

ANALYTICAL REPORT

PREPARED FOR

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

Generated 6/4/2024 8:41:13 AM

JOB DESCRIPTION

Ford LTP

JOB NUMBER

240-205152-1

Eurofins Cleveland

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



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Definitions/Glossary

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

Job ID: 240-205152-1

Qualifiers

GC/MS VOA

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

Case Narrative

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

Job ID: 240-205152-1

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Job Narrative 240-205152-1

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

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

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

Receipt

The samples were received on 5/24/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.8°C.

GC/MS VOA

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

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

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Method Summary

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

Job ID: 240-205152-1

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

Protocol References:

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

Laboratory References:

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



Sample Summary

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

Job ID: 240-205152-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-205152-1	TRIP BLANK_111	Water	05/23/24 00:00	05/24/24 08:00
240-205152-2	MW-124_052324	Water	05/23/24 09:05	05/24/24 08:00
240-205152-3	MW-218S_052324	Water	05/23/24 10:25	05/24/24 08:00

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- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

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

Job ID: 240-205152-1

Client Sample ID: TRIP BLANK_111

Lab Sample ID: 240-205152-1

No Detections.

Client Sample ID: MW-124_052324

Lab Sample ID: 240-205152-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.3		1.0	0.46	ug/L	1		8260D	Total/NA

Client Sample ID: MW-218S_052324

Lab Sample ID: 240-205152-3

No Detections.

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 240-205152-1

Client Sample ID: TRIP BLANK_111

Lab Sample ID: 240-205152-1

Date Collected: 05/23/24 00:00

Matrix: Water

Date Received: 05/24/24 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			05/31/24 18:22	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/31/24 18:22	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/31/24 18:22	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/31/24 18:22	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/31/24 18:22	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/31/24 18:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		62 - 137		05/31/24 18:22	1
4-Bromofluorobenzene (Surr)	96		56 - 136		05/31/24 18:22	1
Toluene-d8 (Surr)	98		78 - 122		05/31/24 18:22	1
Dibromofluoromethane (Surr)	103		73 - 120		05/31/24 18:22	1

Client Sample Results

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

Job ID: 240-205152-1

Client Sample ID: MW-124_052324

Lab Sample ID: 240-205152-2

Date Collected: 05/23/24 09:05

Matrix: Water

Date Received: 05/24/24 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			06/03/24 01:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		68 - 127					06/03/24 01:22	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			05/31/24 20:41	1
cis-1,2-Dichloroethene	1.3		1.0	0.46	ug/L			05/31/24 20:41	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/31/24 20:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/31/24 20:41	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/31/24 20:41	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/31/24 20:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		62 - 137					05/31/24 20:41	1
4-Bromofluorobenzene (Surr)	88		56 - 136					05/31/24 20:41	1
Toluene-d8 (Surr)	93		78 - 122					05/31/24 20:41	1
Dibromofluoromethane (Surr)	107		73 - 120					05/31/24 20:41	1

Client Sample Results

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

Job ID: 240-205152-1

Client Sample ID: MW-218S_052324

Lab Sample ID: 240-205152-3

Date Collected: 05/23/24 10:25

Matrix: Water

Date Received: 05/24/24 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			06/03/24 01:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		68 - 127					06/03/24 01:45	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			05/31/24 21:04	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/31/24 21:04	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/31/24 21:04	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/31/24 21:04	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/31/24 21:04	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/31/24 21:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		62 - 137					05/31/24 21:04	1
4-Bromofluorobenzene (Surr)	94		56 - 136					05/31/24 21:04	1
Toluene-d8 (Surr)	96		78 - 122					05/31/24 21:04	1
Dibromofluoromethane (Surr)	106		73 - 120					05/31/24 21:04	1

Surrogate Summary

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

Job ID: 240-205152-1

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)
240-205152-1	TRIP BLANK_111	110	96	98	103
240-205152-2	MW-124_052324	109	88	93	107
240-205152-3	MW-218S_052324	111	94	96	106
240-205153-B-5 MS	Matrix Spike	105	100	98	100
240-205153-B-5 MSD	Matrix Spike Duplicate	105	99	98	97
LCS 240-615091/5	Lab Control Sample	98	98	98	93
MB 240-615091/8	Method Blank	106	92	96	99

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)
240-205152-2	MW-124_052324	104
240-205152-3	MW-218S_052324	106
240-205154-A-3 MS	Matrix Spike	101
240-205154-A-3 MSD	Matrix Spike Duplicate	102
LCS 240-615140/4	Lab Control Sample	103
MB 240-615140/6	Method Blank	101

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-205152-1

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

Lab Sample ID: MB 240-615091/8

Matrix: Water

Analysis Batch: 615091

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			05/31/24 16:27	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/31/24 16:27	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/31/24 16:27	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/31/24 16:27	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/31/24 16:27	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/31/24 16:27	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	106		62 - 137		05/31/24 16:27	1
4-Bromofluorobenzene (Surr)	92		56 - 136		05/31/24 16:27	1
Toluene-d8 (Surr)	96		78 - 122		05/31/24 16:27	1
Dibromofluoromethane (Surr)	99		73 - 120		05/31/24 16:27	1

Lab Sample ID: LCS 240-615091/5

Matrix: Water

Analysis Batch: 615091

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,2-Dichloroethene	25.0	21.9		ug/L		88	77 - 123
Tetrachloroethene	25.0	23.9		ug/L		96	76 - 123
trans-1,2-Dichloroethene	25.0	20.5		ug/L		82	75 - 124
Trichloroethene	25.0	20.9		ug/L		84	70 - 122
Vinyl chloride	12.5	10.3		ug/L		83	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	98		62 - 137
4-Bromofluorobenzene (Surr)	98		56 - 136
Toluene-d8 (Surr)	98		78 - 122
Dibromofluoromethane (Surr)	93		73 - 120

Lab Sample ID: 240-205153-B-5 MS

Matrix: Water

Analysis Batch: 615091

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
	Result	Qualifier							
1,1-Dichloroethene	200	U	5000	4240		ug/L		85	56 - 135
cis-1,2-Dichloroethene	9100		5000	13500	E	ug/L		88	66 - 128
Tetrachloroethene	200	U	5000	4230		ug/L		85	62 - 131
trans-1,2-Dichloroethene	390		5000	4410		ug/L		80	56 - 136
Trichloroethene	1100		5000	5150		ug/L		80	61 - 124
Vinyl chloride	290		2500	2250		ug/L		78	43 - 157

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	105		62 - 137
4-Bromofluorobenzene (Surr)	100		56 - 136
Toluene-d8 (Surr)	98		78 - 122

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QC Sample Results

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

Job ID: 240-205152-1

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

Lab Sample ID: 240-205153-B-5 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 615091

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
Dibromofluoromethane (Surr)	100		73 - 120

Lab Sample ID: 240-205153-B-5 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 615091

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethene	200	U	5000	4280		ug/L		86	56 - 135	1	26
cis-1,2-Dichloroethene	9100		5000	13200	E	ug/L		83	66 - 128	2	14
Tetrachloroethene	200	U	5000	4270		ug/L		85	62 - 131	1	20
trans-1,2-Dichloroethene	390		5000	4290		ug/L		78	56 - 136	3	15
Trichloroethene	1100		5000	5040		ug/L		78	61 - 124	2	15
Vinyl chloride	290		2500	2170		ug/L		75	43 - 157	4	24

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		62 - 137
4-Bromofluorobenzene (Surr)	99		56 - 136
Toluene-d8 (Surr)	98		78 - 122
Dibromofluoromethane (Surr)	97		73 - 120

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

Lab Sample ID: MB 240-615140/6

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 615140

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			06/02/24 23:25	1

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

Lab Sample ID: LCS 240-615140/4

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 615140

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	10.0	9.65		ug/L		97	75 - 121

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

Lab Sample ID: 240-205154-A-3 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 615140

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	2.8		10.0	13.0		ug/L		103	20 - 180

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QC Sample Results

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

Job ID: 240-205152-1

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

	<i>MS</i>	<i>MS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	101		68 - 127

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

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane	2.8		10.0	12.2		ug/L		95	20 - 180	6	20

	<i>MSD</i>	<i>MSD</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	102		68 - 127

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QC Association Summary

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

Job ID: 240-205152-1

GC/MS VOA

Analysis Batch: 615091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-205152-1	TRIP BLANK_111	Total/NA	Water	8260D	
240-205152-2	MW-124_052324	Total/NA	Water	8260D	
240-205152-3	MW-218S_052324	Total/NA	Water	8260D	
MB 240-615091/8	Method Blank	Total/NA	Water	8260D	
LCS 240-615091/5	Lab Control Sample	Total/NA	Water	8260D	
240-205153-B-5 MS	Matrix Spike	Total/NA	Water	8260D	
240-205153-B-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 615140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-205152-2	MW-124_052324	Total/NA	Water	8260D SIM	
240-205152-3	MW-218S_052324	Total/NA	Water	8260D SIM	
MB 240-615140/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-615140/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-205154-A-3 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-205154-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

Lab Chronicle

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

Job ID: 240-205152-1

Client Sample ID: TRIP BLANK_111

Lab Sample ID: 240-205152-1

Date Collected: 05/23/24 00:00

Matrix: Water

Date Received: 05/24/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	615091	SAM	EET CLE	05/31/24 18:22

Client Sample ID: MW-124_052324

Lab Sample ID: 240-205152-2

Date Collected: 05/23/24 09:05

Matrix: Water

Date Received: 05/24/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	615091	SAM	EET CLE	05/31/24 20:41
Total/NA	Analysis	8260D SIM		1	615140	MDH	EET CLE	06/03/24 01:22

Client Sample ID: MW-218S_052324

Lab Sample ID: 240-205152-3

Date Collected: 05/23/24 10:25

Matrix: Water

Date Received: 05/24/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	615091	SAM	EET CLE	05/31/24 21:04
Total/NA	Analysis	8260D SIM		1	615140	MDH	EET CLE	06/03/24 01:45

Laboratory References:

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



Accreditation/Certification Summary

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

Job ID: 240-205152-1

Laboratory: Eurofins Cleveland

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

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



Chain of Custody Record

2/9

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

Client Contact		Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other										TestAmerica Laboratories, Inc.												
Company Name: Arcadis		Client Project Manager: Kris Hinskey			Site Contact: Christina Weaver			Lab Contact: Mike DelMonico				COC No:												
Address: 28550 Cabot Drive, Suite 500		Telephone: 248-994-2240			Telephone: 248-994-2240			Telephone: 330-497-9396				1 of 1 COCs												
City/State/Zip: Novi, MI, 48377		Email: kristoffer.hinskey@arcadis.com			Analysis Turnaround Time			Analyses				For lab use only												
Phone: 248-994-2240		Sampler Name: <i>Kent Kasper</i>			TAT if different from below 10 day <input checked="" type="checkbox"/> 3 weeks <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day							Walk-in client <input type="checkbox"/>												
Project Name: Ford LTP		Method of Shipment/Carrier:										Lab sampling <input type="checkbox"/>												
Project Number: 30206169.0401.03		Shipping/Tracking No:										Job/SDG No:												
PO # US3410018772																								
Sample Identification	Sample Date	Sample Time	Matrix					Containers & Preservatives					Filtered Sample (Y/N)	Composite=C / Grab=G	1,1-DCE 8260D	cis-1,2-DCE 8260D	Trans-1,2-DCE 8260D	PCE 8260D	TCE 8260D	Vinyl Chloride 8260D	1,4-Dioxane 8260D SIM	Sample Specific Notes / Special Instructions:		
			Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl	NaOH	ZnAc											NaOH	Unpres
TRIP BLANK_ III	---	---	1					1						NG	X	X	X	X	X	X				1 Trip Blank
MW-124_052324	5/23/24	0905	6					6						NG	X	X	X	X	X	X			3 VOAs for 8260D 3 VOAs for 8260D SIM	
MW-2185_052324	5/23/24	1025	6					6						NG	X	X	X	X	X	X			u u	
Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 mo)																						
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Corrosive <input type="checkbox"/> 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																						
Special Instructions/QC Requirements & Comments:																								
Submit all results through Cadena at jtomalia@cadenaco.com . Cadena #E203728 Level IV Reporting requested.																								
Relinquished by: <i>Kent Kasper</i>			Company: Arcadis			Date/Time: 5/23/24 1140			Received by: <i>Woni Cold Storage</i>			Company: Arcadis			Date/Time: 5/23/24 1140									
Relinquished by: <i>Jim Simpson</i>			Company: Arcadis			Date/Time: 5/23/24 1620			Received by: <i>Woni Cold Storage</i>			Company: BETA			Date/Time: 5/23/24									
Relinquished by: <i>Woni Cold Storage</i>			Company: BETA			Date/Time: 5/23/24 1620			Received in Laboratory by: TAMMY ROYER			Company: BETA			Date/Time: 5/24/24 800									



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Enrolins Cleveland Sample Receipt Form/Narrative Login # 205152
 Barberm Facility

Client Accadiv's Site Name _____ Cooler prepared by TAMMY ROYER

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

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

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

Eurofins Cooler # EC Foam Box Client Cooler Box Other _____

Packing material used Bubble-wrap Bubble-wrap Foam Plastic Bag None Other _____

COOLANT Water Blue Ice Dry Ice Water None See Multiple Cooler Form

1 Cooler temperature upon receipt IR GUN # 18 (CF) 00 °C Observed Cooler Temp. 1.8 °C Corrected Cooler Temp 1.8 °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No

-Were the seals on the outside of the cooler(s) signed & dated? Yes No

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

-Were tamper/custody seals intact and uncompromised? Yes No

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 preservative (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? Yes No

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

14 Were VOAs on the COC? Yes No

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

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

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

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 _____

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

pH Strip Lot# HC339814 72-52424



Temperature readings

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u> <u>pH</u>	<u>Preservation</u> <u>Temp</u>	<u>Preservation</u> <u>Added</u>	<u>Preservation</u> <u>Lot Number</u>
TRIP BLANK_111	240-205152-A-1	Voa Vial 40ml - Hydrochloric Acid				
MW-124_052324	240-205152-A-2	Voa Vial 40ml - Hydrochloric Acid				
MW-124_052324	240-205152-B-2	Voa Vial 40ml - Hydrochloric Acid				
MW-124_052324	240-205152-C-2	Voa Vial 40ml - Hydrochloric Acid				
MW-124_052324	240-205152-D-2	Voa Vial 40ml - Hydrochloric Acid				
MW-124_052324	240-205152-E-2	Voa Vial 40ml - Hydrochloric Acid				
MW-124_052324	240-205152-F-2	Voa Vial 40ml - Hydrochloric Acid				
MW-218S_052324	240-205152-A-3	Voa Vial 40ml - Hydrochloric Acid				
MW-218S_052324	240-205152-B-3	Voa Vial 40ml - Hydrochloric Acid				
MW-218S_052324	240-205152-C-3	Voa Vial 40ml - Hydrochloric Acid				
MW-218S_052324	240-205152-D-3	Voa Vial 40ml - Hydrochloric Acid				
MW-218S_052324	240-205152-E-3	Voa Vial 40ml - Hydrochloric Acid				
MW-218S_052324	240-205152-F-3	Voa Vial 40ml - Hydrochloric Acid				

DATA VERIFICATION REPORT



June 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: 30206169.401.03
Event Specific Scope of Work References: Sample COC
Laboratory: Eurofins Environment Testing LLC - Cleveland
Laboratory submittal: 205152-1
Sample date: 2024-05-23
Report received by CADENA: 2024-06-04
Initial Data Verification completed by CADENA: 2024-06-04
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.

The following minor QC exceptions or missing information were noted:

GCMS VOC SIM QC batch MS/MSD recovery outliers were not determined using a client sample so qualification was not required based on these sample-specific QC outliers.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab 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: 205152-1

Sample Name: TRIP BLANK_111	MW-124_052324	MW-218S_052324
Lab Sample ID: 2402051521	2402051522	2402051523
Sample Date: 5/23/2024	5/23/2024	5/23/2024

Analyte	Cas No.	TRIP BLANK_111				MW-124_052324				MW-218S_052324			
		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	---	1.3	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	---
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	---	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	---
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