

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

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Generated 11/22/2022 7:47:30 AM

**JOB DESCRIPTION**

Ford LTP - On Site

**JOB NUMBER**

240-176036-1



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Definitions/Glossary . . . . .	3
Case Narrative . . . . .	4
Method Summary . . . . .	5
Sample Summary . . . . .	6
Detection Summary . . . . .	7
Client Sample Results . . . . .	8
Surrogate Summary . . . . .	12
QC Sample Results . . . . .	13
QC Association Summary . . . . .	18
Lab Chronicle . . . . .	19
Certification Summary . . . . .	20
Chain of Custody . . . . .	21
Appendix . . . . .	23

# Definitions/Glossary

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

Job ID: 240-176036-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
♠	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

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

Job ID: 240-176036-1

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## Job ID: 240-176036-1

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### Laboratory: Eurofins Canton

#### Narrative

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#### Job Narrative 240-176036-1

#### Receipt

The samples were received on 11/8/2022 10:50 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 2.0°C

#### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 240-552054 recovered above the upper control limit for 1,1-Dichloroethene. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported. The associated samples are impacted: TRIP BLANK\_64 (240-176036-1), MW-03\_110422 (240-176036-2), (CCV 240-552054/4), (CCVIS 240-552054/3), (LCS 240-552054/5), (LCS 240-552054/6), (MB 240-552054/8).

Method 8260D: Method required MS/MSD were prepared and analyzed at required batch frequency for analytical batch 240-552188 using samples from other sites, and are not reported with this project.

Method 8260D\_SIM: The matrix spike/matrix spike duplicate (MS/MSD) for analytical batch 240-551914 was not analyzed due to an instrument fault.

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

# Method Summary

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

Job ID: 240-176036-1

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

**Protocol References:**

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

**Laboratory References:**

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



# Sample Summary

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

Job ID: 240-176036-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-176036-1	TRIP BLANK_64	Water	11/04/22 00:00	11/08/22 10:50
240-176036-2	MW-03_110422	Water	11/04/22 10:05	11/08/22 10:50
240-176036-3	MW-05_110422	Water	11/04/22 10:50	11/08/22 10:50
240-176036-4	PW-16-02_110422	Water	11/04/22 12:00	11/08/22 10:50

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# Detection Summary

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

Job ID: 240-176036-1

**Client Sample ID: TRIP BLANK\_64**

**Lab Sample ID: 240-176036-1**

No Detections.

**Client Sample ID: MW-03\_110422**

**Lab Sample ID: 240-176036-2**

No Detections.

**Client Sample ID: MW-05\_110422**

**Lab Sample ID: 240-176036-3**

No Detections.

**Client Sample ID: PW-16-02\_110422**

**Lab Sample ID: 240-176036-4**

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
cis-1,2-Dichloroethene	50		2.5	1.2	ug/L	2.5		8260D	Total/NA
Vinyl chloride	98		2.5	1.1	ug/L	2.5		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Canton

# Client Sample Results

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

Job ID: 240-176036-1

**Client Sample ID: TRIP BLANK\_64**

**Lab Sample ID: 240-176036-1**

**Date Collected: 11/04/22 00:00**

**Matrix: Water**

**Date Received: 11/08/22 10:50**

**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			11/15/22 17:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/15/22 17:08	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/15/22 17:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/15/22 17:08	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/15/22 17:08	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/15/22 17:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		62 - 137		11/15/22 17:08	1
4-Bromofluorobenzene (Surr)	79		56 - 136		11/15/22 17:08	1
Toluene-d8 (Surr)	94		78 - 122		11/15/22 17:08	1
Dibromofluoromethane (Surr)	97		73 - 120		11/15/22 17:08	1



# Client Sample Results

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

Job ID: 240-176036-1

**Client Sample ID: MW-03\_110422**

**Lab Sample ID: 240-176036-2**

**Date Collected: 11/04/22 10:05**

**Matrix: Water**

**Date Received: 11/08/22 10:50**

**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			11/16/22 13:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		66 - 120					11/16/22 13:21	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			11/15/22 23:01	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/15/22 23:01	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/15/22 23:01	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/15/22 23:01	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/15/22 23:01	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/15/22 23:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		62 - 137					11/15/22 23:01	1
4-Bromofluorobenzene (Surr)	76		56 - 136					11/15/22 23:01	1
Toluene-d8 (Surr)	94		78 - 122					11/15/22 23:01	1
Dibromofluoromethane (Surr)	102		73 - 120					11/15/22 23:01	1

# Client Sample Results

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

Job ID: 240-176036-1

**Client Sample ID: MW-05\_110422**

**Lab Sample ID: 240-176036-3**

Date Collected: 11/04/22 10:50

Matrix: Water

Date Received: 11/08/22 10:50

**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			11/15/22 10:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		66 - 120		11/15/22 10:57	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			11/16/22 14:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/16/22 14:24	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/16/22 14:24	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/16/22 14:24	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/16/22 14:24	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/16/22 14:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		62 - 137		11/16/22 14:24	1
4-Bromofluorobenzene (Surr)	82		56 - 136		11/16/22 14:24	1
Toluene-d8 (Surr)	96		78 - 122		11/16/22 14:24	1
Dibromofluoromethane (Surr)	99		73 - 120		11/16/22 14:24	1

# Client Sample Results

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

Job ID: 240-176036-1

**Client Sample ID: PW-16-02\_110422**

**Lab Sample ID: 240-176036-4**

Date Collected: 11/04/22 12:00

Matrix: Water

Date Received: 11/08/22 10:50

**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			11/15/22 11:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		66 - 120		11/15/22 11:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	2.5	U	2.5	1.2	ug/L			11/17/22 13:12	2.5
cis-1,2-Dichloroethene	50		2.5	1.2	ug/L			11/17/22 13:12	2.5
Tetrachloroethene	2.5	U	2.5	1.1	ug/L			11/17/22 13:12	2.5
trans-1,2-Dichloroethene	2.5	U	2.5	1.3	ug/L			11/17/22 13:12	2.5
Trichloroethene	2.5	U	2.5	1.1	ug/L			11/17/22 13:12	2.5
Vinyl chloride	98		2.5	1.1	ug/L			11/17/22 13:12	2.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		62 - 137		11/17/22 13:12	2.5
4-Bromofluorobenzene (Surr)	101		56 - 136		11/17/22 13:12	2.5
Toluene-d8 (Surr)	99		78 - 122		11/17/22 13:12	2.5
Dibromofluoromethane (Surr)	97		73 - 120		11/17/22 13:12	2.5

# Surrogate Summary

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

Job ID: 240-176036-1

## 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)
240-176033-F-2 MS	Matrix Spike	92	99	98	94
240-176033-L-2 MSD	Matrix Spike Duplicate	90	97	96	92
240-176036-1	TRIP BLANK_64	101	79	94	97
240-176036-2	MW-03_110422	105	76	94	102
240-176036-3	MW-05_110422	100	82	96	99
240-176036-4	PW-16-02_110422	94	101	99	97
240-176179-B-3 MS	Matrix Spike	90	98	95	95
240-176179-B-3 MSD	Matrix Spike Duplicate	88	99	97	96
LCS 240-552054/5	Lab Control Sample	90	94	97	93
LCS 240-552188/5	Lab Control Sample	89	86	93	91
LCS 240-552419/5	Lab Control Sample	92	102	98	98
MB 240-552054/8	Method Blank	101	81	96	95
MB 240-552188/8	Method Blank	96	84	94	97
MB 240-552419/8	Method Blank	91	99	97	94

### 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)
240-176036-2	MW-03_110422	81
240-176036-3	MW-05_110422	103
240-176036-4	PW-16-02_110422	115
500-224931-D-8 MS	Matrix Spike	79
500-224931-D-8 MSD	Matrix Spike Duplicate	79
LCS 240-551914/3	Lab Control Sample	108
LCS 240-552118/3	Lab Control Sample	81
MB 240-551914/4	Method Blank	111
MB 240-552118/4	Method Blank	79

### Surrogate Legend

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

# QC Sample Results

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

Job ID: 240-176036-1

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

**Lab Sample ID: MB 240-552054/8**  
**Matrix: Water**  
**Analysis Batch: 552054**

**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			11/15/22 15:02	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/15/22 15:02	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/15/22 15:02	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/15/22 15:02	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/15/22 15:02	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/15/22 15:02	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	101		62 - 137		11/15/22 15:02	1
4-Bromofluorobenzene (Surr)	81		56 - 136		11/15/22 15:02	1
Toluene-d8 (Surr)	96		78 - 122		11/15/22 15:02	1
Dibromofluoromethane (Surr)	95		73 - 120		11/15/22 15:02	1

**Lab Sample ID: LCS 240-552054/5**  
**Matrix: Water**  
**Analysis Batch: 552054**

**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	27.0		ug/L		108	63 - 134
cis-1,2-Dichloroethene	25.0	26.5		ug/L		106	77 - 123
Tetrachloroethene	25.0	24.3		ug/L		97	76 - 123
trans-1,2-Dichloroethene	25.0	26.3		ug/L		105	75 - 124
Trichloroethene	25.0	24.6		ug/L		98	70 - 122
Vinyl chloride	12.5	10.4		ug/L		83	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	90		62 - 137
4-Bromofluorobenzene (Surr)	94		56 - 136
Toluene-d8 (Surr)	97		78 - 122
Dibromofluoromethane (Surr)	93		73 - 120

**Lab Sample ID: 240-176033-F-2 MS**  
**Matrix: Water**  
**Analysis Batch: 552054**

**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				
1,1-Dichloroethene	1.0	U	25.0	27.8		ug/L		111	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	25.2		ug/L		101	66 - 128
Tetrachloroethene	1.0	U	25.0	24.9		ug/L		100	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	25.0		ug/L		100	56 - 136
Trichloroethene	1.0	U	25.0	22.5		ug/L		90	61 - 124
Vinyl chloride	1.0	U	12.5	10.5		ug/L		84	43 - 157

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	92		62 - 137
4-Bromofluorobenzene (Surr)	99		56 - 136
Toluene-d8 (Surr)	98		78 - 122

# QC Sample Results

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

Job ID: 240-176036-1

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

**Lab Sample ID: 240-176033-F-2 MS**  
**Matrix: Water**  
**Analysis Batch: 552054**

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

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
<i>Dibromofluoromethane (Surr)</i>	94		73 - 120

**Lab Sample ID: 240-176033-L-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 552054**

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

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
1,1-Dichloroethene	1.0	U	25.0	27.9		ug/L		112	56 - 135	0	26
cis-1,2-Dichloroethene	1.0	U	25.0	24.4		ug/L		98	66 - 128	3	14
Tetrachloroethene	1.0	U	25.0	23.0		ug/L		92	62 - 131	8	20
trans-1,2-Dichloroethene	1.0	U	25.0	24.1		ug/L		96	56 - 136	4	15
Trichloroethene	1.0	U	25.0	23.0		ug/L		92	61 - 124	2	15
Vinyl chloride	1.0	U	12.5	9.93		ug/L		79	43 - 157	5	24

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	90		62 - 137
<i>4-Bromofluorobenzene (Surr)</i>	97		56 - 136
<i>Toluene-d8 (Surr)</i>	96		78 - 122
<i>Dibromofluoromethane (Surr)</i>	92		73 - 120

**Lab Sample ID: MB 240-552188/8**  
**Matrix: Water**  
**Analysis Batch: 552188**

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

<i>Analyte</i>	<i>MB Result</i>	<i>MB Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			11/16/22 11:48	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/16/22 11:48	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/16/22 11:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/16/22 11:48	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/16/22 11:48	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/16/22 11:48	1

<i>Surrogate</i>	<i>%Recovery</i>	<i>MB MB Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	96		62 - 137		11/16/22 11:48	1
<i>4-Bromofluorobenzene (Surr)</i>	84		56 - 136		11/16/22 11:48	1
<i>Toluene-d8 (Surr)</i>	94		78 - 122		11/16/22 11:48	1
<i>Dibromofluoromethane (Surr)</i>	97		73 - 120		11/16/22 11:48	1

**Lab Sample ID: LCS 240-552188/5**  
**Matrix: Water**  
**Analysis Batch: 552188**

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

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
1,1-Dichloroethene	20.0	18.2		ug/L		91	63 - 134
cis-1,2-Dichloroethene	20.0	18.0		ug/L		90	77 - 123
Tetrachloroethene	20.0	20.0		ug/L		100	76 - 123
trans-1,2-Dichloroethene	20.0	17.0		ug/L		85	75 - 124
Trichloroethene	20.0	19.1		ug/L		96	70 - 122

Eurofins Canton

# QC Sample Results

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

Job ID: 240-176036-1

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

**Lab Sample ID: LCS 240-552188/5**  
**Matrix: Water**  
**Analysis Batch: 552188**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl chloride	20.0	17.0		ug/L		85	60 - 144

  

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	89		62 - 137
4-Bromofluorobenzene (Surr)	86		56 - 136
Toluene-d8 (Surr)	93		78 - 122
Dibromofluoromethane (Surr)	91		73 - 120

**Lab Sample ID: MB 240-552419/8**  
**Matrix: Water**  
**Analysis Batch: 552419**

**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			11/17/22 12:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/17/22 12:47	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/17/22 12:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/17/22 12:47	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/17/22 12:47	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/17/22 12:47	1

  

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		62 - 137		11/17/22 12:47	1
4-Bromofluorobenzene (Surr)	99		56 - 136		11/17/22 12:47	1
Toluene-d8 (Surr)	97		78 - 122		11/17/22 12:47	1
Dibromofluoromethane (Surr)	94		73 - 120		11/17/22 12:47	1

**Lab Sample ID: LCS 240-552419/5**  
**Matrix: Water**  
**Analysis Batch: 552419**

**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	20.0	18.9		ug/L		95	63 - 134
cis-1,2-Dichloroethene	20.0	19.7		ug/L		99	77 - 123
Tetrachloroethene	20.0	20.7		ug/L		103	76 - 123
trans-1,2-Dichloroethene	20.0	18.7		ug/L		94	75 - 124
Trichloroethene	20.0	19.7		ug/L		98	70 - 122
Vinyl chloride	20.0	18.0		ug/L		90	60 - 144

  

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

# QC Sample Results

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

Job ID: 240-176036-1

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

**Lab Sample ID: 240-176179-B-3 MS**

**Matrix: Water**

**Analysis Batch: 552419**

**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	20	U	400	342		ug/L		85	56 - 135
cis-1,2-Dichloroethene	91		400	443		ug/L		88	66 - 128
Tetrachloroethene	10	J	400	353		ug/L		86	62 - 131
trans-1,2-Dichloroethene	20	U	400	336		ug/L		84	56 - 136
Trichloroethene	25		400	367		ug/L		86	61 - 124
Vinyl chloride	20	U	400	325		ug/L		81	43 - 157

Surrogate	MS %Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	90		62 - 137
4-Bromofluorobenzene (Surr)	98		56 - 136
Toluene-d8 (Surr)	95		78 - 122
Dibromofluoromethane (Surr)	95		73 - 120

**Lab Sample ID: 240-176179-B-3 MSD**

**Matrix: Water**

**Analysis Batch: 552419**

**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	20	U	400	357		ug/L		89	56 - 135	4	26
cis-1,2-Dichloroethene	91		400	463		ug/L		93	66 - 128	4	14
Tetrachloroethene	10	J	400	382		ug/L		93	62 - 131	8	20
trans-1,2-Dichloroethene	20	U	400	360		ug/L		90	56 - 136	7	15
Trichloroethene	25		400	386		ug/L		90	61 - 124	5	15
Vinyl chloride	20	U	400	348		ug/L		87	43 - 157	7	24

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
1,2-Dichloroethane-d4 (Surr)	88		62 - 137
4-Bromofluorobenzene (Surr)	99		56 - 136
Toluene-d8 (Surr)	97		78 - 122
Dibromofluoromethane (Surr)	96		73 - 120

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

**Lab Sample ID: MB 240-551914/4**

**Matrix: Water**

**Analysis Batch: 551914**

**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			11/15/22 09:20	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		66 - 120		11/15/22 09:20	1



# QC Sample Results

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

Job ID: 240-176036-1

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

**Lab Sample ID: LCS 240-551914/3**  
**Matrix: Water**  
**Analysis Batch: 551914**

**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	10.1		ug/L		101	80 - 122
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>				
1,2-Dichloroethane-d4 (Surr)	108		66 - 120				

**Lab Sample ID: MB 240-552118/4**  
**Matrix: Water**  
**Analysis Batch: 552118**

**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			11/16/22 11:14	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>Limits</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>			
1,2-Dichloroethane-d4 (Surr)	79		66 - 120		11/16/22 11:14	1			

**Lab Sample ID: LCS 240-552118/3**  
**Matrix: Water**  
**Analysis Batch: 552118**

**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	9.22		ug/L		92	80 - 122
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>				
1,2-Dichloroethane-d4 (Surr)	81		66 - 120				

**Lab Sample ID: 500-224931-D-8 MS**  
**Matrix: Water**  
**Analysis Batch: 552118**

**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	370		30.0	449	4	ug/L		257	51 - 153
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
1,2-Dichloroethane-d4 (Surr)	79		66 - 120						

**Lab Sample ID: 500-224931-D-8 MSD**  
**Matrix: Water**  
**Analysis Batch: 552118**

**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	370		30.0	402	4	ug/L		102	51 - 153	11	16
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
1,2-Dichloroethane-d4 (Surr)	79		66 - 120								

# QC Association Summary

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

Job ID: 240-176036-1

## GC/MS VOA

### Analysis Batch: 551914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-176036-3	MW-05_110422	Total/NA	Water	8260D SIM	
240-176036-4	PW-16-02_110422	Total/NA	Water	8260D SIM	
MB 240-551914/4	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-551914/3	Lab Control Sample	Total/NA	Water	8260D SIM	

### Analysis Batch: 552054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-176036-1	TRIP BLANK_64	Total/NA	Water	8260D	
240-176036-2	MW-03_110422	Total/NA	Water	8260D	
MB 240-552054/8	Method Blank	Total/NA	Water	8260D	
LCS 240-552054/5	Lab Control Sample	Total/NA	Water	8260D	
240-176033-F-2 MS	Matrix Spike	Total/NA	Water	8260D	
240-176033-L-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

### Analysis Batch: 552118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-176036-2	MW-03_110422	Total/NA	Water	8260D SIM	
MB 240-552118/4	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-552118/3	Lab Control Sample	Total/NA	Water	8260D SIM	
500-224931-D-8 MS	Matrix Spike	Total/NA	Water	8260D SIM	
500-224931-D-8 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

### Analysis Batch: 552188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-176036-3	MW-05_110422	Total/NA	Water	8260D	
MB 240-552188/8	Method Blank	Total/NA	Water	8260D	
LCS 240-552188/5	Lab Control Sample	Total/NA	Water	8260D	

### Analysis Batch: 552419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-176036-4	PW-16-02_110422	Total/NA	Water	8260D	
MB 240-552419/8	Method Blank	Total/NA	Water	8260D	
LCS 240-552419/5	Lab Control Sample	Total/NA	Water	8260D	
240-176179-B-3 MS	Matrix Spike	Total/NA	Water	8260D	
240-176179-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

# Lab Chronicle

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

Job ID: 240-176036-1

**Client Sample ID: TRIP BLANK\_64**

**Lab Sample ID: 240-176036-1**

Date Collected: 11/04/22 00:00

Matrix: Water

Date Received: 11/08/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	552054	SAM	EET CAN	11/15/22 17:08

**Client Sample ID: MW-03\_110422**

**Lab Sample ID: 240-176036-2**

Date Collected: 11/04/22 10:05

Matrix: Water

Date Received: 11/08/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	552054	SAM	EET CAN	11/15/22 23:01
Total/NA	Analysis	8260D SIM		1	552118	CS	EET CAN	11/16/22 13:21

**Client Sample ID: MW-05\_110422**

**Lab Sample ID: 240-176036-3**

Date Collected: 11/04/22 10:50

Matrix: Water

Date Received: 11/08/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	552188	AJS	EET CAN	11/16/22 14:24
Total/NA	Analysis	8260D SIM		1	551914	CS	EET CAN	11/15/22 10:57

**Client Sample ID: PW-16-02\_110422**

**Lab Sample ID: 240-176036-4**

Date Collected: 11/04/22 12:00

Matrix: Water

Date Received: 11/08/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2.5	552419	HMB	EET CAN	11/17/22 13:12
Total/NA	Analysis	8260D SIM		1	551914	CS	EET CAN	11/15/22 11:21

**Laboratory References:**

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

# Accreditation/Certification Summary

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

Job ID: 240-176036-1

## Laboratory: Eurofins Canton

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	02-27-23
Connecticut	State	PH-0590	12-31-23
Florida	NELAP	E87225	06-30-23
Georgia	State	4062	02-27-23
Illinois	NELAP	200004	07-31-23
Iowa	State	421	06-01-23
Kentucky (UST)	State	112225	02-27-23
Kentucky (WW)	State	KY98016	12-31-22
Minnesota	NELAP	039-999-348	12-31-22
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-23
New York	NELAP	10975	04-01-23
Ohio	State	8303	02-27-23
Ohio VAP	State	CL0024	02-27-23
Oregon	NELAP	4062	02-27-23
Pennsylvania	NELAP	68-00340	08-31-23
Texas	NELAP	T104704517-22-17	08-31-23
Virginia	NELAP	460175	09-14-23
Washington	State	C971	01-12-23
West Virginia DEP	State	210	12-31-22

TestAmerica Laboratory location: Brighton --- 10448 Citation 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 Project Name: Ford I, TP On-Site Project Number: 30146655-401.03 PO # 30146655-401.03		<b>Regulatory program:</b> <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other	
<b>Client Project Manager:</b> Kris Hinsky Telephone: 248-994-2240 Email: kristoffer.hinsky@arcadis.com		<b>Lab Contact:</b> Mike DeMonico Telephone: 330-497-9396	
<b>Sample Name:</b> Christina Guwido		<b>Analysis Turnaround Time</b> TAT if different from below <input checked="" type="checkbox"/> 3 weeks <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day	
<b>Method of Shipment/Carrier:</b> Shipping/Tracking No:		<b>Containers &amp; Preservatives</b> HCl <input type="checkbox"/> NaOH <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> Other:	
<b>Matrix</b> Air <input type="checkbox"/> Aqueous <input type="checkbox"/> Sediment <input type="checkbox"/> Solid <input type="checkbox"/> Other:		<b>Filtered Sample (Y/N)</b> Composite-C/Grab-C <input type="checkbox"/> 1,1-DCE 8260B <input type="checkbox"/> cis-1,2-DCE 8260B <input type="checkbox"/> Trans-1,2-DCE 8260B <input type="checkbox"/> PCE 8260B <input type="checkbox"/> TCE 8260B <input type="checkbox"/> Vinyl Chloride 8260B <input type="checkbox"/> 1,4-Dioxane 8260B SIM <input type="checkbox"/>	
<b>Sample Date</b> TRIP BLANK_ 64 MW-03-110422 MW-05-110422 PW-10-02-110422		<b>Sample Time</b> --- 1005 1050 1700	
<b>Sample Identification</b>		<b>Analysis</b> 1 Trip Blank 3 VOAs for 8260B 3 VOAs for 8260B SIM	
<b>Possible Hazard Identification</b> <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown		<b>Sample Disposal (A fee may be assessed if)</b> <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal By: 240-176036 Chain of Custody	
<b>Special Instructions/QC Requirements &amp; Comments:</b> Submit all results through Cadena at jtomalia@cadenaco.com, Cadena #E203728 Level IV Reporting requested.			
<b>Relinquished by:</b> Christina Guwido		<b>Received by:</b> Arcadis Date/Time: 11/14/22 1300	
<b>Relinquished by:</b> [Signature]		<b>Received by:</b> Arcadis Date/Time: 11/17/22 / 1000	
<b>Relinquished by:</b> [Signature]		<b>Received by:</b> Arcadis Date/Time: 11/17/22 1002	

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Eurofins - Canton Sample Receipt Form/Narrative  
Barberton Facility

Login #: 176036

Client Arcadis Site Name \_\_\_\_\_ Cooler unpacked by: Manduly  
Cooler Received on 11-8-22 Opened on 11-8-22  
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 # elinc 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# IR-13 (CF +0.7 °C) Observed Cooler Temp \_\_\_\_\_ °C Corrected Cooler Temp \_\_\_\_\_ °C  
IR GUN #IR-15 (CF 0.0°C) Observed Cooler Temp 2.0 °C Corrected Cooler Temp 2.0 °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity \_\_\_\_\_  
-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

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

3. Shippers' packing slip attached to the cooler(s)? 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.  
13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC286797

14. Were VOAs on the COC? Yes No  
15. Were air bubbles >6 mm in any VOA vials? Yes NA Larger than this.

16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # \_\_\_\_\_ Yes No  
17. Was a LL Hg or Me Hg trip blank present? Yes No

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: \_\_\_\_\_

# Eurofins Canton

## Job Notes

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of Eurofins Environment Testing North Central, LLC and its client. All questions regarding this report should be directed to the Eurofins Environment Testing North Central, LLC Project Manager who has signed this report.

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  
11/22/2022 7:47:30 AM

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

# DATA VERIFICATION REPORT



November 22, 2022

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: 30146655.401.03- onsite groundwater

Event Specific Scope of Work References: Sample COC

Laboratory: Eurofins Environment Testing LLC - Barberton

Laboratory submittal: 176036-1

Sample date: 2022-11-04

Report received by CADENA: 2022-11-22

Initial Data Verification completed by CADENA: 2022-11-22

Number of Samples:4

Sample Matrices: Water and trip blank

Test Categories: GCMS VOC

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

The following minor QC exceptions or missing information were noted:

MS/MSD recovery outliers or sample duplicate RPD outliers were not determined using a client sample from this submittal for this test so qualification was not required based on these sample-specific QC outliers.  
GCMS-SIM VOC QC batch 552118.

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 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 - Barberton

Laboratory Submittal: 176036-1

Analyte	Cas No.	Sample Name: TRIP BLANK_64				MW-03_110422				MW-05_110422				PW-16-02_110422			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
		2401760361				2401760362				2401760363				2401760364			
		11/4/2022				11/4/2022				11/4/2022				11/4/2022			

### 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	2.5	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	50	2.5	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	2.5	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	2.5	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	2.5	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	98	2.5	ug/l	---

#### OSW-8260DSIM

1,4-Dioxane	123-91-1					ND	2.0	ug/l	---	ND	2.0	ug/l	---	1.6	2.0	ug/l	J
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