

# ANALYTICAL REPORT

## PREPARED FOR

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## JOB DESCRIPTION

Ford LTP - On Site

## JOB NUMBER

240-200648-1

# Eurofins Cleveland

## Job Notes

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## Authorization



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# Definitions/Glossary

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

Job ID: 240-200648-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
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.
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 - On Site

Job ID: 240-200648-1

**Job ID: 240-200648-1**

**Eurofins Cleveland**

## Job Narrative 240-200648-1

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 3/7/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.7°C, 2.0°C and 2.8°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 U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-200648-1

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 - On Site

Job ID: 240-200648-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-200648-1	TRIP BLANK_81	Water	03/04/24 00:00	03/07/24 08:00
240-200648-2	MW-200S_030424	Water	03/04/24 10:35	03/07/24 08:00
240-200648-3	MW-200_030424	Water	03/04/24 11:25	03/07/24 08:00
240-200648-4	MW-01_030424	Water	03/04/24 13:00	03/07/24 08:00
240-200648-5	MW-224S_030424	Water	03/04/24 14:00	03/07/24 08:00
240-200648-6	MW-32_030424	Water	03/04/24 15:25	03/07/24 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 - On Site

Job ID: 240-200648-1

**Client Sample ID: TRIP BLANK\_81**

**Lab Sample ID: 240-200648-1**

No Detections.

**Client Sample ID: MW-200S\_030424**

**Lab Sample ID: 240-200648-2**

No Detections.

**Client Sample ID: MW-200\_030424**

**Lab Sample ID: 240-200648-3**

No Detections.

**Client Sample ID: MW-01\_030424**

**Lab Sample ID: 240-200648-4**

No Detections.

**Client Sample ID: MW-224S\_030424**

**Lab Sample ID: 240-200648-5**

No Detections.

**Client Sample ID: MW-32\_030424**

**Lab Sample ID: 240-200648-6**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.55	J	1.0	0.46	ug/L	1		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 - On Site

Job ID: 240-200648-1

**Client Sample ID: TRIP BLANK\_81**

**Lab Sample ID: 240-200648-1**

Date Collected: 03/04/24 00:00

Matrix: Water

Date Received: 03/07/24 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			03/11/24 20:14	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/11/24 20:14	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/11/24 20:14	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/11/24 20:14	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/11/24 20:14	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/11/24 20:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		62 - 137		03/11/24 20:14	1
4-Bromofluorobenzene (Surr)	85		56 - 136		03/11/24 20:14	1
Toluene-d8 (Surr)	99		78 - 122		03/11/24 20:14	1
Dibromofluoromethane (Surr)	97		73 - 120		03/11/24 20:14	1

# Client Sample Results

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

Job ID: 240-200648-1

**Client Sample ID: MW-200S\_030424**

**Lab Sample ID: 240-200648-2**

Date Collected: 03/04/24 10:35

Matrix: Water

Date Received: 03/07/24 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			03/11/24 23:17	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	105		68 - 127					03/11/24 23:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			03/12/24 00:49	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/12/24 00:49	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/12/24 00:49	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/12/24 00:49	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/12/24 00:49	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/12/24 00:49	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	105		62 - 137					03/12/24 00:49	1
4-Bromofluorobenzene (Surr)	83		56 - 136					03/12/24 00:49	1
Toluene-d8 (Surr)	101		78 - 122					03/12/24 00:49	1
Dibromofluoromethane (Surr)	99		73 - 120					03/12/24 00:49	1

# Client Sample Results

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

Job ID: 240-200648-1

**Client Sample ID: MW-200\_030424**

**Lab Sample ID: 240-200648-3**

Date Collected: 03/04/24 11:25

Matrix: Water

Date Received: 03/07/24 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			03/11/24 23:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		68 - 127					03/11/24 23:41	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			03/12/24 01:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/12/24 01:13	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/12/24 01:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/12/24 01:13	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/12/24 01:13	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/12/24 01:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		62 - 137					03/12/24 01:13	1
4-Bromofluorobenzene (Surr)	85		56 - 136					03/12/24 01:13	1
Toluene-d8 (Surr)	102		78 - 122					03/12/24 01:13	1
Dibromofluoromethane (Surr)	100		73 - 120					03/12/24 01:13	1

# Client Sample Results

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

Job ID: 240-200648-1

**Client Sample ID: MW-01\_030424**

**Lab Sample ID: 240-200648-4**

Date Collected: 03/04/24 13:00

Matrix: Water

Date Received: 03/07/24 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			03/12/24 00:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		68 - 127					03/12/24 00:53	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			03/11/24 21:05	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/11/24 21:05	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/11/24 21:05	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/11/24 21:05	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/11/24 21:05	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/11/24 21:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		62 - 137					03/11/24 21:05	1
4-Bromofluorobenzene (Surr)	85		56 - 136					03/11/24 21:05	1
Toluene-d8 (Surr)	101		78 - 122					03/11/24 21:05	1
Dibromofluoromethane (Surr)	96		73 - 120					03/11/24 21:05	1

# Client Sample Results

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

Job ID: 240-200648-1

**Client Sample ID: MW-224S\_030424**

**Lab Sample ID: 240-200648-5**

Date Collected: 03/04/24 14:00

Matrix: Water

Date Received: 03/07/24 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			03/12/24 01:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		68 - 127					03/12/24 01:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			03/15/24 13:45	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/15/24 13:45	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/15/24 13:45	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/15/24 13:45	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/15/24 13:45	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/15/24 13:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	119		62 - 137					03/15/24 13:45	1
4-Bromofluorobenzene (Surr)	85		56 - 136					03/15/24 13:45	1
Toluene-d8 (Surr)	92		78 - 122					03/15/24 13:45	1
Dibromofluoromethane (Surr)	105		73 - 120					03/15/24 13:45	1

# Client Sample Results

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

Job ID: 240-200648-1

**Client Sample ID: MW-32\_030424**

**Lab Sample ID: 240-200648-6**

Date Collected: 03/04/24 15:25

Matrix: Water

Date Received: 03/07/24 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			03/12/24 01:41	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	106		68 - 127					03/12/24 01:41	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			03/15/24 14:08	1
<b>cis-1,2-Dichloroethene</b>	<b>0.55</b>	<b>J</b>	1.0	0.46	ug/L			03/15/24 14:08	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/15/24 14:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/15/24 14:08	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/15/24 14:08	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/15/24 14:08	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	110		62 - 137					03/15/24 14:08	1
4-Bromofluorobenzene (Surr)	86		56 - 136					03/15/24 14:08	1
Toluene-d8 (Surr)	94		78 - 122					03/15/24 14:08	1
Dibromofluoromethane (Surr)	107		73 - 120					03/15/24 14:08	1

# Surrogate Summary

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

Job ID: 240-200648-1

## 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)
240-200648-1	TRIP BLANK_81	102	85	99	97
240-200648-2	MW-200S_030424	105	83	101	99
240-200648-3	MW-200_030424	107	85	102	100
240-200648-3 MS	MW-200-MS_030424	97	102	103	95
240-200648-3 MSD	MW-200-MSD_030424	99	103	103	95
240-200648-4	MW-01_030424	103	85	101	96
240-200648-5	MW-224S_030424	119	85	92	105
240-200648-6	MW-32_030424	110	86	94	107
240-200702-C-2 MS	Matrix Spike	105	94	99	103
240-200702-C-2 MSD	Matrix Spike Duplicate	105	94	97	98
LCS 240-605699/4	Lab Control Sample	94	103	104	94
LCS 240-606220/4	Lab Control Sample	105	94	100	99
MB 240-605699/6	Method Blank	101	86	102	95
MB 240-606220/7	Method Blank	115	89	97	102

**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)
240-200648-2	MW-200S_030424	105
240-200648-3	MW-200_030424	106
240-200648-3 MS	MW-200-MS_030424	106
240-200648-3 MSD	MW-200-MSD_030424	106
240-200648-4	MW-01_030424	107
240-200648-5	MW-224S_030424	106
240-200648-6	MW-32_030424	106
LCS 240-605713/4	Lab Control Sample	105
MB 240-605713/6	Method Blank	103

**Surrogate Legend**

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

# QC Sample Results

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

Job ID: 240-200648-1

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

Lab Sample ID: MB 240-605699/6

Matrix: Water

Analysis Batch: 605699

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			03/11/24 18:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/11/24 18:34	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/11/24 18:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/11/24 18:34	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/11/24 18:34	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/11/24 18:34	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	101		62 - 137		03/11/24 18:34	1
4-Bromofluorobenzene (Surr)	86		56 - 136		03/11/24 18:34	1
Toluene-d8 (Surr)	102		78 - 122		03/11/24 18:34	1
Dibromofluoromethane (Surr)	95		73 - 120		03/11/24 18:34	1

Lab Sample ID: LCS 240-605699/4

Matrix: Water

Analysis Batch: 605699

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	23.5		ug/L		94	63 - 134
cis-1,2-Dichloroethene	25.0	24.7		ug/L		99	77 - 123
Tetrachloroethene	25.0	24.3		ug/L		97	76 - 123
trans-1,2-Dichloroethene	25.0	24.7		ug/L		99	75 - 124
Trichloroethene	25.0	23.2		ug/L		93	70 - 122
Vinyl chloride	12.5	10.8		ug/L		86	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	94		62 - 137
4-Bromofluorobenzene (Surr)	103		56 - 136
Toluene-d8 (Surr)	104		78 - 122
Dibromofluoromethane (Surr)	94		73 - 120

Lab Sample ID: 240-200648-3 MS

Matrix: Water

Analysis Batch: 605699

Client Sample ID: MW-200-MS\_030424

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	22.6		ug/L		90	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	25.0		ug/L		100	66 - 128
Tetrachloroethene	1.0	U	25.0	23.6		ug/L		94	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	24.9		ug/L		100	56 - 136
Trichloroethene	1.0	U	25.0	23.3		ug/L		93	61 - 124
Vinyl chloride	1.0	U	12.5	11.7		ug/L		94	43 - 157

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	97		62 - 137
4-Bromofluorobenzene (Surr)	102		56 - 136
Toluene-d8 (Surr)	103		78 - 122

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# QC Sample Results

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

Job ID: 240-200648-1

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

Lab Sample ID: 240-200648-3 MS

Matrix: Water

Analysis Batch: 605699

Client Sample ID: MW-200-MS\_030424

Prep Type: Total/NA

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	95		73 - 120

Lab Sample ID: 240-200648-3 MSD

Matrix: Water

Analysis Batch: 605699

Client Sample ID: MW-200-MSD\_030424

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	1.0	U	25.0	22.3		ug/L		89	56 - 135	1	26
cis-1,2-Dichloroethene	1.0	U	25.0	25.5		ug/L		102	66 - 128	2	14
Tetrachloroethene	1.0	U	25.0	23.1		ug/L		92	62 - 131	2	20
trans-1,2-Dichloroethene	1.0	U	25.0	24.9		ug/L		100	56 - 136	0	15
Trichloroethene	1.0	U	25.0	23.3		ug/L		93	61 - 124	0	15
Vinyl chloride	1.0	U	12.5	11.6		ug/L		93	43 - 157	1	24

Surrogate	MSD MSD		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)	95		73 - 120

Lab Sample ID: MB 240-606220/7

Matrix: Water

Analysis Batch: 606220

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			03/15/24 11:48	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/15/24 11:48	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/15/24 11:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/15/24 11:48	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/15/24 11:48	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/15/24 11:48	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	115		62 - 137		03/15/24 11:48	1
4-Bromofluorobenzene (Surr)	89		56 - 136		03/15/24 11:48	1
Toluene-d8 (Surr)	97		78 - 122		03/15/24 11:48	1
Dibromofluoromethane (Surr)	102		73 - 120		03/15/24 11:48	1

Lab Sample ID: LCS 240-606220/4

Matrix: Water

Analysis Batch: 606220

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	23.2		ug/L		93	63 - 134
cis-1,2-Dichloroethene	25.0	24.5		ug/L		98	77 - 123
Tetrachloroethene	25.0	26.2		ug/L		105	76 - 123
trans-1,2-Dichloroethene	25.0	25.8		ug/L		103	75 - 124
Trichloroethene	25.0	24.3		ug/L		97	70 - 122

Eurofins Cleveland

# QC Sample Results

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

Job ID: 240-200648-1

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

Lab Sample ID: LCS 240-606220/4

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 606220

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl chloride	12.5	12.2		ug/L		98	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		62 - 137
4-Bromofluorobenzene (Surr)	94		56 - 136
Toluene-d8 (Surr)	100		78 - 122
Dibromofluoromethane (Surr)	99		73 - 120

Lab Sample ID: 240-200702-C-2 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 606220

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	200	U	5000	3940		ug/L		79	56 - 135
cis-1,2-Dichloroethene	280		5000	4700		ug/L		89	66 - 128
Tetrachloroethene	200	U	5000	4250		ug/L		85	62 - 131
trans-1,2-Dichloroethene	200	U	5000	4680		ug/L		94	56 - 136
Trichloroethene	300		5000	4710		ug/L		88	61 - 124
Vinyl chloride	550		2500	2770		ug/L		89	43 - 157

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		62 - 137
4-Bromofluorobenzene (Surr)	94		56 - 136
Toluene-d8 (Surr)	99		78 - 122
Dibromofluoromethane (Surr)	103		73 - 120

Lab Sample ID: 240-200702-C-2 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 606220

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	4390		ug/L		88	56 - 135	11	26
cis-1,2-Dichloroethene	280		5000	4920		ug/L		93	66 - 128	5	14
Tetrachloroethene	200	U	5000	4780		ug/L		96	62 - 131	12	20
trans-1,2-Dichloroethene	200	U	5000	4830		ug/L		97	56 - 136	3	15
Trichloroethene	300		5000	5040		ug/L		95	61 - 124	7	15
Vinyl chloride	550		2500	3090		ug/L		102	43 - 157	11	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		62 - 137
4-Bromofluorobenzene (Surr)	94		56 - 136
Toluene-d8 (Surr)	97		78 - 122
Dibromofluoromethane (Surr)	98		73 - 120

# QC Sample Results

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

Job ID: 240-200648-1

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

**Lab Sample ID: MB 240-605713/6**  
**Matrix: Water**  
**Analysis Batch: 605713**

**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			03/11/24 20:29	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		68 - 127					03/11/24 20:29	1

**Lab Sample ID: LCS 240-605713/4**  
**Matrix: Water**  
**Analysis Batch: 605713**

**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	10.7		ug/L		107	75 - 121
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	105		68 - 127				

**Lab Sample ID: 240-200648-3 MS**  
**Matrix: Water**  
**Analysis Batch: 605713**

**Client Sample ID: MW-200-MS\_030424**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	2.0	U	10.0	10.7		ug/L		107	20 - 180
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	106		68 - 127						

**Lab Sample ID: 240-200648-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 605713**

**Client Sample ID: MW-200-MSD\_030424**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	9.66		ug/L		97	20 - 180	11	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	106		68 - 127								

# QC Association Summary

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

Job ID: 240-200648-1

## GC/MS VOA

### Analysis Batch: 605699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200648-1	TRIP BLANK_81	Total/NA	Water	8260D	
240-200648-2	MW-200S_030424	Total/NA	Water	8260D	
240-200648-3	MW-200_030424	Total/NA	Water	8260D	
240-200648-4	MW-01_030424	Total/NA	Water	8260D	
MB 240-605699/6	Method Blank	Total/NA	Water	8260D	
LCS 240-605699/4	Lab Control Sample	Total/NA	Water	8260D	
240-200648-3 MS	MW-200-MS_030424	Total/NA	Water	8260D	
240-200648-3 MSD	MW-200-MSD_030424	Total/NA	Water	8260D	

### Analysis Batch: 605713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200648-2	MW-200S_030424	Total/NA	Water	8260D SIM	
240-200648-3	MW-200_030424	Total/NA	Water	8260D SIM	
240-200648-4	MW-01_030424	Total/NA	Water	8260D SIM	
240-200648-5	MW-224S_030424	Total/NA	Water	8260D SIM	
240-200648-6	MW-32_030424	Total/NA	Water	8260D SIM	
MB 240-605713/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-605713/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-200648-3 MS	MW-200-MS_030424	Total/NA	Water	8260D SIM	
240-200648-3 MSD	MW-200-MSD_030424	Total/NA	Water	8260D SIM	

### Analysis Batch: 606220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200648-5	MW-224S_030424	Total/NA	Water	8260D	
240-200648-6	MW-32_030424	Total/NA	Water	8260D	
MB 240-606220/7	Method Blank	Total/NA	Water	8260D	
LCS 240-606220/4	Lab Control Sample	Total/NA	Water	8260D	
240-200702-C-2 MS	Matrix Spike	Total/NA	Water	8260D	
240-200702-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

# Lab Chronicle

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

Job ID: 240-200648-1

**Client Sample ID: TRIP BLANK\_81**

**Lab Sample ID: 240-200648-1**

Date Collected: 03/04/24 00:00

Matrix: Water

Date Received: 03/07/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	605699	CDG	EET CLE	03/11/24 20:14

**Client Sample ID: MW-200S\_030424**

**Lab Sample ID: 240-200648-2**

Date Collected: 03/04/24 10:35

Matrix: Water

Date Received: 03/07/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	605699	CDG	EET CLE	03/12/24 00:49
Total/NA	Analysis	8260D SIM		1	605713	MDH	EET CLE	03/11/24 23:17

**Client Sample ID: MW-200\_030424**

**Lab Sample ID: 240-200648-3**

Date Collected: 03/04/24 11:25

Matrix: Water

Date Received: 03/07/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	605699	CDG	EET CLE	03/12/24 01:13
Total/NA	Analysis	8260D SIM		1	605713	MDH	EET CLE	03/11/24 23:41

**Client Sample ID: MW-01\_030424**

**Lab Sample ID: 240-200648-4**

Date Collected: 03/04/24 13:00

Matrix: Water

Date Received: 03/07/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	605699	CDG	EET CLE	03/11/24 21:05
Total/NA	Analysis	8260D SIM		1	605713	MDH	EET CLE	03/12/24 00:53

**Client Sample ID: MW-224S\_030424**

**Lab Sample ID: 240-200648-5**

Date Collected: 03/04/24 14:00

Matrix: Water

Date Received: 03/07/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	606220	LEE	EET CLE	03/15/24 13:45
Total/NA	Analysis	8260D SIM		1	605713	MDH	EET CLE	03/12/24 01:17

**Client Sample ID: MW-32\_030424**

**Lab Sample ID: 240-200648-6**

Date Collected: 03/04/24 15:25

Matrix: Water

Date Received: 03/07/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	606220	LEE	EET CLE	03/15/24 14:08
Total/NA	Analysis	8260D SIM		1	605713	MDH	EET CLE	03/12/24 01:41

**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 - On Site

Job ID: 240-200648-1

## 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	02-27-24 *
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
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	04-01-24
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

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.



**Eurofins - Cleveland Sample Receipt Form/Narrative**      **Barberion Facility**      **Client** ARCADIS      **Site Name** \_\_\_\_\_      **Cooler unpacked by:** J MOROSKO      **Login #** \_\_\_\_\_

**Cooler Received on** 03/07/24      **Opened on** 03/10/24      **Pedex: 1st Grd 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 #** 22      **(CR** ✓ **-0.0°C)**      **Observed Cooler Temp** \_\_\_\_\_ °C      **Corrected Cooler Temp** \_\_\_\_\_ °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?       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

**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 preservatives (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

**13** Were all preserved sample(s) at the correct pH upon receipt?       Yes       No       NA      **pH Strip Lot#** HCC316719

**14** Were VOAs on the COC?       Yes       No       NA

**15** Were air bubbles >6 mm in any VOA vials?       Yes       No       NA      **Larger than this** 

**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:** \_\_\_\_\_

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**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



Login #: \_\_\_\_\_

Eurofins - Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)		IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
IC Chem 10x Other		IR GUN #: 22	17		(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: 22	28		(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: 22	20		(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None
IC Chem 10x Other		IR GUN #: _____			(Water) Blue Ice Dry Ice Water None

See Temperature Excursion Form

# DATA VERIFICATION REPORT



March 19, 2024

Kris Hinskey  
Arcadis of Michigan  
28550 Cabot Drive  
Suite 500  
Novi, MI US 48377

CADENA project ID: E203728  
Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil  
Project number: 30167538.401.03  
Event Specific Scope of Work References: Sample COC  
Laboratory: Eurofins Environment Testing LLC - Cleveland  
Laboratory submittal: 200648-1  
Sample date: 2024-03-04  
Report received by CADENA: 2024-03-19  
Initial Data Verification completed by CADENA: 2024-03-19  
Number of Samples:6  
Sample Matrices: Water and trip blank  
Test Categories: GCMS VOC  
**Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.**

There were no significant QC anomalies or exceptions to report.

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

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

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

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

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

## CADENA 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: 200648-1

Analyte	Cas No.	Sample Name: TRIP BLANK_81				MW-200S_030424				MW-200_030424				MW-01_030424				MW-224S_030424				MW-32_030424			
		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	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	0.55	1.0	ug/l	J
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	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	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
<u>OSW-8260DSIM</u>																									
1,4-Dioxane	123-91-1					ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---