

# ANALYTICAL REPORT

## PREPARED FOR

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## JOB DESCRIPTION

Ford LTP

## JOB NUMBER

240-209504-1

# Eurofins Cleveland

## Job Notes

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## Authorization



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# Definitions/Glossary

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

Job ID: 240-209504-1

## 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

Job ID: 240-209504-1

**Job ID: 240-209504-1**

**Eurofins Cleveland**

## Job Narrative 240-209504-1

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 and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided 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 8/15/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.8°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 240-623862 was outside the method criteria for the following analyte(s): Vinyl chloride. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

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

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# Method Summary

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

Job ID: 240-209504-1

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

**Protocol References:**

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

**Laboratory References:**

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



# Sample Summary

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

Job ID: 240-209504-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-209504-1	TRIP BLANK_15	Water	08/13/24 00:00	08/15/24 08:00
240-209504-2	MW-54S_081324	Water	08/13/24 16:36	08/15/24 08:00
240-209504-3	MW-219S_081324	Water	08/13/24 16:15	08/15/24 08:00
240-209504-4	MW-37_081324	Water	08/13/24 14:30	08/15/24 08:00
240-209504-5	MW-54_081324	Water	08/13/24 11:28	08/15/24 08:00

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

# Detection Summary

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

Job ID: 240-209504-1

**Client Sample ID: TRIP BLANK\_15**

**Lab Sample ID: 240-209504-1**

No Detections.

**Client Sample ID: MW-54S\_081324**

**Lab Sample ID: 240-209504-2**

No Detections.

**Client Sample ID: MW-219S\_081324**

**Lab Sample ID: 240-209504-3**

No Detections.

**Client Sample ID: MW-37\_081324**

**Lab Sample ID: 240-209504-4**

No Detections.

**Client Sample ID: MW-54\_081324**

**Lab Sample ID: 240-209504-5**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.6	J	2.0	0.86	ug/L	1		8260D SIM	Total/NA
Vinyl chloride	0.99	J	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 U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-209504-1

**Client Sample ID: TRIP BLANK\_15**

**Lab Sample ID: 240-209504-1**

Date Collected: 08/13/24 00:00

Matrix: Water

Date Received: 08/15/24 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			08/21/24 15:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/21/24 15:23	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/21/24 15:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/21/24 15:23	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/21/24 15:23	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/21/24 15:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		62 - 137		08/21/24 15:23	1
4-Bromofluorobenzene (Surr)	101		56 - 136		08/21/24 15:23	1
Toluene-d8 (Surr)	96		78 - 122		08/21/24 15:23	1
Dibromofluoromethane (Surr)	84		73 - 120		08/21/24 15:23	1

# Client Sample Results

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

Job ID: 240-209504-1

**Client Sample ID: MW-54S\_081324**

**Lab Sample ID: 240-209504-2**

Date Collected: 08/13/24 16:36

Matrix: Water

Date Received: 08/15/24 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			08/26/24 11:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		68 - 127					08/26/24 11:31	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			08/21/24 15:50	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/21/24 15:50	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/21/24 15:50	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/21/24 15:50	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/21/24 15:50	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/21/24 15:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		62 - 137					08/21/24 15:50	1
4-Bromofluorobenzene (Surr)	99		56 - 136					08/21/24 15:50	1
Toluene-d8 (Surr)	96		78 - 122					08/21/24 15:50	1
Dibromofluoromethane (Surr)	84		73 - 120					08/21/24 15:50	1

# Client Sample Results

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

Job ID: 240-209504-1

**Client Sample ID: MW-219S\_081324**

**Lab Sample ID: 240-209504-3**

Date Collected: 08/13/24 16:15

Matrix: Water

Date Received: 08/15/24 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			08/26/24 11:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		68 - 127					08/26/24 11:55	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			08/20/24 01:58	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/20/24 01:58	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/20/24 01:58	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/20/24 01:58	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/20/24 01:58	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/20/24 01:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		62 - 137					08/20/24 01:58	1
4-Bromofluorobenzene (Surr)	93		56 - 136					08/20/24 01:58	1
Toluene-d8 (Surr)	99		78 - 122					08/20/24 01:58	1
Dibromofluoromethane (Surr)	96		73 - 120					08/20/24 01:58	1

# Client Sample Results

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

Job ID: 240-209504-1

**Client Sample ID: MW-37\_081324**

**Lab Sample ID: 240-209504-4**

Date Collected: 08/13/24 14:30

Matrix: Water

Date Received: 08/15/24 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			08/26/24 12:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		68 - 127					08/26/24 12:18	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			08/20/24 02:20	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/20/24 02:20	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/20/24 02:20	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/20/24 02:20	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/20/24 02:20	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/20/24 02:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		62 - 137					08/20/24 02:20	1
4-Bromofluorobenzene (Surr)	92		56 - 136					08/20/24 02:20	1
Toluene-d8 (Surr)	97		78 - 122					08/20/24 02:20	1
Dibromofluoromethane (Surr)	95		73 - 120					08/20/24 02:20	1

# Client Sample Results

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

Job ID: 240-209504-1

**Client Sample ID: MW-54\_081324**

**Lab Sample ID: 240-209504-5**

Date Collected: 08/13/24 11:28

Matrix: Water

Date Received: 08/15/24 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	1.6	J	2.0	0.86	ug/L			08/26/24 12:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		68 - 127					08/26/24 12:42	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			08/21/24 12:43	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/21/24 12:43	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/21/24 12:43	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/21/24 12:43	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/21/24 12:43	1
Vinyl chloride	0.99	J	1.0	0.45	ug/L			08/21/24 12:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	123		62 - 137					08/21/24 12:43	1
4-Bromofluorobenzene (Surr)	91		56 - 136					08/21/24 12:43	1
Toluene-d8 (Surr)	97		78 - 122					08/21/24 12:43	1
Dibromofluoromethane (Surr)	105		73 - 120					08/21/24 12:43	1

# Surrogate Summary

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

Job ID: 240-209504-1

## 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)
240-209457-A-1 MS	Matrix Spike	94	107	104	91
240-209457-A-1 MSD	Matrix Spike Duplicate	88	104	100	87
240-209460-B-2 MS	Matrix Spike	99	100	100	101
240-209460-B-2 MSD	Matrix Spike Duplicate	92	95	94	97
240-209504-1	TRIP BLANK_15	88	101	96	84
240-209504-2	MW-54S_081324	88	99	96	84
240-209504-3	MW-219S_081324	104	93	99	96
240-209504-4	MW-37_081324	102	92	97	95
240-209504-5	MW-54_081324	123	91	97	105
240-209691-B-7 MS	Matrix Spike	112	100	99	100
240-209691-C-7 MSD	Matrix Spike Duplicate	112	99	99	100
LCS 240-623862/5	Lab Control Sample	91	95	94	95
LCS 240-624135/6	Lab Control Sample	81	102	95	83
LCS 240-624177/4	Lab Control Sample	112	95	98	100
MB 240-623862/9	Method Blank	93	85	90	88
MB 240-624135/10	Method Blank	86	101	96	83
MB 240-624177/7	Method Blank	117	86	94	99

### Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (68-127)
240-209504-2	MW-54S_081324	104
240-209504-3	MW-219S_081324	95
240-209504-4	MW-37_081324	92
240-209504-5	MW-54_081324	101
240-209613-B-3 MS	Matrix Spike	96
240-209613-C-3 MSD	Matrix Spike Duplicate	96
LCS 240-624672/4	Lab Control Sample	96
MB 240-624672/6	Method Blank	106

### Surrogate Legend

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

# QC Sample Results

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

Job ID: 240-209504-1

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

Lab Sample ID: MB 240-623862/9

Matrix: Water

Analysis Batch: 623862

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			08/19/24 23:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/19/24 23:24	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/19/24 23:24	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/19/24 23:24	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/19/24 23:24	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/19/24 23:24	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	93		62 - 137		08/19/24 23:24	1
4-Bromofluorobenzene (Surr)	85		56 - 136		08/19/24 23:24	1
Toluene-d8 (Surr)	90		78 - 122		08/19/24 23:24	1
Dibromofluoromethane (Surr)	88		73 - 120		08/19/24 23:24	1

Lab Sample ID: LCS 240-623862/5

Matrix: Water

Analysis Batch: 623862

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	19.1		ug/L		76	63 - 134
cis-1,2-Dichloroethene	25.0	20.9		ug/L		84	77 - 123
Tetrachloroethene	25.0	20.7		ug/L		83	76 - 123
trans-1,2-Dichloroethene	25.0	19.8		ug/L		79	75 - 124
Trichloroethene	25.0	22.6		ug/L		91	70 - 122
Vinyl chloride	12.5	13.1		ug/L		105	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	91		62 - 137
4-Bromofluorobenzene (Surr)	95		56 - 136
Toluene-d8 (Surr)	94		78 - 122
Dibromofluoromethane (Surr)	95		73 - 120

Lab Sample ID: 240-209460-B-2 MS

Matrix: Water

Analysis Batch: 623862

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
cis-1,2-Dichloroethene	0.59	J	25.0	19.7		ug/L		77	66 - 128
trans-1,2-Dichloroethene	1.0	U	25.0	17.5		ug/L		70	56 - 136
Trichloroethene	1.0	U	25.0	18.5		ug/L		74	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)	99		62 - 137
4-Bromofluorobenzene (Surr)	100		56 - 136
Toluene-d8 (Surr)	100		78 - 122
Dibromofluoromethane (Surr)	101		73 - 120

# QC Sample Results

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

Job ID: 240-209504-1

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

Lab Sample ID: 240-209460-B-2 MSD

Matrix: Water

Analysis Batch: 623862

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
cis-1,2-Dichloroethene	0.59	J	25.0	20.0		ug/L		78	66 - 128	1	14
trans-1,2-Dichloroethene	1.0	U	25.0	17.9		ug/L		72	56 - 136	3	15
Trichloroethene	1.0	U	25.0	18.5		ug/L		74	61 - 124	0	15
Vinyl chloride	1.0	U	12.5	12.1		ug/L		96	43 - 157	3	24

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	92		62 - 137
4-Bromofluorobenzene (Surr)	95		56 - 136
Toluene-d8 (Surr)	94		78 - 122
Dibromofluoromethane (Surr)	97		73 - 120

Lab Sample ID: MB 240-624135/10

Matrix: Water

Analysis Batch: 624135

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		08/21/24 13:34	1	
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L		08/21/24 13:34	1	
Tetrachloroethene	1.0	U	1.0	0.44	ug/L		08/21/24 13:34	1	
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L		08/21/24 13:34	1	
Trichloroethene	1.0	U	1.0	0.44	ug/L		08/21/24 13:34	1	
Vinyl chloride	1.0	U	1.0	0.45	ug/L		08/21/24 13:34	1	

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	86		62 - 137		08/21/24 13:34	1
4-Bromofluorobenzene (Surr)	101		56 - 136		08/21/24 13:34	1
Toluene-d8 (Surr)	96		78 - 122		08/21/24 13:34	1
Dibromofluoromethane (Surr)	83		73 - 120		08/21/24 13:34	1

Lab Sample ID: LCS 240-624135/6

Matrix: Water

Analysis Batch: 624135

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	20.0	19.7		ug/L		98	63 - 134
cis-1,2-Dichloroethene	20.0	18.3		ug/L		91	77 - 123
Tetrachloroethene	20.0	20.7		ug/L		103	76 - 123
trans-1,2-Dichloroethene	20.0	18.6		ug/L		93	75 - 124
Trichloroethene	20.0	18.9		ug/L		95	70 - 122
Vinyl chloride	20.0	18.7		ug/L		93	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	81		62 - 137
4-Bromofluorobenzene (Surr)	102		56 - 136
Toluene-d8 (Surr)	95		78 - 122
Dibromofluoromethane (Surr)	83		73 - 120

Eurofins Cleveland



# QC Sample Results

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

Job ID: 240-209504-1

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

Lab Sample ID: 240-209457-A-1 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 624135

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
1,1-Dichloroethene	630	U	12500	12000		ug/L		96	56 - 135	
cis-1,2-Dichloroethene	390	J	12500	11800		ug/L		91	66 - 128	
Tetrachloroethene	630	U	12500	12200		ug/L		97	62 - 131	
trans-1,2-Dichloroethene	630	U	12500	11400		ug/L		91	56 - 136	
Trichloroethene	630	U	12500	11200		ug/L		90	61 - 124	
Vinyl chloride	580	J	12500	11500		ug/L		88	43 - 157	

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	94		62 - 137
4-Bromofluorobenzene (Surr)	107		56 - 136
Toluene-d8 (Surr)	104		78 - 122
Dibromofluoromethane (Surr)	91		73 - 120

Lab Sample ID: 240-209457-A-1 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 624135

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier						Limit	
1,1-Dichloroethene	630	U	12500	13300		ug/L		106	56 - 135	10	26	
cis-1,2-Dichloroethene	390	J	12500	12800		ug/L		99	66 - 128	9	14	
Tetrachloroethene	630	U	12500	13600		ug/L		109	62 - 131	11	20	
trans-1,2-Dichloroethene	630	U	12500	12500		ug/L		100	56 - 136	10	15	
Trichloroethene	630	U	12500	12200		ug/L		98	61 - 124	9	15	
Vinyl chloride	580	J	12500	12500		ug/L		96	43 - 157	8	24	

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	88		62 - 137
4-Bromofluorobenzene (Surr)	104		56 - 136
Toluene-d8 (Surr)	100		78 - 122
Dibromofluoromethane (Surr)	87		73 - 120

Lab Sample ID: MB 240-624177/7

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 624177

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			08/21/24 11:43	1	
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/21/24 11:43	1	
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/21/24 11:43	1	
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/21/24 11:43	1	
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/21/24 11:43	1	
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/21/24 11:43	1	

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil	Fac
	%Recovery	Qualifier					
1,2-Dichloroethane-d4 (Surr)	117		62 - 137		08/21/24 11:43	1	
4-Bromofluorobenzene (Surr)	86		56 - 136		08/21/24 11:43	1	
Toluene-d8 (Surr)	94		78 - 122		08/21/24 11:43	1	

Eurofins Cleveland

# QC Sample Results

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

Job ID: 240-209504-1

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

**Lab Sample ID: MB 240-624177/7**  
**Matrix: Water**  
**Analysis Batch: 624177**

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

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Dibromofluoromethane (Surr)	99		73 - 120		08/21/24 11:43	1

**Lab Sample ID: LCS 240-624177/4**  
**Matrix: Water**  
**Analysis Batch: 624177**

**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	26.6		ug/L		106	63 - 134	
cis-1,2-Dichloroethene	25.0	27.2		ug/L		109	77 - 123	
Tetrachloroethene	25.0	26.6		ug/L		106	76 - 123	
trans-1,2-Dichloroethene	25.0	28.3		ug/L		113	75 - 124	
Trichloroethene	25.0	25.9		ug/L		104	70 - 122	
Vinyl chloride	12.5	14.0		ug/L		112	60 - 144	

  

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	112		62 - 137
4-Bromofluorobenzene (Surr)	95		56 - 136
Toluene-d8 (Surr)	98		78 - 122
Dibromofluoromethane (Surr)	100		73 - 120

**Lab Sample ID: 240-209691-B-7 MS**  
**Matrix: Water**  
**Analysis Batch: 624177**

**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	25.1		ug/L		100	56 - 135	
cis-1,2-Dichloroethene	1.0	U	25.0	24.1		ug/L		97	66 - 128	
Tetrachloroethene	1.0	U	25.0	24.5		ug/L		98	62 - 131	
trans-1,2-Dichloroethene	1.0	U	25.0	25.4		ug/L		101	56 - 136	
Trichloroethene	1.0	U	25.0	23.6		ug/L		94	61 - 124	
Vinyl chloride	1.0	U	12.5	13.5		ug/L		108	43 - 157	

  

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	112		62 - 137
4-Bromofluorobenzene (Surr)	100		56 - 136
Toluene-d8 (Surr)	99		78 - 122
Dibromofluoromethane (Surr)	100		73 - 120

**Lab Sample ID: 240-209691-C-7 MSD**  
**Matrix: Water**  
**Analysis Batch: 624177**

**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	25.4		ug/L		102	56 - 135	1	26	
cis-1,2-Dichloroethene	1.0	U	25.0	24.1		ug/L		96	66 - 128	0	14	
Tetrachloroethene	1.0	U	25.0	24.1		ug/L		97	62 - 131	1	20	
trans-1,2-Dichloroethene	1.0	U	25.0	25.3		ug/L		101	56 - 136	0	15	
Trichloroethene	1.0	U	25.0	23.9		ug/L		95	61 - 124	1	15	

Eurofins Cleveland

# QC Sample Results

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

Job ID: 240-209504-1

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

Lab Sample ID: 240-209691-C-7 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 624177

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Vinyl chloride	1.0	U	12.5	10.6		ug/L		85	43 - 157	24	24
<b>MSD MSD</b>											
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>								
1,2-Dichloroethane-d4 (Surr)	112		62 - 137								
4-Bromofluorobenzene (Surr)	99		56 - 136								
Toluene-d8 (Surr)	99		78 - 122								
Dibromofluoromethane (Surr)	100		73 - 120								

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

Lab Sample ID: MB 240-624672/6

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 624672

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			08/26/24 10:44	1
<b>MB MB</b>									
<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					08/26/24 10:44	1

Lab Sample ID: LCS 240-624672/4

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 624672

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	10.0	8.29		ug/L		83	75 - 121
<b>LCS LCS</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				
1,2-Dichloroethane-d4 (Surr)	96		68 - 127				

Lab Sample ID: 240-209613-B-3 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 624672

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	2.1		10.0	12.1		ug/L		100	20 - 180
<b>MS MS</b>									
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
1,2-Dichloroethane-d4 (Surr)	96		68 - 127						

Lab Sample ID: 240-209613-C-3 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 624672

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane	2.1		10.0	11.6		ug/L		95	20 - 180	4	20

Eurofins Cleveland

# QC Sample Results

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

Job ID: 240-209504-1

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

Lab Sample ID: 240-209613-C-3 MSD

Matrix: Water

Analysis Batch: 624672

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

<i>Surrogate</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
1,2-Dichloroethane-d4 (Surr)	96		68 - 127

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

# QC Association Summary

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

Job ID: 240-209504-1

## GC/MS VOA

### Analysis Batch: 623862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-209504-3	MW-219S_081324	Total/NA	Water	8260D	
240-209504-4	MW-37_081324	Total/NA	Water	8260D	
MB 240-623862/9	Method Blank	Total/NA	Water	8260D	
LCS 240-623862/5	Lab Control Sample	Total/NA	Water	8260D	
240-209460-B-2 MS	Matrix Spike	Total/NA	Water	8260D	
240-209460-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

### Analysis Batch: 624135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-209504-1	TRIP BLANK_15	Total/NA	Water	8260D	
240-209504-2	MW-54S_081324	Total/NA	Water	8260D	
MB 240-624135/10	Method Blank	Total/NA	Water	8260D	
LCS 240-624135/6	Lab Control Sample	Total/NA	Water	8260D	
240-209457-A-1 MS	Matrix Spike	Total/NA	Water	8260D	
240-209457-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

### Analysis Batch: 624177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-209504-5	MW-54_081324	Total/NA	Water	8260D	
MB 240-624177/7	Method Blank	Total/NA	Water	8260D	
LCS 240-624177/4	Lab Control Sample	Total/NA	Water	8260D	
240-209691-B-7 MS	Matrix Spike	Total/NA	Water	8260D	
240-209691-C-7 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

### Analysis Batch: 624672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-209504-2	MW-54S_081324	Total/NA	Water	8260D SIM	
240-209504-3	MW-219S_081324	Total/NA	Water	8260D SIM	
240-209504-4	MW-37_081324	Total/NA	Water	8260D SIM	
240-209504-5	MW-54_081324	Total/NA	Water	8260D SIM	
MB 240-624672/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-624672/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-209613-B-3 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-209613-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

# Lab Chronicle

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

Job ID: 240-209504-1

## Client Sample ID: TRIP BLANK\_15

Lab Sample ID: 240-209504-1

Date Collected: 08/13/24 00:00

Matrix: Water

Date Received: 08/15/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	624135	HMB	EET CLE	08/21/24 15:23

## Client Sample ID: MW-54S\_081324

Lab Sample ID: 240-209504-2

Date Collected: 08/13/24 16:36

Matrix: Water

Date Received: 08/15/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	624135	HMB	EET CLE	08/21/24 15:50
Total/NA	Analysis	8260D SIM		1	624672	MS	EET CLE	08/26/24 11:31

## Client Sample ID: MW-219S\_081324

Lab Sample ID: 240-209504-3

Date Collected: 08/13/24 16:15

Matrix: Water

Date Received: 08/15/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	623862	MDH	EET CLE	08/20/24 01:58
Total/NA	Analysis	8260D SIM		1	624672	MS	EET CLE	08/26/24 11:55

## Client Sample ID: MW-37\_081324

Lab Sample ID: 240-209504-4

Date Collected: 08/13/24 14:30

Matrix: Water

Date Received: 08/15/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	623862	MDH	EET CLE	08/20/24 02:20
Total/NA	Analysis	8260D SIM		1	624672	MS	EET CLE	08/26/24 12:18

## Client Sample ID: MW-54\_081324

Lab Sample ID: 240-209504-5

Date Collected: 08/13/24 11:28

Matrix: Water

Date Received: 08/15/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	624177	LEE	EET CLE	08/21/24 12:43
Total/NA	Analysis	8260D SIM		1	624672	MS	EET CLE	08/26/24 12:42

**Laboratory References:**

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

# Accreditation/Certification Summary

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

Job ID: 240-209504-1

## Laboratory: Eurofins Cleveland

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	08-31-25
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-27-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	07-03-25
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-25
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







Eurofins - Cleveland Sample Receipt Form/Narrative Login # : \_\_\_\_\_

Barberton Facility Cooler unpacked by: EM

Client Accordis Site Name \_\_\_\_\_

Cooler Received on 8/15/24 Opened on 8/15/24

FedEx 1<sup>st</sup> Grd Exp UPS FAS Waypoint Client Drop Off Waypoint Eurofins Courier Waypoint 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 Verice Blue Ice \_\_\_\_\_ Dry Ice \_\_\_\_\_ Water \_\_\_\_\_ None \_\_\_\_\_

1 Cooler temperature upon receipt  See Multiple Cooler Form

IR GUN # 22 (CF -01 °C) Observed Cooler Temp. 19 °C Corrected Cooler Temp. 18 °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

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# HC442471

14 Were VOAs on the COC?  Yes  No  NA

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

16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 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: \_\_\_\_\_

One MW-2195-081324 sample has a sample label ID as MW-1295-081324 but time and date sample match MW-2195-081324, all other samples accounted for

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 \_\_\_\_\_



Temperature readings

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u> <u>pH</u>	<u>Preservation</u> <u>Temp</u>	<u>Added</u>	<u>Preservation</u> <u>Lot Number</u>
TRIP BLANK_15	240-209504-A-1	Voa Vial 40ml - Hydrochloric Acid				
MW-54S_081324	240-209504-A-2	Voa Vial 40ml - Hydrochloric Acid				
MW-54S_081324	240-209504-B-2	Voa Vial 40ml - Hydrochloric Acid				
MW-54S_081324	240-209504-C-2	Voa Vial 40ml - Hydrochloric Acid				
MW-54S_081324	240-209504-D-2	Voa Vial 40ml - Hydrochloric Acid				
MW-54S_081324	240-209504-E-2	Voa Vial 40ml - Hydrochloric Acid				
MW-54S_081324	240-209504-G-2	Voa Vial 40ml - Hydrochloric Acid				
MW-219S_081324	240-209504-A-3	Voa Vial 40ml - Hydrochloric Acid				
MW-219S_081324	240-209504-B-3	Voa Vial 40ml - Hydrochloric Acid				
MW-219S_081324	240-209504-C-3	Voa Vial 40ml - Hydrochloric Acid				
MW-219S_081324	240-209504-D-3	Voa Vial 40ml - Hydrochloric Acid				
MW-219S_081324	240-209504-E-3	Voa Vial 40ml - Hydrochloric Acid				
MW-219S_081324	240-209504-F-3	Voa Vial 40ml - Hydrochloric Acid				
MW-37_081324	240-209504-A-4	Voa Vial 40ml - Hydrochloric Acid				
MW-37_081324	240-209504-B-4	Voa Vial 40ml - Hydrochloric Acid				
MW-37_081324	240-209504-C-4	Voa Vial 40ml - Hydrochloric Acid				
MW-37_081324	240-209504-D-4	Voa Vial 40ml - Hydrochloric Acid				
MW-37_081324	240-209504-E-4	Voa Vial 40ml - Hydrochloric Acid				
MW-37_081324	240-209504-F-4	Voa Vial 40ml - Hydrochloric Acid				
MW-54_081324	240-209504-A-5	Voa Vial 40ml - Hydrochloric Acid				
MW-54_081324	240-209504-B-5	Voa Vial 40ml - Hydrochloric Acid				
MW-54_081324	240-209504-C-5	Voa Vial 40ml - Hydrochloric Acid				
MW-54_081324	240-209504-D-5	Voa Vial 40ml - Hydrochloric Acid				
MW-54_081324	240-209504-E-5	Voa Vial 40ml - Hydrochloric Acid				
MW-54_081324	240-209504-F-5	Voa Vial 40ml - Hydrochloric Acid				

# DATA VERIFICATION REPORT



August 28, 2024

Megan Meckley  
Arcadis  
28550 Cabot Drive  
Suite 500  
Novi, MI US 48377

CADENA project ID: E203728  
Project: Ford Livonia Transmission Plant - Soil Gas, Ground Water and Soil  
Project number: 30206169.0401.04\_WA-02  
Event Specific Scope of Work References: Sample COC  
Laboratory: Eurofins Environment Testing LLC - Cleveland  
Laboratory submittal: 209504-1  
Sample date: 2024-08-13  
Report received by CADENA: 2024-08-28  
Initial Data Verification completed by CADENA: 2024-08-28  
Number of Samples:5  
Sample Matrices:Water  
Test Categories:GCMS VOC  
**Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.**

The following minor QC exceptions or missing information were noted:

GCMS VOC QC batch CCV 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.

## Analytical Results Summary

CADENA Project ID: E203728

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory Submittal: 209504-1

Analyte	Cas No.	Sample Name: TRIP BLANK_15				MW-54S_081324				MW-219S_081324				MW-37_081324				MW-54_081324			
		Lab Sample ID: 2402095041				2402095042				2402095043				2402095044				2402095045			
		Sample Date: 8/13/2024				8/13/2024				8/13/2024				8/13/2024				8/13/2024			
		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
<b>GC/MSVOC</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	---
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	---
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	---
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	---
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	---
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	---	0.99	1.0	ug/l	J
<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	---	1.6	2.0	ug/l	J