

# ANALYTICAL REPORT

## PREPARED FOR

Attn: Kristoffer Hinskey  
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Generated 3/8/2023 6:24:51 AM

## JOB DESCRIPTION

Ford LTP - Off Site

## JOB NUMBER

240-181117-1

# 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.

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## Authorization



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Authorized for release by  
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# Definitions/Glossary

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

Job ID: 240-181117-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
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/Site: Ford LTP - Off Site

Job ID: 240-181117-1

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**Job ID: 240-181117-1**

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**Laboratory: Eurofins Canton**

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**Narrative**

**Job Narrative**  
**240-181117-1**

**Receipt**

The samples were received on 3/1/2023 9:50 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.2°C, 1.0°C and 3.2°C

**GC/MS VOA**

Method 8260D\_SIM: The MS/MSD for batch 564027 was not analyzed due to an instrument malfunction.MW-67\_022423 (240-181117-2)

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 - Off Site

Job ID: 240-181117-1

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 - Off Site

Job ID: 240-181117-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-181117-1	TRIP BLANK_33	Water	02/24/23 00:00	03/01/23 09:50
240-181117-2	MW-67_022423	Water	02/24/23 16:45	03/01/23 09:50

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- 5
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- 10
- 11
- 12
- 13
- 14

# Detection Summary

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

Job ID: 240-181117-1

**Client Sample ID: TRIP BLANK\_33**

**Lab Sample ID: 240-181117-1**

No Detections.

**Client Sample ID: MW-67\_022423**

**Lab Sample ID: 240-181117-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.8		1.0	0.46	ug/L	1		8260D	Total/NA
Trichloroethene	46		1.0	0.44	ug/L	1		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 - Off Site

Job ID: 240-181117-1

**Client Sample ID: TRIP BLANK\_33**

**Lab Sample ID: 240-181117-1**

Date Collected: 02/24/23 00:00

Matrix: Water

Date Received: 03/01/23 09:50

**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			03/03/23 15:50	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/03/23 15:50	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/03/23 15:50	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/03/23 15:50	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/03/23 15:50	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/03/23 15:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		62 - 137		03/03/23 15:50	1
4-Bromofluorobenzene (Surr)	86		56 - 136		03/03/23 15:50	1
Toluene-d8 (Surr)	91		78 - 122		03/03/23 15:50	1
Dibromofluoromethane (Surr)	96		73 - 120		03/03/23 15:50	1

# Client Sample Results

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

Job ID: 240-181117-1

**Client Sample ID: MW-67\_022423**

**Lab Sample ID: 240-181117-2**

Date Collected: 02/24/23 16:45

Matrix: Water

Date Received: 03/01/23 09:50

**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			03/02/23 21:25	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	85		66 - 120					03/02/23 21:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			03/03/23 19:37	1
<b>cis-1,2-Dichloroethene</b>	<b>1.8</b>		1.0	0.46	ug/L			03/03/23 19:37	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/03/23 19:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/03/23 19:37	1
<b>Trichloroethene</b>	<b>46</b>		1.0	0.44	ug/L			03/03/23 19:37	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/03/23 19:37	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	107		62 - 137					03/03/23 19:37	1
4-Bromofluorobenzene (Surr)	82		56 - 136					03/03/23 19:37	1
Toluene-d8 (Surr)	89		78 - 122					03/03/23 19:37	1
Dibromofluoromethane (Surr)	93		73 - 120					03/03/23 19:37	1

# Surrogate Summary

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

Job ID: 240-181117-1

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA	BFB	TOL	DBFM
		(62-137)	(56-136)	(78-122)	(73-120)
240-181117-1	TRIP BLANK_33	104	86	91	96
240-181117-2	MW-67_022423	107	82	89	93
240-181130-A-5 MS	Matrix Spike	111	91	97	94
240-181130-A-5 MSD	Matrix Spike Duplicate	102	90	93	90
LCS 240-564175/5	Lab Control Sample	106	91	93	99
MB 240-564175/8	Method Blank	108	88	91	95

### Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(66-120)
240-181117-2	MW-67_022423	85
LCS 240-564027/4	Lab Control Sample	85
MB 240-564027/6	Method Blank	83

### Surrogate Legend

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

# QC Sample Results

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

Job ID: 240-181117-1

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

**Lab Sample ID: MB 240-564175/8**  
**Matrix: Water**  
**Analysis Batch: 564175**

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			03/03/23 15:00	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/03/23 15:00	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/03/23 15:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/03/23 15:00	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/03/23 15:00	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/03/23 15:00	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	108		62 - 137		03/03/23 15:00	1
4-Bromofluorobenzene (Surr)	88		56 - 136		03/03/23 15:00	1
Toluene-d8 (Surr)	91		78 - 122		03/03/23 15:00	1
Dibromofluoromethane (Surr)	95		73 - 120		03/03/23 15:00	1

**Lab Sample ID: LCS 240-564175/5**  
**Matrix: Water**  
**Analysis Batch: 564175**

**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	20.0	17.8		ug/L		89	63 - 134
cis-1,2-Dichloroethene	20.0	18.5		ug/L		92	77 - 123
Tetrachloroethene	20.0	20.2		ug/L		101	76 - 123
trans-1,2-Dichloroethene	20.0	20.7		ug/L		103	75 - 124
Trichloroethene	20.0	19.3		ug/L		96	70 - 122
Vinyl chloride	20.0	20.6		ug/L		103	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	106		62 - 137
4-Bromofluorobenzene (Surr)	91		56 - 136
Toluene-d8 (Surr)	93		78 - 122
Dibromofluoromethane (Surr)	99		73 - 120

**Lab Sample ID: 240-181130-A-5 MS**  
**Matrix: Water**  
**Analysis Batch: 564175**

**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	140	U	2860	2420		ug/L		85	56 - 135
cis-1,2-Dichloroethene	5500		2860	7950		ug/L		86	66 - 128
Tetrachloroethene	140	U	2860	2910		ug/L		102	62 - 131
trans-1,2-Dichloroethene	160		2860	3040		ug/L		101	56 - 136
Trichloroethene	1300		2860	3920		ug/L		93	61 - 124
Vinyl chloride	2300		2860	5280		ug/L		103	43 - 157

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	111		62 - 137
4-Bromofluorobenzene (Surr)	91		56 - 136
Toluene-d8 (Surr)	97		78 - 122

# QC Sample Results

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

Job ID: 240-181117-1

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

Lab Sample ID: 240-181130-A-5 MS  
Matrix: Water  
Analysis Batch: 564175

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

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	94		73 - 120

Lab Sample ID: 240-181130-A-5 MSD  
Matrix: Water  
Analysis Batch: 564175

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	140	U	2860	2370		ug/L		83	56 - 135	2	26
cis-1,2-Dichloroethene	5500		2860	7820		ug/L		81	66 - 128	2	14
Tetrachloroethene	140	U	2860	2800		ug/L		98	62 - 131	4	20
trans-1,2-Dichloroethene	160		2860	2910		ug/L		96	56 - 136	4	15
Trichloroethene	1300		2860	3720		ug/L		86	61 - 124	5	15
Vinyl chloride	2300		2860	5200		ug/L		100	43 - 157	2	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		62 - 137
4-Bromofluorobenzene (Surr)	90		56 - 136
Toluene-d8 (Surr)	93		78 - 122
Dibromofluoromethane (Surr)	90		73 - 120

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

Lab Sample ID: MB 240-564027/6  
Matrix: Water  
Analysis Batch: 564027

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/02/23 12:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		66 - 120		03/02/23 12:56	1

Lab Sample ID: LCS 240-564027/4  
Matrix: Water  
Analysis Batch: 564027

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	10.5		ug/L		105	80 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	85		66 - 120

# QC Association Summary

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

Job ID: 240-181117-1

## GC/MS VOA

### Analysis Batch: 564027

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-181117-2	MW-67_022423	Total/NA	Water	8260D SIM	
MB 240-564027/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-564027/4	Lab Control Sample	Total/NA	Water	8260D SIM	

### Analysis Batch: 564175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-181117-1	TRIP BLANK_33	Total/NA	Water	8260D	
240-181117-2	MW-67_022423	Total/NA	Water	8260D	
MB 240-564175/8	Method Blank	Total/NA	Water	8260D	
LCS 240-564175/5	Lab Control Sample	Total/NA	Water	8260D	
240-181130-A-5 MS	Matrix Spike	Total/NA	Water	8260D	
240-181130-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

# Lab Chronicle

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

Job ID: 240-181117-1

## Client Sample ID: TRIP BLANK\_33

Lab Sample ID: 240-181117-1

Date Collected: 02/24/23 00:00

Matrix: Water

Date Received: 03/01/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	564175	SAM	EET CAN	03/03/23 15:50

## Client Sample ID: MW-67\_022423

Lab Sample ID: 240-181117-2

Date Collected: 02/24/23 16:45

Matrix: Water

Date Received: 03/01/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	564175	SAM	EET CAN	03/03/23 19:37
Total/NA	Analysis	8260D SIM		1	564027	BAJ	EET CAN	03/02/23 21:25

### 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 - Off Site

Job ID: 240-181117-1

### 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	12-31-23
Michigan	State	9135	02-27-23 *
Minnesota	NELAP	039-999-348	12-31-23
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	02-28-24
Pennsylvania	NELAP	68-00340	08-31-23
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.








Reception Facility

Client ARCADIS Site Name \_\_\_\_\_ Cooler unpacked by: M. Koc  
Cooler Received on 3-1-23 Opened on 3-1-23  
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 # 90 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

- Cooler temperature upon receipt  See Multiple Cooler Form  
 IR GUN # IR-13 (CF -0.2 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C  
 IR GUN # IR-16 (CF -0.1 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C  
 IR GUN # IR-17 (CF -0.3 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C
  - Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 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  
 -Were tamper/custody seals intact and uncompromised? Yes No NA
  - Shippers' packing slip attached to the cooler(s)? Yes No
  - Did custody papers accompany the sample(s)? Yes No
  - Were the custody papers relinquished & signed in the appropriate place? Yes No
  - Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
  - Did all bottles arrive in good condition (Unbroken)? Yes No
  - Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No
  - For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?
  - Were correct bottle(s) used for the test(s) indicated? Yes No
  - Sufficient quantity received to perform indicated analyses? Yes No
  - 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.
- Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC203064
  - Were VOAs on the COC? Yes No
  - Were air bubbles >6 mm in any VOA vials?  Larger than this. Yes No NA
  - Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # forward of Yes No
  - 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

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal Voice Mail Other  
Concerning \_\_\_\_\_

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES  additional next page Samples processed by: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

19. SAMPLE CONDITION  
Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
Sample(s) \_\_\_\_\_ were received in a broken container.  
Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION  
Sample(s) \_\_\_\_\_ were further preserved in the laboratory.  
Time preserved: \_\_\_\_\_ Preservative(s) added/Lot number(s): \_\_\_\_\_

VOA Sample Preservation - Date/Time VOAs Frozen: \_\_\_\_\_



# DATA VERIFICATION REPORT



March 08, 2023

Kris Hinskey  
Arcadis Inc  
10559 Citation Ave  
Suite 100  
Brighton, MI 48116

CADENA project ID: E203631  
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater  
Project number: 30167538.402.04 off-site  
Event Specific Scope of Work References: Sample COC  
Laboratory: Eurofins Environment Testing LLC - Barberton  
Laboratory submittal: 181117-1  
Sample date: 2023-02-24  
Report received by CADENA: 2023-03-08  
Initial Data Verification completed by CADENA: 2023-03-08  
Number of Samples:2  
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 SIM QC batch MS/MSD issues as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, 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.

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: E203631

Laboratory: Eurofins Environment Testing LLC - Barberton

Laboratory Submittal: 181117-1

Sample Name: TRIP BLANK\_33 MW-67\_022423  
 Lab Sample ID: 2401811171 2401811172  
 Sample Date: 2/24/2023 2/24/2023

Analyte	Cas No.	Report		Units	Valid Qualifier	Report		Units	Valid Qualifier
		Result	Limit			Result	Limit		
<b>GC/MS VOC</b>									
<u>OSW-8260D</u>									
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	1.8	1.0	ug/l	---
Tetrachloroethene	127-18-4	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	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	46	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---
<u>OSW-8260DSIM</u>									
1,4-Dioxane	123-91-1					ND	2.0	ug/l	---