANK_95	MW-34_112024	MW-40_112024
Lab Sample ID: 2402155031	2402155032	2402155033
Sample Date: 11/20/2024	11/20/2024	11/20/2024

Analyte	Cas No.	TRIP BLANK_95				MW-34_112024				MW-40_112024			
		Report	Valid	Report	Valid	Report	Valid	Report	Valid				
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	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	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	1.7	1.0	ug/l	---
Tetrachloroethene	127-18-4	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	---
Trichloroethene	79-01-6	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	---	1.5	1.0	ug/l	---	1.4	1.0	ug/l	---

OSW-8260DSIM

1,4-Dioxane	123-91-1					5.1	2.0	ug/l	---	ND	2.0	ug/l	---
-------------	----------	--	--	--	--	-----	-----	------	-----	----	-----	------	-----