

 **ANALYTICAL REPORT****PREPARED FOR**

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**JOB DESCRIPTION**

Ford LTP - On Site

**JOB NUMBER**

240-195684-1

# Eurofins Cleveland

## Job Notes

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## Authorization



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# Definitions/Glossary

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-195684-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
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 US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-195684-1

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## Job ID: 240-195684-1

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### Laboratory: Eurofins Cleveland

#### Narrative

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#### Job Narrative 240-195684-1

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 11/17/2023 9:40 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 2.7°C, 2.9°C and 3.5°C

#### GC/MS VOA

Method 8260D: NO MS/MSD in batch 595698 due to a sample failure: MW-41\_111423 (240-195684-4), MW-209S\_111423 (240-195684-5) and MW-210S\_111423 (240-195684-6).

Method 8260D\_SIM: The following sample was analyzed outside of analytical holding time due to clerical error by the analyst: MW-42\_111423 (240-195684-2).

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

# Method Summary

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-195684-1

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

**Protocol References:**

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

**Laboratory References:**

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



# Sample Summary

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-195684-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-195684-1	TRIP BLANK_123	Water	11/14/23 00:00	11/17/23 09:40
240-195684-2	MW-42_111423	Water	11/14/23 14:15	11/17/23 09:40
240-195684-3	MW-34_111423	Water	11/14/23 11:50	11/17/23 09:40
240-195684-4	MW-41_111423	Water	11/14/23 09:40	11/17/23 09:40
240-195684-5	MW-209S_111423	Water	11/14/23 13:05	11/17/23 09:40
240-195684-6	MW-210S_111423	Water	11/14/23 10:45	11/17/23 09:40

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

# Detection Summary

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-195684-1

## Client Sample ID: TRIP BLANK\_123

Lab Sample ID: 240-195684-1

No Detections.

## Client Sample ID: MW-42\_111423

Lab Sample ID: 240-195684-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.93	J	1.0	0.45	ug/L	1		8260D	Total/NA

## Client Sample ID: MW-34\_111423

Lab Sample ID: 240-195684-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	6.6		2.0	0.86	ug/L	1		8260D SIM	Total/NA
Vinyl chloride	1.9		1.0	0.45	ug/L	1		8260D	Total/NA

## Client Sample ID: MW-41\_111423

Lab Sample ID: 240-195684-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	11		2.0	0.86	ug/L	1		8260D SIM	Total/NA
Vinyl chloride	0.73	J	1.0	0.45	ug/L	1		8260D	Total/NA

## Client Sample ID: MW-209S\_111423

Lab Sample ID: 240-195684-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.50	J	1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	1.1		1.0	0.45	ug/L	1		8260D	Total/NA

## Client Sample ID: MW-210S\_111423

Lab Sample ID: 240-195684-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.4	J	2.0	0.86	ug/L	1		8260D SIM	Total/NA
cis-1,2-Dichloroethene	19		1.0	0.46	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	2.5		1.0	0.51	ug/L	1		8260D	Total/NA
Vinyl chloride	6.4		1.0	0.45	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

Client: ARCADIS US Inc  
 Project/Site: Ford LTP - On Site

Job ID: 240-195684-1

**Client Sample ID: TRIP BLANK\_123**

**Lab Sample ID: 240-195684-1**

**Date Collected: 11/14/23 00:00**

**Matrix: Water**

**Date Received: 11/17/23 09:40**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			11/24/23 17:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/24/23 17:39	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/24/23 17:39	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/24/23 17:39	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/24/23 17:39	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/24/23 17:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		62 - 137		11/24/23 17:39	1
4-Bromofluorobenzene (Surr)	97		56 - 136		11/24/23 17:39	1
Toluene-d8 (Surr)	110		78 - 122		11/24/23 17:39	1
Dibromofluoromethane (Surr)	83		73 - 120		11/24/23 17:39	1

# Client Sample Results

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-195684-1

**Client Sample ID: MW-42\_111423**

**Lab Sample ID: 240-195684-2**

Date Collected: 11/14/23 14:15

Matrix: Water

Date Received: 11/17/23 09:40

**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 H	2.0	0.86	ug/L			11/30/23 23:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		66 - 120		11/30/23 23:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			11/24/23 18:04	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/24/23 18:04	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/24/23 18:04	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/24/23 18:04	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/24/23 18:04	1
<b>Vinyl chloride</b>	<b>0.93</b>	<b>J</b>	1.0	0.45	ug/L			11/24/23 18:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		62 - 137		11/24/23 18:04	1
4-Bromofluorobenzene (Surr)	95		56 - 136		11/24/23 18:04	1
Toluene-d8 (Surr)	106		78 - 122		11/24/23 18:04	1
Dibromofluoromethane (Surr)	91		73 - 120		11/24/23 18:04	1

# Client Sample Results

Client: ARCADIS US Inc  
 Project/Site: Ford LTP - On Site

Job ID: 240-195684-1

**Client Sample ID: MW-34\_111423**

**Lab Sample ID: 240-195684-3**

Date Collected: 11/14/23 11:50

Matrix: Water

Date Received: 11/17/23 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	6.6		2.0	0.86	ug/L			11/27/23 22:35	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)	97		66 - 120					11/27/23 22:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			11/24/23 18:29	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/24/23 18:29	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/24/23 18:29	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/24/23 18:29	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/24/23 18:29	1
Vinyl chloride	1.9		1.0	0.45	ug/L			11/24/23 18:29	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)	100		62 - 137					11/24/23 18:29	1
4-Bromofluorobenzene (Surr)	95		56 - 136					11/24/23 18:29	1
Toluene-d8 (Surr)	112		78 - 122					11/24/23 18:29	1
Dibromofluoromethane (Surr)	86		73 - 120					11/24/23 18:29	1

# Client Sample Results

Client: ARCADIS US Inc  
 Project/Site: Ford LTP - On Site

Job ID: 240-195684-1

**Client Sample ID: MW-41\_111423**

**Lab Sample ID: 240-195684-4**

Date Collected: 11/14/23 09:40

Matrix: Water

Date Received: 11/17/23 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	11		2.0	0.86	ug/L			11/27/23 22:59	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)	95		66 - 120					11/27/23 22:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			11/26/23 12:38	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/26/23 12:38	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/26/23 12:38	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/26/23 12:38	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/26/23 12:38	1
Vinyl chloride	0.73	J	1.0	0.45	ug/L			11/26/23 12:38	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)	96		62 - 137					11/26/23 12:38	1
4-Bromofluorobenzene (Surr)	92		56 - 136					11/26/23 12:38	1
Toluene-d8 (Surr)	104		78 - 122					11/26/23 12:38	1
Dibromofluoromethane (Surr)	92		73 - 120					11/26/23 12:38	1

# Client Sample Results

Client: ARCADIS US Inc  
 Project/Site: Ford LTP - On Site

Job ID: 240-195684-1

**Client Sample ID: MW-209S\_111423**

**Lab Sample ID: 240-195684-5**

Date Collected: 11/14/23 13:05

Matrix: Water

Date Received: 11/17/23 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			11/27/23 23:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		66 - 120		11/27/23 23:23	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			11/26/23 13:04	1
<b>cis-1,2-Dichloroethene</b>	<b>0.50</b>	<b>J</b>	1.0	0.46	ug/L			11/26/23 13:04	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/26/23 13:04	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/26/23 13:04	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/26/23 13:04	1
<b>Vinyl chloride</b>	<b>1.1</b>		1.0	0.45	ug/L			11/26/23 13:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		62 - 137		11/26/23 13:04	1
4-Bromofluorobenzene (Surr)	97		56 - 136		11/26/23 13:04	1
Toluene-d8 (Surr)	103		78 - 122		11/26/23 13:04	1
Dibromofluoromethane (Surr)	84		73 - 120		11/26/23 13:04	1

# Client Sample Results

Client: ARCADIS US Inc  
 Project/Site: Ford LTP - On Site

Job ID: 240-195684-1

**Client Sample ID: MW-210S\_111423**

**Lab Sample ID: 240-195684-6**

Date Collected: 11/14/23 10:45

Matrix: Water

Date Received: 11/17/23 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.4	J	2.0	0.86	ug/L			11/27/23 23:47	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)	94		66 - 120					11/27/23 23:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			11/26/23 13:31	1
cis-1,2-Dichloroethene	19		1.0	0.46	ug/L			11/26/23 13:31	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/26/23 13:31	1
trans-1,2-Dichloroethene	2.5		1.0	0.51	ug/L			11/26/23 13:31	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/26/23 13:31	1
Vinyl chloride	6.4		1.0	0.45	ug/L			11/26/23 13:31	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)	90		62 - 137					11/26/23 13:31	1
4-Bromofluorobenzene (Surr)	97		56 - 136					11/26/23 13:31	1
Toluene-d8 (Surr)	101		78 - 122					11/26/23 13:31	1
Dibromofluoromethane (Surr)	90		73 - 120					11/26/23 13:31	1

# Surrogate Summary

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-195684-1

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (62-137)	BFB (56-136)	TOL (78-122)	DBFM (73-120)
240-195684-1	TRIP BLANK_123	97	97	110	83
240-195684-2	MW-42_111423	92	95	106	91
240-195684-2 MS	MW-42_111423	90	101	110	88
240-195684-2 MSD	MW-42_111423	93	104	107	89
240-195684-3	MW-34_111423	100	95	112	86
240-195684-4	MW-41_111423	96	92	104	92
240-195684-5	MW-209S_111423	86	97	103	84
240-195684-6	MW-210S_111423	90	97	101	90
LCS 240-595675/4	Lab Control Sample	89	98	110	92
LCS 240-595698/4	Lab Control Sample	92	98	102	84
MB 240-595675/7	Method Blank	87	96	104	81
MB 240-595698/7	Method Blank	90	95	104	89

### Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(66-120)
240-195684-2	MW-42_111423	100
240-195684-3	MW-34_111423	97
240-195684-4	MW-41_111423	95
240-195684-5	MW-209S_111423	96
240-195684-6	MW-210S_111423	94
240-195686-L-5 MS	Matrix Spike	94
240-195686-Q-5 MSD	Matrix Spike Duplicate	94
500-243000-A-1 MS	Matrix Spike	99
500-243000-A-1 MSD	Matrix Spike Duplicate	98
LCS 240-595844/4	Lab Control Sample	98
LCS 240-596235/4	Lab Control Sample	94
MB 240-595844/6	Method Blank	98
MB 240-596235/6	Method Blank	95

### Surrogate Legend

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

# QC Sample Results

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-195684-1

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

**Lab Sample ID: MB 240-595675/7**  
**Matrix: Water**  
**Analysis Batch: 595675**

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			11/24/23 10:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/24/23 10:07	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/24/23 10:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/24/23 10:07	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/24/23 10:07	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/24/23 10:07	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	87		62 - 137		11/24/23 10:07	1
4-Bromofluorobenzene (Surr)	96		56 - 136		11/24/23 10:07	1
Toluene-d8 (Surr)	104		78 - 122		11/24/23 10:07	1
Dibromofluoromethane (Surr)	81		73 - 120		11/24/23 10:07	1

**Lab Sample ID: LCS 240-595675/4**  
**Matrix: Water**  
**Analysis Batch: 595675**

**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	26.7		ug/L		107	63 - 134
cis-1,2-Dichloroethene	25.0	25.0		ug/L		100	77 - 123
Tetrachloroethene	25.0	28.9		ug/L		116	76 - 123
trans-1,2-Dichloroethene	25.0	26.2		ug/L		105	75 - 124
Trichloroethene	25.0	24.3		ug/L		97	70 - 122
Vinyl chloride	12.5	13.4		ug/L		107	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	89		62 - 137
4-Bromofluorobenzene (Surr)	98		56 - 136
Toluene-d8 (Surr)	110		78 - 122
Dibromofluoromethane (Surr)	92		73 - 120

**Lab Sample ID: 240-195684-2 MS**  
**Matrix: Water**  
**Analysis Batch: 595675**

**Client Sample ID: MW-42\_111423**  
**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	25.6		ug/L		102	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	25.9		ug/L		104	66 - 128
Tetrachloroethene	1.0	U	25.0	23.4		ug/L		94	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	25.1		ug/L		101	56 - 136
Trichloroethene	1.0	U	25.0	23.9		ug/L		96	61 - 124
Vinyl chloride	0.93	J	12.5	13.8		ug/L		103	43 - 157

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	90		62 - 137
4-Bromofluorobenzene (Surr)	101		56 - 136
Toluene-d8 (Surr)	110		78 - 122

Eurofins Cleveland



# QC Sample Results

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-195684-1

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

**Lab Sample ID: 240-195684-2 MS**  
**Matrix: Water**  
**Analysis Batch: 595675**

**Client Sample ID: MW-42\_111423**  
**Prep Type: Total/NA**

Surrogate	%Recovery	MS MS Qualifier	Limits
Dibromofluoromethane (Surr)	88		73 - 120

**Lab Sample ID: 240-195684-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 595675**

**Client Sample ID: MW-42\_111423**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	25.0	27.5		ug/L		110	56 - 135	7	26
cis-1,2-Dichloroethene	1.0	U	25.0	26.5		ug/L		106	66 - 128	2	14
Tetrachloroethene	1.0	U	25.0	27.0		ug/L		108	62 - 131	14	20
trans-1,2-Dichloroethene	1.0	U	25.0	23.0		ug/L		92	56 - 136	9	15
Trichloroethene	1.0	U	25.0	24.3		ug/L		97	61 - 124	2	15
Vinyl chloride	0.93	J	12.5	15.0		ug/L		113	43 - 157	8	24

  

Surrogate	%Recovery	MSD MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		62 - 137
4-Bromofluorobenzene (Surr)	104		56 - 136
Toluene-d8 (Surr)	107		78 - 122
Dibromofluoromethane (Surr)	89		73 - 120

**Lab Sample ID: MB 240-595698/7**  
**Matrix: Water**  
**Analysis Batch: 595698**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			11/26/23 11:22	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/26/23 11:22	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/26/23 11:22	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/26/23 11:22	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/26/23 11:22	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/26/23 11:22	1

  

Surrogate	%Recovery	MB MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		62 - 137		11/26/23 11:22	1
4-Bromofluorobenzene (Surr)	95		56 - 136		11/26/23 11:22	1
Toluene-d8 (Surr)	104		78 - 122		11/26/23 11:22	1
Dibromofluoromethane (Surr)	89		73 - 120		11/26/23 11:22	1

**Lab Sample ID: LCS 240-595698/4**  
**Matrix: Water**  
**Analysis Batch: 595698**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	25.0	28.9		ug/L		115	63 - 134
cis-1,2-Dichloroethene	25.0	29.0		ug/L		116	77 - 123
Tetrachloroethene	25.0	29.7		ug/L		119	76 - 123
trans-1,2-Dichloroethene	25.0	27.7		ug/L		111	75 - 124
Trichloroethene	25.0	25.7		ug/L		103	70 - 122

Eurofins Cleveland

# QC Sample Results

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-195684-1

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

**Lab Sample ID: LCS 240-595698/4**  
**Matrix: Water**  
**Analysis Batch: 595698**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl chloride	12.5	14.4		ug/L		115	60 - 144

  

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		62 - 137
4-Bromofluorobenzene (Surr)	98		56 - 136
Toluene-d8 (Surr)	102		78 - 122
Dibromofluoromethane (Surr)	84		73 - 120

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

**Lab Sample ID: MB 240-595844/6**  
**Matrix: Water**  
**Analysis Batch: 595844**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			11/27/23 17:47	1

  

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		66 - 120		11/27/23 17:47	1

**Lab Sample ID: LCS 240-595844/4**  
**Matrix: Water**  
**Analysis Batch: 595844**

**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	10.2		ug/L		102	80 - 122

  

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		66 - 120

**Lab Sample ID: 240-195686-L-5 MS**  
**Matrix: Water**  
**Analysis Batch: 595844**

**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	2.0	U	10.0	11.1		ug/L		111	51 - 153

  

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		66 - 120

**Lab Sample ID: 240-195686-Q-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 595844**

**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	2.0	U	10.0	10.8		ug/L		108	51 - 153	3	16

Eurofins Cleveland

# QC Sample Results

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-195684-1

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

**Lab Sample ID: 240-195686-Q-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 595844**

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		66 - 120

**Lab Sample ID: MB 240-596235/6**  
**Matrix: Water**  
**Analysis Batch: 596235**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			11/30/23 20:47	1

  

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		66 - 120		11/30/23 20:47	1

**Lab Sample ID: LCS 240-596235/4**  
**Matrix: Water**  
**Analysis Batch: 596235**

**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	10.2		ug/L		102	80 - 122

  

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		66 - 120

**Lab Sample ID: 500-243000-A-1 MS**  
**Matrix: Water**  
**Analysis Batch: 596235**

**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	1.4	J	10.0	11.7		ug/L		103	51 - 153

  

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		66 - 120

**Lab Sample ID: 500-243000-A-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 596235**

**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	1.4	J	10.0	12.0		ug/L		106	51 - 153	2	16

  

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		66 - 120

# QC Association Summary

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-195684-1

## GC/MS VOA

### Analysis Batch: 595675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195684-1	TRIP BLANK_123	Total/NA	Water	8260D	
240-195684-2	MW-42_111423	Total/NA	Water	8260D	
240-195684-3	MW-34_111423	Total/NA	Water	8260D	
MB 240-595675/7	Method Blank	Total/NA	Water	8260D	
LCS 240-595675/4	Lab Control Sample	Total/NA	Water	8260D	
240-195684-2 MS	MW-42_111423	Total/NA	Water	8260D	
240-195684-2 MSD	MW-42_111423	Total/NA	Water	8260D	

### Analysis Batch: 595698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195684-4	MW-41_111423	Total/NA	Water	8260D	
240-195684-5	MW-209S_111423	Total/NA	Water	8260D	
240-195684-6	MW-210S_111423	Total/NA	Water	8260D	
MB 240-595698/7	Method Blank	Total/NA	Water	8260D	
LCS 240-595698/4	Lab Control Sample	Total/NA	Water	8260D	

### Analysis Batch: 595844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195684-3	MW-34_111423	Total/NA	Water	8260D SIM	
240-195684-4	MW-41_111423	Total/NA	Water	8260D SIM	
240-195684-5	MW-209S_111423	Total/NA	Water	8260D SIM	
240-195684-6	MW-210S_111423	Total/NA	Water	8260D SIM	
MB 240-595844/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-595844/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-195686-L-5 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-195686-Q-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

### Analysis Batch: 596235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195684-2	MW-42_111423	Total/NA	Water	8260D SIM	
MB 240-596235/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-596235/4	Lab Control Sample	Total/NA	Water	8260D SIM	
500-243000-A-1 MS	Matrix Spike	Total/NA	Water	8260D SIM	
500-243000-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

# Lab Chronicle

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-195684-1

**Client Sample ID: TRIP BLANK\_123**

**Lab Sample ID: 240-195684-1**

Date Collected: 11/14/23 00:00

Matrix: Water

Date Received: 11/17/23 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	595675	LEE	EET CLE	11/24/23 17:39

**Client Sample ID: MW-42\_111423**

**Lab Sample ID: 240-195684-2**

Date Collected: 11/14/23 14:15

Matrix: Water

Date Received: 11/17/23 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	595675	LEE	EET CLE	11/24/23 18:04
Total/NA	Analysis	8260D SIM		1	596235	CS	EET CLE	11/30/23 23:35

**Client Sample ID: MW-34\_111423**

**Lab Sample ID: 240-195684-3**

Date Collected: 11/14/23 11:50

Matrix: Water

Date Received: 11/17/23 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	595675	LEE	EET CLE	11/24/23 18:29
Total/NA	Analysis	8260D SIM		1	595844	CS	EET CLE	11/27/23 22:35

**Client Sample ID: MW-41\_111423**

**Lab Sample ID: 240-195684-4**

Date Collected: 11/14/23 09:40

Matrix: Water

Date Received: 11/17/23 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	595698	LEE	EET CLE	11/26/23 12:38
Total/NA	Analysis	8260D SIM		1	595844	CS	EET CLE	11/27/23 22:59

**Client Sample ID: MW-209S\_111423**

**Lab Sample ID: 240-195684-5**

Date Collected: 11/14/23 13:05

Matrix: Water

Date Received: 11/17/23 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	595698	LEE	EET CLE	11/26/23 13:04
Total/NA	Analysis	8260D SIM		1	595844	CS	EET CLE	11/27/23 23:23

**Client Sample ID: MW-210S\_111423**

**Lab Sample ID: 240-195684-6**

Date Collected: 11/14/23 10:45

Matrix: Water

Date Received: 11/17/23 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	595698	LEE	EET CLE	11/26/23 13:31
Total/NA	Analysis	8260D SIM		1	595844	CS	EET CLE	11/27/23 23:47

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-195684-1

## 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
Georgia	State	4062	02-27-24
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-28-24
Kentucky (WW)	State	KY98016	12-31-23
Michigan	State	9135	02-27-24
Minnesota	NELAP	039-999-348	12-31-23
Minnesota (Petrofund)	State	3506	08-01-23 *
New Jersey	NELAP	OH001	07-01-24
New York	NELAP	10975	04-02-24
Ohio	State	8303	02-27-24
Ohio VAP	State	ORELAP 4062	02-27-24
Oregon	NELAP	4062	02-27-24
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-23

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

# Chain of Custody Record



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

<b>Client Contact</b> Company Name: Arcadis Address: 28550 Cabot Drive, Suite 500 City/State/Zip: Novi, MI, 48377 Phone: 248-994-2240		<b>Regulatory program:</b> DW NPDES RCRA Other																		
<b>Client Project Manager:</b> Kris Hinskey Telephone: 248-994-2240 Email: kristofor.hinskey@arcadis.com		<b>Site Contact:</b> Christina Weaver Telephone: 248-994-2240																		
<b>Sampler Name:</b> Kent Kasper Method of Shipment/Carrier:		<b>Analysis Turnaround Time</b> TAT if different from below: 10 day 3 weeks 1 week 2 weeks 2 days 1 day																		
<b>Shipping/Tracking No:</b>		<b>Filtered Sample (Y/N)</b> Composite C / Grab G																		
Sample Identification	Sample Date	Sample Time	Matrix				Containers & Preservatives				Filtered Sample (Y/N)	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	Analyses	COC No:
			Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl										
TRIP BLANK - 123																				1 of 1 COCs
MW-42-111423	11/14/23	1415																		For lab use only
MW-34-111423	11/14/23	1150																		Walk-in client
MW-41-111423	11/14/23	0940																		Lab sampling
MW-2095-111423	11/14/23	1305																		Job/SDG No:
MW-2105-111423	11/14/23	1045																		Sample Specific Notes / Special Instructions:
																				1 Trip Blank
																				3 VOAs for 8260D 3 VOAs for 8260D SIM
240-195684 Chain of Custody																				
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Injurious										Sample Disposition <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive for _____ Months										
Submit all results through Cadena at jtomalta@cadenaco.com. Cadena #E203728 Level IV Reporting requested.																				
Relinquished by: Kent Kasper Company: Arcadis Date/Time: 11/14/23 1550					Received by: Aloni Cold Spring Company: Arcadis Date/Time: 11/16/23 0815					Relinquished by: Aloni Cold Spring Company: Arcadis Date/Time: 11/16/23 1015					Received in Laboratory by: [Signature] Company: Arcadis Date/Time: 11-17-23 990					



Eurofins - Cleveland Sample Receipt Form/Narrative  
Barberton Facility

Login #: 195684

Client Arcadis Site Name \_\_\_\_\_ Cooler unpacked by: [Signature]  
Cooler Received on 11-17-23 Opened on 11-17-23  
FedEx: 1<sup>st</sup> 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 Foam  Plastic Bag  None  Other \_\_\_\_\_  
COOLANT: Wet Ice Blue Ice  Dry Ice  Water  None

1. Cooler temperature upon receipt  See Multiple Cooler Form  
IR GUN # 21 (CF +0.2 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 3 Yes No  
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA  
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA  
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No Yes
4. Did custody papers accompany the sample(s)? Yes No Yes
5. Were the custody papers relinquished & signed in the appropriate place? Yes No Yes
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No Yes
7. Did all bottles arrive in good condition (Unbroken)? Yes No Yes
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No Yes
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 Yes
10. Were correct bottle(s) used for the test(s) indicated? Yes No Yes
11. Sufficient quantity received to perform indicated analyses? Yes No Yes
12. Are these work share samples and all listed on the COC? Yes No Yes  
 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# HC316719
14. Were VOAs on the COC? Yes No Yes
15. Were air bubbles >6 mm in any VOA vials?  Larger than this. Yes No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # \_\_\_\_\_ Yes No Yes
17. Was a LL Hg or Me Hg trip blank present? Yes No Yes

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

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: \_\_\_\_\_





# DATA VERIFICATION REPORT



December 05, 2023

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- onsite groundwater

Event Specific Scope of Work References: Sample COC

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory submittal: 195684-1

Sample date: 2023-11-14

Report received by CADENA: 2023-12-05

Initial Data Verification completed by CADENA: 2023-12-05

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:

HTQ - GCMS VOC SIM sample -002 analyses were performed outside of reference holding time so all associated results should be considered to be estimated and qualified with UJ flags if non-detect.

GCMS VOC QC batch MS/MSD issues as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

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

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

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

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

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

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

## CADENA Valid Qualifiers

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

# Qualified Results Summary

CADENA Project ID: E203728

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory Submittal: 195684-1

Sample Name: MW-42\_111423

Lab Sample ID: 2401956842

Sample Date: 11/14/2023

Analyte	Cas No.	Report		Units	Valid Qualifier
		Result	Limit		
GC/MS VOC					
<u>OSW-8260DSIM</u>					
1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ

## Analytical Results Summary

CADENA Project ID: E203728

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory Submittal: 195684-1

Analyte	Cas No.	Sample Name: TRIP BLANK_123				MW-42_111423				MW-34_111423				MW-41_111423				MW-2095_111423				MW-2105_111423			
		Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid				
		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	---	0.50	1.0	ug/l	J	19	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	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	---	2.5	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	---	0.93	1.0	ug/l	J	1.9	1.0	ug/l	---	0.73	1.0	ug/l	J	1.1	1.0	ug/l	---	6.4	1.0	ug/l	---
<u>OSW-8260DSIM</u>																									
1,4-Dioxane	123-91-1					ND	2.0	ug/l	UJ	6.6	2.0	ug/l	---	11	2.0	ug/l	---	ND	2.0	ug/l	---	1.4	2.0	ug/l	J