

# ANALYTICAL REPORT

## PREPARED FOR

Attn: Kristoffer Hinskey  
ARCADIS US Inc  
28550 Cabot Drive  
Suite 500  
Novi, Michigan 48377

Generated 8/21/2023 4:33:09 AM

## JOB DESCRIPTION

Ford LTP - On Site

## JOB NUMBER

240-189761-1

# Eurofins Cleveland

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

## Authorization



Generated  
8/21/2023 4:33:09 AM

Authorized for release by  
Michael DeMonico, Project Manager I  
[Michael.DeMonico@et.eurofinsus.com](mailto:Michael.DeMonico@et.eurofinsus.com)  
(330)497-9396



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Method Summary . . . . .	6
Sample Summary . . . . .	7
Detection Summary . . . . .	8
Client Sample Results . . . . .	9
Surrogate Summary . . . . .	13
QC Sample Results . . . . .	14
QC Association Summary . . . . .	18
Lab Chronicle . . . . .	19
Certification Summary . . . . .	20
Chain of Custody . . . . .	21

# Definitions/Glossary

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

Job ID: 240-189761-1

## 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 US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-189761-1

---

**Job ID: 240-189761-1**

---

**Laboratory: Eurofins Cleveland**

---

**Narrative**

**Job Narrative  
240-189761-1**

**Receipt**

The samples were received on 8/9/2023 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 2 coolers at receipt time were 2.7°C and 4.4°C

**GC/MS VOA**

Method 8260D\_SIM: The MS/MSD for batch 240-583674 was not analyzed due to an instrument malfunction. The following sample was affected: MW-48R\_080723 (240-189761-2)

Method 8260D\_SIM: The method requirement for no headspace was not met. The following volatile sample was analyzed with headspace in the sample container(s): MW-48R\_080723 (240-189761-2).

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: 240-189761-1

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

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

# Sample Summary

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

Job ID: 240-189761-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-189761-1	TRIP BLANK_19	Water	08/07/23 00:00	08/09/23 08:00
240-189761-2	MW-48R_080723	Water	08/07/23 11:10	08/09/23 08:00
240-189761-3	MW-67_080723	Water	08/07/23 12:15	08/09/23 08:00
240-189761-4	MW-68_080723	Water	08/07/23 13:20	08/09/23 08:00

- 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: 240-189761-1

## Client Sample ID: TRIP BLANK\_19

Lab Sample ID: 240-189761-1

No Detections.

## Client Sample ID: MW-48R\_080723

Lab Sample ID: 240-189761-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	8.4		2.0	0.86	ug/L	1		8260D SIM	Total/NA

## Client Sample ID: MW-67\_080723

Lab Sample ID: 240-189761-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.9		1.0	0.46	ug/L	1		8260D	Total/NA
Trichloroethene	60		2.0	0.88	ug/L	2		8260D	Total/NA

## Client Sample ID: MW-68\_080723

Lab Sample ID: 240-189761-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.89	J	1.0	0.46	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cleveland



# Client Sample Results

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

Job ID: 240-189761-1

**Client Sample ID: TRIP BLANK\_19**

**Lab Sample ID: 240-189761-1**

Date Collected: 08/07/23 00:00

Matrix: Water

Date Received: 08/09/23 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			08/16/23 14:49	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/16/23 14:49	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/16/23 14:49	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/16/23 14:49	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/16/23 14:49	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/16/23 14:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		62 - 137		08/16/23 14:49	1
4-Bromofluorobenzene (Surr)	93		56 - 136		08/16/23 14:49	1
Toluene-d8 (Surr)	99		78 - 122		08/16/23 14:49	1
Dibromofluoromethane (Surr)	115		73 - 120		08/16/23 14:49	1

# Client Sample Results

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

Job ID: 240-189761-1

**Client Sample ID: MW-48R\_080723**

**Lab Sample ID: 240-189761-2**

Date Collected: 08/07/23 11:10

Matrix: Water

Date Received: 08/09/23 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	8.4		2.0	0.86	ug/L			08/11/23 15:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		66 - 120					08/11/23 15:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			08/16/23 15:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/16/23 15:12	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/16/23 15:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/16/23 15:12	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/16/23 15:12	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/16/23 15:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		62 - 137					08/16/23 15:12	1
4-Bromofluorobenzene (Surr)	92		56 - 136					08/16/23 15:12	1
Toluene-d8 (Surr)	93		78 - 122					08/16/23 15:12	1
Dibromofluoromethane (Surr)	108		73 - 120					08/16/23 15:12	1

# Client Sample Results

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

Job ID: 240-189761-1

**Client Sample ID: MW-67\_080723**

**Lab Sample ID: 240-189761-3**

Date Collected: 08/07/23 12:15

Matrix: Water

Date Received: 08/09/23 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			08/10/23 13:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		66 - 120					08/10/23 13:44	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			08/16/23 15:35	1
<b>cis-1,2-Dichloroethene</b>	<b>2.9</b>		1.0	0.46	ug/L			08/16/23 15:35	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/16/23 15:35	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/16/23 15:35	1
<b>Trichloroethene</b>	<b>60</b>		2.0	0.88	ug/L			08/17/23 13:58	2
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/16/23 15:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		62 - 137					08/16/23 15:35	1
1,2-Dichloroethane-d4 (Surr)	94		62 - 137					08/17/23 13:58	2
4-Bromofluorobenzene (Surr)	93		56 - 136					08/16/23 15:35	1
4-Bromofluorobenzene (Surr)	91		56 - 136					08/17/23 13:58	2
Toluene-d8 (Surr)	96		78 - 122					08/16/23 15:35	1
Toluene-d8 (Surr)	94		78 - 122					08/17/23 13:58	2
Dibromofluoromethane (Surr)	110		73 - 120					08/16/23 15:35	1
Dibromofluoromethane (Surr)	98		73 - 120					08/17/23 13:58	2

# Client Sample Results

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

Job ID: 240-189761-1

**Client Sample ID: MW-68\_080723**

**Lab Sample ID: 240-189761-4**

Date Collected: 08/07/23 13:20

Matrix: Water

Date Received: 08/09/23 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			08/10/23 14:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		66 - 120					08/10/23 14:08	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			08/16/23 15:59	1
<b>cis-1,2-Dichloroethene</b>	<b>0.89</b>	<b>J</b>	1.0	0.46	ug/L			08/16/23 15:59	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/16/23 15:59	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/16/23 15:59	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/16/23 15:59	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/16/23 15:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		62 - 137					08/16/23 15:59	1
4-Bromofluorobenzene (Surr)	94		56 - 136					08/16/23 15:59	1
Toluene-d8 (Surr)	96		78 - 122					08/16/23 15:59	1
Dibromofluoromethane (Surr)	113		73 - 120					08/16/23 15:59	1

# Surrogate Summary

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

Job ID: 240-189761-1

## 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)
240-189761-1	TRIP BLANK_19	104	93	99	115
240-189761-2	MW-48R_080723	104	92	93	108
240-189761-3	MW-67_080723	106	93	96	110
240-189761-3	MW-67_080723	94	91	94	98
240-189761-4	MW-68_080723	109	94	96	113
240-189771-I-3 MSD	Matrix Spike Duplicate	101	97	98	104
240-189771-L-3 MS	Matrix Spike	97	92	95	103
240-190140-A-30 MSD	Matrix Spike Duplicate	95	100	100	93
240-190140-I-30 MS	Matrix Spike	88	98	97	89
LCS 240-584050/4	Lab Control Sample	101	100	101	100
LCS 240-584194/4	Lab Control Sample	102	95	100	107
MB 240-584050/7	Method Blank	104	96	99	105
MB 240-584194/7	Method Blank	105	92	96	109

### 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 (66-120)
240-189761-2	MW-48R_080723	89
240-189761-3	MW-67_080723	80
240-189761-4	MW-68_080723	82
LCS 240-583475/5	Lab Control Sample	97
LCS 240-583674/5	Lab Control Sample	90
MB 240-583475/7	Method Blank	91
MB 240-583674/7	Method Blank	91

### Surrogate Legend

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

# QC Sample Results

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

Job ID: 240-189761-1

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

Lab Sample ID: MB 240-584050/7

Matrix: Water

Analysis Batch: 584050

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			08/16/23 13:15	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/16/23 13:15	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/16/23 13:15	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/16/23 13:15	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/16/23 13:15	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/16/23 13:15	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	104		62 - 137		08/16/23 13:15	1
4-Bromofluorobenzene (Surr)	96		56 - 136		08/16/23 13:15	1
Toluene-d8 (Surr)	99		78 - 122		08/16/23 13:15	1
Dibromofluoromethane (Surr)	105		73 - 120		08/16/23 13:15	1

Lab Sample ID: LCS 240-584050/4

Matrix: Water

Analysis Batch: 584050

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	30.5		ug/L		122	63 - 134
cis-1,2-Dichloroethene	25.0	27.4		ug/L		110	77 - 123
Tetrachloroethene	25.0	28.8		ug/L		115	76 - 123
trans-1,2-Dichloroethene	25.0	28.3		ug/L		113	75 - 124
Trichloroethene	25.0	28.9		ug/L		116	70 - 122
Vinyl chloride	12.5	12.7		ug/L		101	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	101		62 - 137
4-Bromofluorobenzene (Surr)	100		56 - 136
Toluene-d8 (Surr)	101		78 - 122
Dibromofluoromethane (Surr)	100		73 - 120

Lab Sample ID: 240-189771-I-3 MSD

Matrix: Water

Analysis Batch: 584050

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
	Result	Qualifier		Result	Qualifier						
1,1-Dichloroethene	1.0	U	25.0	28.6		ug/L		115	56 - 135	6	26
cis-1,2-Dichloroethene	1.0	U	25.0	26.8		ug/L		107	66 - 128	5	14
Tetrachloroethene	1.0	U	25.0	27.5		ug/L		110	62 - 131	3	20
trans-1,2-Dichloroethene	1.0	U	25.0	26.7		ug/L		107	56 - 136	1	15
Trichloroethene	1.0	U	25.0	28.1		ug/L		112	61 - 124	4	15
Vinyl chloride	1.0	U	12.5	12.8		ug/L		102	43 - 157	0	24

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	101		62 - 137
4-Bromofluorobenzene (Surr)	97		56 - 136
Toluene-d8 (Surr)	98		78 - 122

Eurofins Cleveland

# QC Sample Results

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

Job ID: 240-189761-1

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

Lab Sample ID: 240-189771-I-3 MSD

Matrix: Water

Analysis Batch: 584050

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	104		73 - 120

Lab Sample ID: 240-189771-L-3 MS

Matrix: Water

Analysis Batch: 584050

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
1,1-Dichloroethene	1.0	U	25.0	27.0		ug/L		108	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	25.4		ug/L		102	66 - 128
Tetrachloroethene	1.0	U	25.0	26.8		ug/L		107	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	26.5		ug/L		106	56 - 136
Trichloroethene	1.0	U	25.0	27.0		ug/L		108	61 - 124
Vinyl chloride	1.0	U	12.5	12.7		ug/L		102	43 - 157

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	97		62 - 137
4-Bromofluorobenzene (Surr)	92		56 - 136
Toluene-d8 (Surr)	95		78 - 122
Dibromofluoromethane (Surr)	103		73 - 120

Lab Sample ID: MB 240-584194/7

Matrix: Water

Analysis Batch: 584194

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			08/17/23 12:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/17/23 12:16	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/17/23 12:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/17/23 12:16	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/17/23 12:16	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/17/23 12:16	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	105		62 - 137		08/17/23 12:16	1
4-Bromofluorobenzene (Surr)	92		56 - 136		08/17/23 12:16	1
Toluene-d8 (Surr)	96		78 - 122		08/17/23 12:16	1
Dibromofluoromethane (Surr)	109		73 - 120		08/17/23 12:16	1

Lab Sample ID: LCS 240-584194/4

Matrix: Water

Analysis Batch: 584194

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	31.1		ug/L		124	63 - 134
cis-1,2-Dichloroethene	25.0	27.3		ug/L		109	77 - 123
Tetrachloroethene	25.0	27.0		ug/L		108	76 - 123
trans-1,2-Dichloroethene	25.0	28.6		ug/L		114	75 - 124
Trichloroethene	25.0	29.1		ug/L		117	70 - 122

Eurofins Cleveland

# QC Sample Results

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

Job ID: 240-189761-1

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

Lab Sample ID: LCS 240-584194/4

Matrix: Water

Analysis Batch: 584194

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	12.6		ug/L		101	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		62 - 137
4-Bromofluorobenzene (Surr)	95		56 - 136
Toluene-d8 (Surr)	100		78 - 122
Dibromofluoromethane (Surr)	107		73 - 120

Lab Sample ID: 240-190140-A-30 MSD

Matrix: Water

Analysis Batch: 584194

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
1,1-Dichloroethene	1.0	U	25.0	25.5		ug/L		102	56 - 135	7	26
cis-1,2-Dichloroethene	1.0	U	25.0	22.9		ug/L		92	66 - 128	4	14
Tetrachloroethene	1.0	U	25.0	28.1		ug/L		112	62 - 131	6	20
trans-1,2-Dichloroethene	1.0	U	25.0	23.6		ug/L		94	56 - 136	8	15
Trichloroethene	1.0	U	25.0	24.0		ug/L		96	61 - 124	0	15
Vinyl chloride	3.0		12.5	13.3		ug/L		82	43 - 157	10	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		62 - 137
4-Bromofluorobenzene (Surr)	100		56 - 136
Toluene-d8 (Surr)	100		78 - 122
Dibromofluoromethane (Surr)	93		73 - 120

Lab Sample ID: 240-190140-I-30 MS

Matrix: Water

Analysis Batch: 584194

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
1,1-Dichloroethene	1.0	U	25.0	23.9		ug/L		96	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	22.0		ug/L		88	66 - 128
Tetrachloroethene	1.0	U	25.0	26.5		ug/L		106	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	21.8		ug/L		87	56 - 136
Trichloroethene	1.0	U	25.0	24.0		ug/L		96	61 - 124
Vinyl chloride	3.0		12.5	12.0		ug/L		72	43 - 157

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		62 - 137
4-Bromofluorobenzene (Surr)	98		56 - 136
Toluene-d8 (Surr)	97		78 - 122
Dibromofluoromethane (Surr)	89		73 - 120



# QC Sample Results

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

Job ID: 240-189761-1

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

Lab Sample ID: MB 240-583475/7

Matrix: Water

Analysis Batch: 583475

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			08/10/23 10:41	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		66 - 120					08/10/23 10:41	1

Lab Sample ID: LCS 240-583475/5

Matrix: Water

Analysis Batch: 583475

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	9.90		ug/L		99	80 - 122
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	97		66 - 120				

Lab Sample ID: MB 240-583674/7

Matrix: Water

Analysis Batch: 583674

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			08/11/23 14:54	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		66 - 120					08/11/23 14:54	1

Lab Sample ID: LCS 240-583674/5

Matrix: Water

Analysis Batch: 583674

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	10.6		ug/L		106	80 - 122
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	90		66 - 120				

# QC Association Summary

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

Job ID: 240-189761-1

## GC/MS VOA

### Analysis Batch: 583475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-189761-3	MW-67_080723	Total/NA	Water	8260D SIM	
240-189761-4	MW-68_080723	Total/NA	Water	8260D SIM	
MB 240-583475/7	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-583475/5	Lab Control Sample	Total/NA	Water	8260D SIM	

### Analysis Batch: 583674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-189761-2	MW-48R_080723	Total/NA	Water	8260D SIM	
MB 240-583674/7	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-583674/5	Lab Control Sample	Total/NA	Water	8260D SIM	

### Analysis Batch: 584050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-189761-1	TRIP BLANK_19	Total/NA	Water	8260D	
240-189761-2	MW-48R_080723	Total/NA	Water	8260D	
240-189761-3	MW-67_080723	Total/NA	Water	8260D	
240-189761-4	MW-68_080723	Total/NA	Water	8260D	
MB 240-584050/7	Method Blank	Total/NA	Water	8260D	
LCS 240-584050/4	Lab Control Sample	Total/NA	Water	8260D	
240-189771-I-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	
240-189771-L-3 MS	Matrix Spike	Total/NA	Water	8260D	

### Analysis Batch: 584194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-189761-3	MW-67_080723	Total/NA	Water	8260D	
MB 240-584194/7	Method Blank	Total/NA	Water	8260D	
LCS 240-584194/4	Lab Control Sample	Total/NA	Water	8260D	
240-190140-A-30 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	
240-190140-I-30 MS	Matrix Spike	Total/NA	Water	8260D	

# Lab Chronicle

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

Job ID: 240-189761-1

**Client Sample ID: TRIP BLANK\_19**

**Lab Sample ID: 240-189761-1**

Date Collected: 08/07/23 00:00

Matrix: Water

Date Received: 08/09/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	584050	LEE	EET CLE	08/16/23 14:49

**Client Sample ID: MW-48R\_080723**

**Lab Sample ID: 240-189761-2**

Date Collected: 08/07/23 11:10

Matrix: Water

Date Received: 08/09/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	584050	LEE	EET CLE	08/16/23 15:12
Total/NA	Analysis	8260D SIM		1	583674	MRL	EET CLE	08/11/23 15:19

**Client Sample ID: MW-67\_080723**

**Lab Sample ID: 240-189761-3**

Date Collected: 08/07/23 12:15

Matrix: Water

Date Received: 08/09/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	584050	LEE	EET CLE	08/16/23 15:35
Total/NA	Analysis	8260D		2	584194	LEE	EET CLE	08/17/23 13:58
Total/NA	Analysis	8260D SIM		1	583475	MRL	EET CLE	08/10/23 13:44

**Client Sample ID: MW-68\_080723**

**Lab Sample ID: 240-189761-4**

Date Collected: 08/07/23 13:20

Matrix: Water

Date Received: 08/09/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	584050	LEE	EET CLE	08/16/23 15:59
Total/NA	Analysis	8260D SIM		1	583475	MRL	EET CLE	08/10/23 14:08

**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: 240-189761-1

## 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	T104704517-22-17	08-31-23
Virginia	NELAP	460175	09-14-23
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 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																			
Company Name: Arcadis		Lab Contact: Mike DeMonico																			
Address: 28550 Cabot Drive, Suite 500		Telephone: 330-497-9396																			
City/State/Zip: Novi, MI, 48377		Telephone: 248-994-2240																			
Phone: 248-994-2240		Email: kristoffer.hinskey@arcadis.com																			
Project Name: Ford LTP On-Site		Sampler Name: Garrett Wink																			
Project Number: 30167538-401.03		Method of Shipment/Carrier:																			
PO # 30167538-401.03		Shipping/Tracking No.:																			
Sample Identification	Sample Date	Sample Time	Matrix						Filtered Sample (Y/N)	Composite C/Grab/G	Analytes				Sample Specific Notes / Special Instructions:						
			Air	Aqueous	Sediment	Solid	Other:	H2SO4			HNO3	HCl	NaOH	ZnAc		NaOH	Other:	1,1-DCE 8260D	cis-1,2-DCE 8260D	Trans-1,2-DCE 8260D	PCE 8260D
TRIP BLANK_19	---	---	1							X	X	X	X	X	X	X	X	X	X	X	1 Trip Blank
MW-48R-080723	08/07/23	11:10	6							X	X	X	X	X	X	X	X	X	X	X	3 VOAs for 8260D 3 VOAs for 8260D SIM
MW-67-080723	08/07/23	12:15	6							X	X	X	X	X	X	X	X	X	X	X	
MW-68-080723	08/07/23	13:20	6							X	X	X	X	X	X	X	X	X	X	X	
 240-189761 Chain of Custody															MICHIGAN 190						
Possible Hazard Identification											Sample Disposal (X fee may be assessed if samples are retained longer than 1 month)										
<input type="checkbox"/> Non-Hazard											<input type="checkbox"/> Irritant				<input type="checkbox"/> Poison B				<input type="checkbox"/> Unknown		
Special Instructions/QC Requirements & Comments:											Return to Client				Disposal By Lab				Archive For _____ Months		
Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203728											Level IV Reporting requested.										
Relinquished by: <i>[Signature]</i>											Company: Arcadis				Date/Time: 08/07/23 14:50				Received by: Novi cold storage		
Relinquished by: <i>[Signature]</i>											Company: Arcadis				Date/Time: 8/8/23 11:15				Received by: <i>[Signature]</i>		
Relinquished by: <i>[Signature]</i>											Company: EEA				Date/Time: 8/9/23 11:20				Received by: <i>[Signature]</i>		

©2008 TestAmerica Laboratories, Inc. All rights reserved. TestAmerica is a registered trademark of TestAmerica Laboratories, Inc.



Barberton Facility

Client Arcadis

Site Name Michigan

Cooler unpacked by:

Cooler Received on 8/9/23

Opened on 8/9/23

CMH

FedEx: 1<sup>st</sup> Grd Exp UPS FAS Clipper Client Drop Off Eurofins Courier Other

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

Eurofins Cooler # \_\_\_\_\_ 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 # \_\_\_\_\_ (CF \_\_\_\_\_ °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2 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)? CMH 8/9/23 Yes No

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

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

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

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

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

9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?

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

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

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

If yes, Questions 13-17 have been checked at the originating laboratory. CMH 8/9

13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA

14. Were VOAs on the COC? Yes No NA

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 # WETS Yes No

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

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

pH Strip Lot# 10BDH452T  
HC312502

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: \_\_\_\_\_

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

Eurofins - Canton Sample Receipt Multiple Cooler Form				
Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
EC Client Box Other	IR GUN #: 20	3.8	4.4	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: 20	2.1	2.7	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None

See Temperature Excursion Form

# DATA VERIFICATION REPORT



August 21, 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: 189761-1

Sample date: 2023-08-07

Report received by CADENA: 2023-08-21

Initial Data Verification completed by CADENA: 2023-08-21

Number of Samples:4

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:

SRN - Sample Receipt Non-conformance(headspace) - Sample -002 results for GCMS VOC SIM should be considered to be estimated and qualified with J flags if detected due to sample receipt non-conformance that affects the integrity of the sample. See laboratory submittal sample receipt forms for details.

GCMS VOC QC batch MS/MSD ISSUES response outliers 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, 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:** 189761-1

**Sample Name:** MW-48R\_080723

**Lab Sample ID:** 2401897612

**Sample Date:** 8/7/2023

Analyte	Cas No.	Report		Units	Valid Qualifier
		Result	Limit		
GC/MS VOC					
<u>OSW-8260DSIM</u>					
1,4-Dioxane	123-91-1	8.4	2.0	ug/l	J

## Analytical Results Summary

CADENA Project ID: E203728

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory Submittal: 189761-1

Analyte	Cas No.	Sample Name: TRIP BLANK_19				MW-48R_080723				MW-67_080723				MW-68_080723			
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier
		Lab Sample ID: 2401897611				2401897612				2401897613				2401897614			
		Sample Date: 8/7/2023				8/7/2023				8/7/2023				8/7/2023			

### GC/MS VOC

#### OSW-8260D

1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	2.9	1.0	ug/l	---	0.89	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	---
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	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	60	2.0	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	---

#### OSW-8260DSIM

1,4-Dioxane	123-91-1					8.4	2.0	ug/l	J	ND	2.0	ug/l	---	ND	2.0	ug/l	---
-------------	----------	--	--	--	--	-----	-----	------	---	----	-----	------	-----	----	-----	------	-----