

# ANALYTICAL REPORT

## PREPARED FOR

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Generated 6/4/2024 8:42:30 AM

## JOB DESCRIPTION

Ford LTP

## JOB NUMBER

240-205153-1

# Eurofins Cleveland

## Job Notes

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## Authorization



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# Definitions/Glossary

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

Job ID: 240-205153-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
E	Result exceeded calibration range.
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

# Case Narrative

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

Job ID: 240-205153-1

**Job ID: 240-205153-1**

**Eurofins Cleveland**

## Job Narrative 240-205153-1

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: 240-205153-1

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: 240-205153-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-205153-1	TRIP BLANK_75	Water	05/22/24 00:00	05/24/24 08:00
240-205153-2	MW-199S_052224	Water	05/22/24 11:15	05/24/24 08:00
240-205153-3	MW-198S_052224	Water	05/22/24 12:05	05/24/24 08:00
240-205153-4	MW-198_052224	Water	05/22/24 13:05	05/24/24 08:00
240-205153-5	MW-23_052224	Water	05/22/24 14:20	05/24/24 08:00
240-205153-6	DUP-02	Water	05/22/24 00:00	05/24/24 08:00

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# Detection Summary

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

Job ID: 240-205153-1

## Client Sample ID: TRIP BLANK\_75

Lab Sample ID: 240-205153-1

No Detections.

## Client Sample ID: MW-199S\_052224

Lab Sample ID: 240-205153-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.3		2.0	0.86	ug/L	1		8260D SIM	Total/NA
Vinyl chloride	0.74	J	1.0	0.45	ug/L	1		8260D	Total/NA

## Client Sample ID: MW-198S\_052224

Lab Sample ID: 240-205153-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.62	J	1.0	0.44	ug/L	1		8260D	Total/NA

## Client Sample ID: MW-198\_052224

Lab Sample ID: 240-205153-4

No Detections.

## Client Sample ID: MW-23\_052224

Lab Sample ID: 240-205153-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	9100		200	92	ug/L	200		8260D	Total/NA
trans-1,2-Dichloroethene	390		200	100	ug/L	200		8260D	Total/NA
Trichloroethene	1100		200	88	ug/L	200		8260D	Total/NA
Vinyl chloride	290		200	90	ug/L	200		8260D	Total/NA

## Client Sample ID: DUP-02

Lab Sample ID: 240-205153-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	9000		200	92	ug/L	200		8260D	Total/NA
trans-1,2-Dichloroethene	420		200	100	ug/L	200		8260D	Total/NA
Trichloroethene	1000		200	88	ug/L	200		8260D	Total/NA
Vinyl chloride	270		200	90	ug/L	200		8260D	Total/NA

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: 240-205153-1

**Client Sample ID: TRIP BLANK\_75**

**Lab Sample ID: 240-205153-1**

Date Collected: 05/22/24 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 18:45	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/31/24 18:45	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/31/24 18:45	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/31/24 18:45	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/31/24 18:45	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/31/24 18:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		62 - 137		05/31/24 18:45	1
4-Bromofluorobenzene (Surr)	92		56 - 136		05/31/24 18:45	1
Toluene-d8 (Surr)	98		78 - 122		05/31/24 18:45	1
Dibromofluoromethane (Surr)	106		73 - 120		05/31/24 18:45	1

# Client Sample Results

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

Job ID: 240-205153-1

**Client Sample ID: MW-199S\_052224**

**Lab Sample ID: 240-205153-2**

Date Collected: 05/22/24 11:15

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	2.3		2.0	0.86	ug/L			06/03/24 02:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		68 - 127					06/03/24 02:09	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 21:27	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/31/24 21:27	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/31/24 21:27	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/31/24 21:27	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/31/24 21:27	1
Vinyl chloride	0.74	J	1.0	0.45	ug/L			05/31/24 21:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		62 - 137					05/31/24 21:27	1
4-Bromofluorobenzene (Surr)	91		56 - 136					05/31/24 21:27	1
Toluene-d8 (Surr)	95		78 - 122					05/31/24 21:27	1
Dibromofluoromethane (Surr)	103		73 - 120					05/31/24 21:27	1

# Client Sample Results

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

Job ID: 240-205153-1

**Client Sample ID: MW-198S\_052224**

**Lab Sample ID: 240-205153-3**

Date Collected: 05/22/24 12:05

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 02:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		68 - 127					06/03/24 02:32	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 21:50	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/31/24 21:50	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/31/24 21:50	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/31/24 21:50	1
<b>Trichloroethene</b>	<b>0.62</b>	<b>J</b>	1.0	0.44	ug/L			05/31/24 21:50	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/31/24 21:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		62 - 137					05/31/24 21:50	1
4-Bromofluorobenzene (Surr)	89		56 - 136					05/31/24 21:50	1
Toluene-d8 (Surr)	97		78 - 122					05/31/24 21:50	1
Dibromofluoromethane (Surr)	102		73 - 120					05/31/24 21:50	1

# Client Sample Results

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

Job ID: 240-205153-1

**Client Sample ID: MW-198\_052224**

**Lab Sample ID: 240-205153-4**

Date Collected: 05/22/24 13:05

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 02:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		68 - 127					06/03/24 02:56	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 22:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/31/24 22:13	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/31/24 22:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/31/24 22:13	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/31/24 22:13	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/31/24 22:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		62 - 137					05/31/24 22:13	1
4-Bromofluorobenzene (Surr)	91		56 - 136					05/31/24 22:13	1
Toluene-d8 (Surr)	95		78 - 122					05/31/24 22:13	1
Dibromofluoromethane (Surr)	105		73 - 120					05/31/24 22:13	1

# Client Sample Results

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

Job ID: 240-205153-1

**Client Sample ID: MW-23\_052224**

**Lab Sample ID: 240-205153-5**

Date Collected: 05/22/24 14:20

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 03:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		68 - 127					06/03/24 03:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	200	U	200	98	ug/L			06/01/24 00:09	200
<b>cis-1,2-Dichloroethene</b>	<b>9100</b>		200	92	ug/L			06/01/24 00:09	200
Tetrachloroethene	200	U	200	88	ug/L			06/01/24 00:09	200
<b>trans-1,2-Dichloroethene</b>	<b>390</b>		200	100	ug/L			06/01/24 00:09	200
<b>Trichloroethene</b>	<b>1100</b>		200	88	ug/L			06/01/24 00:09	200
<b>Vinyl chloride</b>	<b>290</b>		200	90	ug/L			06/01/24 00:09	200
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		62 - 137					06/01/24 00:09	200
4-Bromofluorobenzene (Surr)	91		56 - 136					06/01/24 00:09	200
Toluene-d8 (Surr)	94		78 - 122					06/01/24 00:09	200
Dibromofluoromethane (Surr)	103		73 - 120					06/01/24 00:09	200

# Client Sample Results

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

Job ID: 240-205153-1

**Client Sample ID: DUP-02**

**Lab Sample ID: 240-205153-6**

Date Collected: 05/22/24 00:00

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 03:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		68 - 127					06/03/24 03:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	200	U	200	98	ug/L			06/02/24 17:51	200
<b>cis-1,2-Dichloroethene</b>	<b>9000</b>		200	92	ug/L			06/02/24 17:51	200
Tetrachloroethene	200	U	200	88	ug/L			06/02/24 17:51	200
<b>trans-1,2-Dichloroethene</b>	<b>420</b>		200	100	ug/L			06/02/24 17:51	200
<b>Trichloroethene</b>	<b>1000</b>		200	88	ug/L			06/02/24 17:51	200
<b>Vinyl chloride</b>	<b>270</b>		200	90	ug/L			06/02/24 17:51	200
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		62 - 137					06/02/24 17:51	200
4-Bromofluorobenzene (Surr)	94		56 - 136					06/02/24 17:51	200
Toluene-d8 (Surr)	100		78 - 122					06/02/24 17:51	200
Dibromofluoromethane (Surr)	104		73 - 120					06/02/24 17:51	200

# Surrogate Summary

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

Job ID: 240-205153-1

## 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)
240-205153-1	TRIP BLANK_75	109	92	98	106
240-205153-2	MW-199S_052224	109	91	95	103
240-205153-3	MW-198S_052224	111	89	97	102
240-205153-4	MW-198_052224	113	91	95	105
240-205153-5	MW-23_052224	111	91	94	103
240-205153-5 MS	MW-23_052224	105	100	98	100
240-205153-5 MSD	MW-23_052224	105	99	98	97
240-205153-6	DUP-02	115	94	100	104
240-205536-C-2 MS	Matrix Spike	105	100	97	98
240-205536-C-2 MSD	Matrix Spike Duplicate	106	107	103	100
LCS 240-615091/5	Lab Control Sample	98	98	98	93
LCS 240-615133/5	Lab Control Sample	106	102	100	98
MB 240-615091/8	Method Blank	106	92	96	99
MB 240-615133/8	Method Blank	116	96	100	107

**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)
240-205153-2	MW-199S_052224	107
240-205153-3	MW-198S_052224	104
240-205153-4	MW-198_052224	103
240-205153-5	MW-23_052224	105
240-205153-6	DUP-02	109
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: 240-205153-1

## 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: 240-205153-5 MS

Matrix: Water

Analysis Batch: 615091

Client Sample ID: MW-23\_052224

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

Eurofins Cleveland



# QC Sample Results

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

Job ID: 240-205153-1

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

**Lab Sample ID: 240-205153-5 MS**  
**Matrix: Water**  
**Analysis Batch: 615091**

**Client Sample ID: MW-23\_052224**  
**Prep Type: Total/NA**

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
<i>Dibromofluoromethane (Surr)</i>	100		73 - 120

**Lab Sample ID: 240-205153-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 615091**

**Client Sample ID: MW-23\_052224**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		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

  

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

**Lab Sample ID: MB 240-615133/8**  
**Matrix: Water**  
**Analysis Batch: 615133**

**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			06/02/24 12:52	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			06/02/24 12:52	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/02/24 12:52	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/02/24 12:52	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/02/24 12:52	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			06/02/24 12:52	1

  

<i>Surrogate</i>	<i>%Recovery</i>	<i>MB MB Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	116		62 - 137		06/02/24 12:52	1
<i>4-Bromofluorobenzene (Surr)</i>	96		56 - 136		06/02/24 12:52	1
<i>Toluene-d8 (Surr)</i>	100		78 - 122		06/02/24 12:52	1
<i>Dibromofluoromethane (Surr)</i>	107		73 - 120		06/02/24 12:52	1

**Lab Sample ID: LCS 240-615133/5**  
**Matrix: Water**  
**Analysis Batch: 615133**

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
1,1-Dichloroethene	25.0	24.5		ug/L		98	63 - 134
cis-1,2-Dichloroethene	25.0	24.4		ug/L		98	77 - 123
Tetrachloroethene	25.0	24.8		ug/L		99	76 - 123
trans-1,2-Dichloroethene	25.0	22.2		ug/L		89	75 - 124
Trichloroethene	25.0	21.9		ug/L		88	70 - 122

Eurofins Cleveland

# QC Sample Results

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

Job ID: 240-205153-1

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

Lab Sample ID: LCS 240-615133/5

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 615133

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl chloride	12.5	12.0		ug/L		96	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	106		62 - 137
4-Bromofluorobenzene (Surr)	102		56 - 136
Toluene-d8 (Surr)	100		78 - 122
Dibromofluoromethane (Surr)	98		73 - 120

Lab Sample ID: 240-205536-C-2 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 615133

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	1.0	U	25.0	22.8		ug/L		91	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	23.6		ug/L		94	66 - 128
Tetrachloroethene	1.0	U	25.0	22.1		ug/L		89	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	22.0		ug/L		88	56 - 136
Trichloroethene	1.0	U	25.0	21.7		ug/L		87	61 - 124
Vinyl chloride	1.0	U	12.5	11.8		ug/L		94	43 - 157

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		62 - 137
4-Bromofluorobenzene (Surr)	100		56 - 136
Toluene-d8 (Surr)	97		78 - 122
Dibromofluoromethane (Surr)	98		73 - 120

Lab Sample ID: 240-205536-C-2 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 615133

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	22.7		ug/L		91	56 - 135	0	26
cis-1,2-Dichloroethene	1.0	U	25.0	23.1		ug/L		92	66 - 128	2	14
Tetrachloroethene	1.0	U	25.0	22.5		ug/L		90	62 - 131	2	20
trans-1,2-Dichloroethene	1.0	U	25.0	20.3		ug/L		81	56 - 136	8	15
Trichloroethene	1.0	U	25.0	21.1		ug/L		84	61 - 124	2	15
Vinyl chloride	1.0	U	12.5	11.3		ug/L		91	43 - 157	4	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	106		62 - 137
4-Bromofluorobenzene (Surr)	107		56 - 136
Toluene-d8 (Surr)	103		78 - 122
Dibromofluoromethane (Surr)	100		73 - 120

# QC Sample Results

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

Job ID: 240-205153-1

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

**Lab Sample ID: MB 240-615140/6**

**Matrix: Water**

**Analysis Batch: 615140**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			06/02/24 23:25	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		68 - 127					06/02/24 23:25	1

**Lab Sample ID: LCS 240-615140/4**

**Matrix: Water**

**Analysis Batch: 615140**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	10.0	9.65		ug/L		97	75 - 121
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	103		68 - 127				

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

**Matrix: Water**

**Analysis Batch: 615140**

**Client Sample ID: Matrix Spike**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	2.8		10.0	13.0		ug/L		103	20 - 180
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	101		68 - 127						

**Lab Sample ID: 240-205154-A-3 MSD**

**Matrix: Water**

**Analysis Batch: 615140**

**Client Sample ID: Matrix Spike Duplicate**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane	2.8		10.0	12.2		ug/L		95	20 - 180	6	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	102		68 - 127								

# QC Association Summary

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

Job ID: 240-205153-1

## GC/MS VOA

### Analysis Batch: 615091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-205153-1	TRIP BLANK_75	Total/NA	Water	8260D	
240-205153-2	MW-199S_052224	Total/NA	Water	8260D	
240-205153-3	MW-198S_052224	Total/NA	Water	8260D	
240-205153-4	MW-198_052224	Total/NA	Water	8260D	
240-205153-5	MW-23_052224	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	
240-205153-5 MS	MW-23_052224	Total/NA	Water	8260D	
240-205153-5 MSD	MW-23_052224	Total/NA	Water	8260D	

### Analysis Batch: 615133

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-205153-6	DUP-02	Total/NA	Water	8260D	
MB 240-615133/8	Method Blank	Total/NA	Water	8260D	
LCS 240-615133/5	Lab Control Sample	Total/NA	Water	8260D	
240-205536-C-2 MS	Matrix Spike	Total/NA	Water	8260D	
240-205536-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

### Analysis Batch: 615140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-205153-2	MW-199S_052224	Total/NA	Water	8260D SIM	
240-205153-3	MW-198S_052224	Total/NA	Water	8260D SIM	
240-205153-4	MW-198_052224	Total/NA	Water	8260D SIM	
240-205153-5	MW-23_052224	Total/NA	Water	8260D SIM	
240-205153-6	DUP-02	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: 240-205153-1

**Client Sample ID: TRIP BLANK\_75**

**Lab Sample ID: 240-205153-1**

Date Collected: 05/22/24 00:00

Matrix: Water

Date Received: 05/24/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	615091	SAM	EET CLE	05/31/24 18:45

**Client Sample ID: MW-199S\_052224**

**Lab Sample ID: 240-205153-2**

Date Collected: 05/22/24 11:15

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 21:27
Total/NA	Analysis	8260D SIM		1	615140	MDH	EET CLE	06/03/24 02:09

**Client Sample ID: MW-198S\_052224**

**Lab Sample ID: 240-205153-3**

Date Collected: 05/22/24 12:05

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 21:50
Total/NA	Analysis	8260D SIM		1	615140	MDH	EET CLE	06/03/24 02:32

**Client Sample ID: MW-198\_052224**

**Lab Sample ID: 240-205153-4**

Date Collected: 05/22/24 13:05

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 22:13
Total/NA	Analysis	8260D SIM		1	615140	MDH	EET CLE	06/03/24 02:56

**Client Sample ID: MW-23\_052224**

**Lab Sample ID: 240-205153-5**

Date Collected: 05/22/24 14:20

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		200	615091	SAM	EET CLE	06/01/24 00:09
Total/NA	Analysis	8260D SIM		1	615140	MDH	EET CLE	06/03/24 03:19

**Client Sample ID: DUP-02**

**Lab Sample ID: 240-205153-6**

Date Collected: 05/22/24 00:00

Matrix: Water

Date Received: 05/24/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	615133	LEE	EET CLE	06/02/24 17:51
Total/NA	Analysis	8260D SIM		1	615140	MDH	EET CLE	06/03/24 03:43

**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: 240-205153-1

## 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

1-8/18

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: 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: Lottie Jay				TAT if different from below				<input type="checkbox"/> 3 weeks <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day				Walk-in client												
Project Name: Ford LTP			Method of Shipment/Carrier:				10 day								Lab sampling												
Project Number: 30206169.0401.03			Shipping/Tracking No:				Filtered Sample (Y/N)				Composite=C / Grab=G				Job/SDG No:												
PO # US3410018772			Matrix			Containers & Preservatives										Sample Specific Notes / Special Instructions:											
Sample Identification			Sample Date	Sample Time	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_ 75			---	---	1							1					NG	X	X	X	X	X			1 Trip Blank		
MW-1995-052224			5/22/26	1115	6							6					NG	X	X	X	X	X	X		3 VOAs for 8260D 3 VOAs for 8260D SIM		
MW-1985-052224				1205	6							6					NG	X	X	X	X	X	X				
MW-198-052224				1305	6							6					NG	X	X	X	X	X	X				
MW-23-052224				1420	6							6					NG	X	X	X	X	X	X				
DUP-02				-	6							6					NG	X	X	X	X	X	X				
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"/> 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 <input type="checkbox"/> Months																								
Special Instructions/QC Requirements & Comments:																											
Submit all results through Cadena at <a href="mailto:jtomalia@cadenaco.com">jtomalia@cadenaco.com</a> . Cadena #E203728 Level IV Reporting requested.																											
Relinquished by: <i>[Signature]</i>			Company: ARCADIS			Date/Time: 5/22/24 1635			Received by: NOVI COLD STORAGE			Company: ARCADIS			Date/Time: 5/22/24 1635												
Relinquished by: <i>[Signature]</i>			Company: Arcadis			Date/Time: 5/23/24 1620			Received by: <i>[Signature]</i>			Company: EETA			Date/Time: 5/23/24												
Relinquished by: <i>[Signature]</i>			Company: EETA			Date/Time: 5/23/24 1620			Received in Laboratory by: TAMMY ROYER			Company: EETNC			Date/Time: 5/24/24 800												



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205153

Eurofins - Cleveland Sample Receipt Form/Narrative  
Barberton Facility

Login #:

Cooler purged by:  
**TAMMY ROYER**

Client Accadis Site Name \_\_\_\_\_  
Cooler Received on 5-24-24 Opened on 5-24-24

FedEx: 1<sup>st</sup> Grid Exp UPS FAS Walmart Client Drop Off Eurofins Courier Other \_\_\_\_\_

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

Eurofins Cooler # FC Foam Box Client Cooler Box Other \_\_\_\_\_

Packing material used Bubble Wrap Foam Plastic Bag None Other \_\_\_\_\_

COOLANT: Water Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt  See Multiple Cooler Form

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

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

-Were the seals on the outside of the cooler(s) signed & dated?

-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?

-Were tamper/custody seals intact and uncompromised?

3 Shippers' packing slip attached to the cooler(s)?  Yes  No  NA

4 Did custody papers accompany the sample(s)?  Yes  No  NA

5 Were the custody papers relinquished & signed in the appropriate place?  Yes  No  NA

6 Was/were the person(s) who collected the samples clearly identified on the COC?  Yes  No  NA

7 Did all bottles arrive in good condition (Unbroken)?  Yes  No  NA

8 Could all bottle labels (ID/Date/Time) be reconciled with the COC?  Yes  No  NA

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  NA

10 Were correct bottle(s) used for the test(s) indicated?  Yes  No  NA

11 Sufficient quantity received to perform indicated analyses?  Yes  No  NA

12. Are these work share samples and all listed on the COC?  Yes  No  NA

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# HCC339814

14 Were VOAs on the COC?  Yes  No  NA

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

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

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

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





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>
TRRP BLANK_75	240-205153-A-1	Voa Vial 40ml - Hydrochloric Acid				
MW-199S_052224	240-205153-A-2	Voa Vial 40ml - Hydrochloric Acid				
MW-199S_052224	240-205153-B-2	Voa Vial 40ml - Hydrochloric Acid				
MW-199S_052224	240-205153-C-2	Voa Vial 40ml - Hydrochloric Acid				
MW-199S_052224	240-205153-D-2	Voa Vial 40ml - Hydrochloric Acid				
MW-199S_052224	240-205153-E-2	Voa Vial 40ml - Hydrochloric Acid				
MW-199S_052224	240-205153-F-2	Voa Vial 40ml - Hydrochloric Acid				
MW-198S_052224	240-205153-A-3	Voa Vial 40ml - Hydrochloric Acid				
MW-198S_052224	240-205153-B-3	Voa Vial 40ml - Hydrochloric Acid				
MW-198S_052224	240-205153-C-3	Voa Vial 40ml - Hydrochloric Acid				
MW-198S_052224	240-205153-D-3	Voa Vial 40ml - Hydrochloric Acid				
MW-198S_052224	240-205153-E-3	Voa Vial 40ml - Hydrochloric Acid				
MW-198S_052224	240-205153-F-3	Voa Vial 40ml - Hydrochloric Acid				
MW-198_052224	240-205153-A-4	Voa Vial 40ml - Hydrochloric Acid				
MW-198_052224	240-205153-B-4	Voa Vial 40ml - Hydrochloric Acid				
MW-198_052224	240-205153-C-4	Voa Vial 40ml - Hydrochloric Acid				
MW-198_052224	240-205153-D-4	Voa Vial 40ml - Hydrochloric Acid				
MW-198_052224	240-205153-E-4	Voa Vial 40ml - Hydrochloric Acid				
MW-198_052224	240-205153-F-4	Voa Vial 40ml - Hydrochloric Acid				
MW-23_052224	240 205153-A-5	Voa Vial 40ml - Hydrochloric Acid				
MW-23_052224	240-205153-B-5	Voa Vial 40ml - Hydrochloric Acid				
MW-23_052224	240-205153-C-5	Voa Vial 40ml - Hydrochloric Acid				
MW-23_052224	240-205153-D-5	Voa Vial 40ml - Hydrochloric Acid				
MW-23_052224	240-205153-E-5	Voa Vial 40ml - Hydrochloric Acid				
MW-23_052224	240-205153-F-5	Voa Vial 40ml - Hydrochloric Acid				
DUP-02	240-205153-A-6	Voa Vial 40ml - Hydrochloric Acid				
DUP-02	240-205153-B-6	Voa Vial 40ml - Hydrochloric Acid				
DUP-02	240-205153-C-6	Voa Vial 40ml - Hydrochloric Acid				
DUP-02	240-205153-D-6	Voa Vial 40ml - Hydrochloric Acid				
DUP-02	240-205153-E-6	Voa Vial 40ml - Hydrochloric Acid				
DUP-02	240-205153-F-6	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: 205153-1

Sample date: 2024-05-22

Report received by CADENA: 2024-06-04

Initial Data Verification completed by CADENA: 2024-06-04

Number of Samples:6

Sample Matrices:Water

Test Categories:GCMS VOC

**Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.**

The following minor QC exceptions or missing information were noted:

GCMS VOC 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, 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 following significant QC anomalies were identified during verification of the analytical report:

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.

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: 205153-1

Analyte	Cas No.	Sample Name: TRIP BLANK_75				MW-199S_052224				MW-198S_052224				MW-198_052224				MW-23_052224				DUP-02			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
<b>GC/MS VOC</b>																									
<u>OSW-8260D</u>																									
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	200	ug/l	---	ND	200	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	9100	200	ug/l	---	9000	200	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	200	ug/l	---	ND	200	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	390	200	ug/l	---	420	200	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	0.62	1.0	ug/l	J	ND	1.0	ug/l	---	1100	200	ug/l	---	1000	200	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	0.74	1.0	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---	290	200	ug/l	---	270	200	ug/l	---
<u>OSW-8260DSIM</u>																									
1,4-Dioxane	123-91-1					2.3	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---