

# ANALYTICAL REPORT

## PREPARED FOR

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Generated 3/8/2023 8:35:26 AM

## JOB DESCRIPTION

Ford LTP - On Site

## JOB NUMBER

240-181136-1

# Eurofins Canton

## Job Notes

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## Authorization



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# Definitions/Glossary

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

Job ID: 240-181136-1

## 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/Site: Ford LTP - On Site

Job ID: 240-181136-1

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**Job ID: 240-181136-1**

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**Laboratory: Eurofins Canton**

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**Narrative**

**Job Narrative**  
**240-181136-1**

**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**

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 - On Site

Job ID: 240-181136-1

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: 240-181136-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-181136-1	TRIP BLANK_19	Water	02/23/23 00:00	03/01/23 09:50
240-181136-2	MW-222S_022323	Water	02/23/23 14:10	03/01/23 09:50
240-181136-3	MW-07_022323	Water	02/23/23 15:30	03/01/23 09:50
240-181136-4	MW-09_022323	Water	02/23/23 17:00	03/01/23 09:50
240-181136-5	MW-54_022423	Water	02/24/23 10:58	03/01/23 09:50
240-181136-6	MW-54S_022423	Water	02/24/23 12:05	03/01/23 09:50
240-181136-7	MW-57_022423	Water	02/24/23 13:45	03/01/23 09:50
240-181136-8	MW-14_022423	Water	02/24/23 15:28	03/01/23 09:50

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# Detection Summary

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

Job ID: 240-181136-1

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

**Lab Sample ID: 240-181136-1**

No Detections.

**Client Sample ID: MW-222S\_022323**

**Lab Sample ID: 240-181136-2**

No Detections.

**Client Sample ID: MW-07\_022323**

**Lab Sample ID: 240-181136-3**

No Detections.

**Client Sample ID: MW-09\_022323**

**Lab Sample ID: 240-181136-4**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	4.9		2.0	0.86	ug/L	1		8260D SIM	Total/NA
Vinyl chloride	1.1		1.0	0.45	ug/L	1		8260D	Total/NA

**Client Sample ID: MW-54\_022423**

**Lab Sample ID: 240-181136-5**

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	0.92	J	1.0	0.45	ug/L	1		8260D	Total/NA

**Client Sample ID: MW-54S\_022423**

**Lab Sample ID: 240-181136-6**

No Detections.

**Client Sample ID: MW-57\_022423**

**Lab Sample ID: 240-181136-7**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.8	J	2.0	0.86	ug/L	1		8260D SIM	Total/NA
Vinyl chloride	0.47	J	1.0	0.45	ug/L	1		8260D	Total/NA

**Client Sample ID: MW-14\_022423**

**Lab Sample ID: 240-181136-8**

No Detections.

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 - On Site

Job ID: 240-181136-1

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

**Lab Sample ID: 240-181136-1**

Date Collected: 02/23/23 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			03/02/23 15:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/02/23 15:07	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 15:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/02/23 15:07	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 15:07	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/02/23 15:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		62 - 137		03/02/23 15:07	1
4-Bromofluorobenzene (Surr)	123		56 - 136		03/02/23 15:07	1
Toluene-d8 (Surr)	98		78 - 122		03/02/23 15:07	1
Dibromofluoromethane (Surr)	119		73 - 120		03/02/23 15:07	1

# Client Sample Results

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

Job ID: 240-181136-1

**Client Sample ID: MW-222S\_022323**

**Lab Sample ID: 240-181136-2**

Date Collected: 02/23/23 14:10

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			03/03/23 22:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		66 - 120					03/03/23 22:40	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			03/02/23 15:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/02/23 15:32	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 15:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/02/23 15:32	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 15:32	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/02/23 15:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		62 - 137					03/02/23 15:32	1
4-Bromofluorobenzene (Surr)	120		56 - 136					03/02/23 15:32	1
Toluene-d8 (Surr)	95		78 - 122					03/02/23 15:32	1
Dibromofluoromethane (Surr)	120		73 - 120					03/02/23 15:32	1

# Client Sample Results

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

Job ID: 240-181136-1

**Client Sample ID: MW-07\_022323**

**Lab Sample ID: 240-181136-3**

Date Collected: 02/23/23 15:30

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			03/03/23 23:05	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)	91		66 - 120					03/03/23 23:05	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			03/02/23 15:57	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/02/23 15:57	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 15:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/02/23 15:57	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 15:57	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/02/23 15:57	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)	120		62 - 137					03/02/23 15:57	1
4-Bromofluorobenzene (Surr)	126		56 - 136					03/02/23 15:57	1
Toluene-d8 (Surr)	100		78 - 122					03/02/23 15:57	1
Dibromofluoromethane (Surr)	115		73 - 120					03/02/23 15:57	1

# Client Sample Results

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

Job ID: 240-181136-1

**Client Sample ID: MW-09\_022323**

**Lab Sample ID: 240-181136-4**

Date Collected: 02/23/23 17:00

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	4.9		2.0	0.86	ug/L			03/06/23 14:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		66 - 120					03/06/23 14:17	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			03/02/23 16:22	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/02/23 16:22	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 16:22	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/02/23 16:22	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 16:22	1
Vinyl chloride	1.1		1.0	0.45	ug/L			03/02/23 16:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		62 - 137					03/02/23 16:22	1
4-Bromofluorobenzene (Surr)	125		56 - 136					03/02/23 16:22	1
Toluene-d8 (Surr)	98		78 - 122					03/02/23 16:22	1
Dibromofluoromethane (Surr)	118		73 - 120					03/02/23 16:22	1

# Client Sample Results

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

Job ID: 240-181136-1

**Client Sample ID: MW-54\_022423**

**Lab Sample ID: 240-181136-5**

Date Collected: 02/24/23 10:58

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	1.6	J	2.0	0.86	ug/L			03/06/23 14:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		66 - 120					03/06/23 14:41	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			03/02/23 16:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/02/23 16:47	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 16:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/02/23 16:47	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 16:47	1
Vinyl chloride	0.92	J	1.0	0.45	ug/L			03/02/23 16:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		62 - 137					03/02/23 16:47	1
4-Bromofluorobenzene (Surr)	122		56 - 136					03/02/23 16:47	1
Toluene-d8 (Surr)	96		78 - 122					03/02/23 16:47	1
Dibromofluoromethane (Surr)	116		73 - 120					03/02/23 16:47	1

# Client Sample Results

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

Job ID: 240-181136-1

**Client Sample ID: MW-54S\_022423**

**Lab Sample ID: 240-181136-6**

Date Collected: 02/24/23 12:05

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			03/06/23 15:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		66 - 120					03/06/23 15:05	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			03/02/23 17:11	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/02/23 17:11	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 17:11	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/02/23 17:11	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 17:11	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/02/23 17:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		62 - 137					03/02/23 17:11	1
4-Bromofluorobenzene (Surr)	118		56 - 136					03/02/23 17:11	1
Toluene-d8 (Surr)	95		78 - 122					03/02/23 17:11	1
Dibromofluoromethane (Surr)	115		73 - 120					03/02/23 17:11	1

# Client Sample Results

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

Job ID: 240-181136-1

**Client Sample ID: MW-57\_022423**

**Lab Sample ID: 240-181136-7**

Date Collected: 02/24/23 13:45

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	1.8	J	2.0	0.86	ug/L			03/06/23 15:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		66 - 120					03/06/23 15:30	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			03/02/23 17:36	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/02/23 17:36	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 17:36	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/02/23 17:36	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 17:36	1
Vinyl chloride	0.47	J	1.0	0.45	ug/L			03/02/23 17:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		62 - 137					03/02/23 17:36	1
4-Bromofluorobenzene (Surr)	121		56 - 136					03/02/23 17:36	1
Toluene-d8 (Surr)	97		78 - 122					03/02/23 17:36	1
Dibromofluoromethane (Surr)	113		73 - 120					03/02/23 17:36	1

# Client Sample Results

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

Job ID: 240-181136-1

**Client Sample ID: MW-14\_022423**

**Lab Sample ID: 240-181136-8**

Date Collected: 02/24/23 15:28

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			03/06/23 15:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		66 - 120					03/06/23 15:54	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			03/02/23 18:01	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/02/23 18:01	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 18:01	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/02/23 18:01	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 18:01	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/02/23 18:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		62 - 137					03/02/23 18:01	1
4-Bromofluorobenzene (Surr)	125		56 - 136					03/02/23 18:01	1
Toluene-d8 (Surr)	97		78 - 122					03/02/23 18:01	1
Dibromofluoromethane (Surr)	114		73 - 120					03/02/23 18:01	1



# Surrogate Summary

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

Job ID: 240-181136-1

## 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)
240-180978-E-2 MSD	Matrix Spike Duplicate	111	123	103	112
240-180978-N-2 MS	Matrix Spike	116	124	100	112
240-181136-1	TRIP BLANK_19	116	123	98	119
240-181136-2	MW-222S_022323	117	120	95	120
240-181136-3	MW-07_022323	120	126	100	115
240-181136-4	MW-09_022323	121	125	98	118
240-181136-5	MW-54_022423	114	122	96	116
240-181136-6	MW-54S_022423	114	118	95	115
240-181136-7	MW-57_022423	116	121	97	113
240-181136-8	MW-14_022423	117	125	97	114
LCS 240-563959/5	Lab Control Sample	113	124	99	114
MB 240-563959/11	Method Blank	118	125	98	116

**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)
240-180978-K-2 MS	Matrix Spike	82
240-180978-L-2 MSD	Matrix Spike Duplicate	90
240-180978-M-5 MS	Matrix Spike	86
240-180978-N-5 MSD	Matrix Spike Duplicate	89
240-181136-2	MW-222S_022323	97
240-181136-3	MW-07_022323	91
240-181136-4	MW-09_022323	82
240-181136-5	MW-54_022423	93
240-181136-6	MW-54S_022423	90
240-181136-7	MW-57_022423	84
240-181136-8	MW-14_022423	83
LCS 240-564197/4	Lab Control Sample	89
LCS 240-564390/4	Lab Control Sample	88
MB 240-564197/6	Method Blank	83
MB 240-564390/6	Method Blank	84

**Surrogate Legend**

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

# QC Sample Results

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

Job ID: 240-181136-1

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

Lab Sample ID: MB 240-563959/11

Matrix: Water

Analysis Batch: 563959

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			03/02/23 09:57	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/02/23 09:57	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 09:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/02/23 09:57	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 09:57	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/02/23 09:57	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	118		62 - 137		03/02/23 09:57	1
4-Bromofluorobenzene (Surr)	125		56 - 136		03/02/23 09:57	1
Toluene-d8 (Surr)	98		78 - 122		03/02/23 09:57	1
Dibromofluoromethane (Surr)	116		73 - 120		03/02/23 09:57	1

Lab Sample ID: LCS 240-563959/5

Matrix: Water

Analysis Batch: 563959

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	21.4		ug/L		107	63 - 134
cis-1,2-Dichloroethene	20.0	20.9		ug/L		105	77 - 123
Tetrachloroethene	20.0	20.9		ug/L		104	76 - 123
trans-1,2-Dichloroethene	20.0	21.3		ug/L		106	75 - 124
Trichloroethene	20.0	21.1		ug/L		106	70 - 122
Vinyl chloride	20.0	21.7		ug/L		108	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	113		62 - 137
4-Bromofluorobenzene (Surr)	124		56 - 136
Toluene-d8 (Surr)	99		78 - 122
Dibromofluoromethane (Surr)	114		73 - 120

Lab Sample ID: 240-180978-E-2 MSD

Matrix: Water

Analysis Batch: 563959

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
	Result	Qualifier		Result	Qualifier						
1,1-Dichloroethene	1.0	U	20.0	20.6		ug/L		103	56 - 135	2	26
cis-1,2-Dichloroethene	1.0	U	20.0	19.5		ug/L		97	66 - 128	7	14
Tetrachloroethene	1.0	U	20.0	20.7		ug/L		104	62 - 131	7	20
trans-1,2-Dichloroethene	1.0	U	20.0	19.7		ug/L		98	56 - 136	1	15
Trichloroethene	1.0	U	20.0	19.5		ug/L		98	61 - 124	2	15
Vinyl chloride	1.0	U	20.0	19.6		ug/L		98	43 - 157	0	24

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	111		62 - 137
4-Bromofluorobenzene (Surr)	123		56 - 136
Toluene-d8 (Surr)	103		78 - 122

# QC Sample Results

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

Job ID: 240-181136-1

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

**Lab Sample ID: 240-180978-E-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 563959**

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

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
Dibromofluoromethane (Surr)	112		73 - 120

**Lab Sample ID: 240-180978-N-2 MS**  
**Matrix: Water**  
**Analysis Batch: 563959**

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

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				
1,1-Dichloroethene	1.0	U	20.0	20.3		ug/L		101	56 - 135
cis-1,2-Dichloroethene	1.0	U	20.0	18.2		ug/L		91	66 - 128
Tetrachloroethene	1.0	U	20.0	19.4		ug/L		97	62 - 131
trans-1,2-Dichloroethene	1.0	U	20.0	19.8		ug/L		99	56 - 136
Trichloroethene	1.0	U	20.0	19.2		ug/L		96	61 - 124
Vinyl chloride	1.0	U	20.0	19.6		ug/L		98	43 - 157

  

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	116		62 - 137
4-Bromofluorobenzene (Surr)	124		56 - 136
Toluene-d8 (Surr)	100		78 - 122
Dibromofluoromethane (Surr)	112		73 - 120

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

**Lab Sample ID: MB 240-564197/6**  
**Matrix: Water**  
**Analysis Batch: 564197**

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/03/23 15:22	1

  

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	83		66 - 120		03/03/23 15:22	1

**Lab Sample ID: LCS 240-564197/4**  
**Matrix: Water**  
**Analysis Batch: 564197**

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

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				
1,4-Dioxane	10.0	8.65		ug/L		86	80 - 122

  

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	89		66 - 120

**Lab Sample ID: 240-180978-K-2 MS**  
**Matrix: Water**  
**Analysis Batch: 564197**

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

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				
1,4-Dioxane	2.0	U	10.0	8.72		ug/L		87	51 - 153

Eurofins Canton

# QC Sample Results

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

Job ID: 240-181136-1

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

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	82		66 - 120

Lab Sample ID: 240-180978-L-2 MSD  
Matrix: Water  
Analysis Batch: 564197

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	9.66		ug/L		97	51 - 153	10	16

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	90		66 - 120

Lab Sample ID: MB 240-564390/6  
Matrix: Water  
Analysis Batch: 564390

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			03/06/23 13:53	1

	MB	MB		Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier	Limits			
1,2-Dichloroethane-d4 (Surr)	84		66 - 120		03/06/23 13:53	1

Lab Sample ID: LCS 240-564390/4  
Matrix: Water  
Analysis Batch: 564390

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

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		66 - 120

Lab Sample ID: 240-180978-M-5 MS  
Matrix: Water  
Analysis Batch: 564390

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	2.0	U	10.0	11.0		ug/L		110	51 - 153

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		66 - 120

Lab Sample ID: 240-180978-N-5 MSD  
Matrix: Water  
Analysis Batch: 564390

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	11.0		ug/L		110	51 - 153	0	16

# QC Sample Results

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

Job ID: 240-181136-1

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

Lab Sample ID: 240-180978-N-5 MSD

Matrix: Water

Analysis Batch: 564390

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)	89		66 - 120

- 1
- 2
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- 12
- 13
- 14

# QC Association Summary

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

Job ID: 240-181136-1

## GC/MS VOA

### Analysis Batch: 563959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-181136-1	TRIP BLANK_19	Total/NA	Water	8260D	
240-181136-2	MW-222S_022323	Total/NA	Water	8260D	
240-181136-3	MW-07_022323	Total/NA	Water	8260D	
240-181136-4	MW-09_022323	Total/NA	Water	8260D	
240-181136-5	MW-54_022423	Total/NA	Water	8260D	
240-181136-6	MW-54S_022423	Total/NA	Water	8260D	
240-181136-7	MW-57_022423	Total/NA	Water	8260D	
240-181136-8	MW-14_022423	Total/NA	Water	8260D	
MB 240-563959/11	Method Blank	Total/NA	Water	8260D	
LCS 240-563959/5	Lab Control Sample	Total/NA	Water	8260D	
240-180978-E-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	
240-180978-N-2 MS	Matrix Spike	Total/NA	Water	8260D	

### Analysis Batch: 564197

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-181136-2	MW-222S_022323	Total/NA	Water	8260D SIM	
240-181136-3	MW-07_022323	Total/NA	Water	8260D SIM	
MB 240-564197/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-564197/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-180978-K-2 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-180978-L-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

### Analysis Batch: 564390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-181136-4	MW-09_022323	Total/NA	Water	8260D SIM	
240-181136-5	MW-54_022423	Total/NA	Water	8260D SIM	
240-181136-6	MW-54S_022423	Total/NA	Water	8260D SIM	
240-181136-7	MW-57_022423	Total/NA	Water	8260D SIM	
240-181136-8	MW-14_022423	Total/NA	Water	8260D SIM	
MB 240-564390/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-564390/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-180978-M-5 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-180978-N-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

# Lab Chronicle

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

Job ID: 240-181136-1

## Client Sample ID: TRIP BLANK\_19

Lab Sample ID: 240-181136-1

Date Collected: 02/23/23 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	563959	HMB	EET CAN	03/02/23 15:07

## Client Sample ID: MW-222S\_022323

Lab Sample ID: 240-181136-2

Date Collected: 02/23/23 14:10

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	563959	HMB	EET CAN	03/02/23 15:32
Total/NA	Analysis	8260D SIM		1	564197	BAJ	EET CAN	03/03/23 22:40

## Client Sample ID: MW-07\_022323

Lab Sample ID: 240-181136-3

Date Collected: 02/23/23 15:30

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	563959	HMB	EET CAN	03/02/23 15:57
Total/NA	Analysis	8260D SIM		1	564197	BAJ	EET CAN	03/03/23 23:05

## Client Sample ID: MW-09\_022323

Lab Sample ID: 240-181136-4

Date Collected: 02/23/23 17:00

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	563959	HMB	EET CAN	03/02/23 16:22
Total/NA	Analysis	8260D SIM		1	564390	BAJ	EET CAN	03/06/23 14:17

## Client Sample ID: MW-54\_022423

Lab Sample ID: 240-181136-5

Date Collected: 02/24/23 10:58

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	563959	HMB	EET CAN	03/02/23 16:47
Total/NA	Analysis	8260D SIM		1	564390	BAJ	EET CAN	03/06/23 14:41

## Client Sample ID: MW-54S\_022423

Lab Sample ID: 240-181136-6

Date Collected: 02/24/23 12:05

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	563959	HMB	EET CAN	03/02/23 17:11
Total/NA	Analysis	8260D SIM		1	564390	BAJ	EET CAN	03/06/23 15:05

# Lab Chronicle

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

Job ID: 240-181136-1

**Client Sample ID: MW-57\_022423**

**Lab Sample ID: 240-181136-7**

**Date Collected: 02/24/23 13:45**

**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	563959	HMB	EET CAN	03/02/23 17:36
Total/NA	Analysis	8260D SIM		1	564390	BAJ	EET CAN	03/06/23 15:30

**Client Sample ID: MW-14\_022423**

**Lab Sample ID: 240-181136-8**

**Date Collected: 02/24/23 15:28**

**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	563959	HMB	EET CAN	03/02/23 18:01
Total/NA	Analysis	8260D SIM		1	564390	BAJ	EET CAN	03/06/23 15:54

**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: 240-181136-1

## 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.



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: 30167538.401.03 PO # 30167538.401.03		<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 Hlinsky Telephone: 248-994-2240 Email: kristoffer.hlinsky@arcadis.com		<b>Site Contact:</b> Christina Weaver Telephone: 248-994-2240		<b>Lab Contact:</b> Mike DeMontico Telephone: 330-497-9396		TestAmerica Laboratories, Inc. COC No: _____ of _____ COC's			
<b>Sampler Name:</b> Samantha Spawichler		<b>Analysis Turnaround Time</b> TAT if different from below: 10 day <input type="checkbox"/> 3 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 weeks <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day <input type="checkbox"/>		<b>Containers &amp; Preservatives</b> H2SO4 _____ HNO3 _____ HCl _____ NaOH _____ ZnAc _____ Uppers _____ Others _____		<b>Matrix</b> Solid _____ Sediment _____ Aqueous _____ Air _____ Sample Time: _____		<b>Filtered Sample (Y/N)</b> Composite C / Grab G 1,1-DCE 8260B cis-1,2-DCE 8260B Trans-1,2-DCE 8260B PCE 8260B TCE 8260B Vinyl Chloride 8260B 1,4-Dioxane 8260B SIM		<b>Analyses</b>		<b>For lab use only</b> Walk-in client Lab sampling Job/SDG No: _____ Sample Specific Notes / Special Instructions:	
<b>Sample Identification</b>		<b>Sample Date</b>		<b>Sample Time</b>		<b>Matrix</b>		<b>Filtered Sample (Y/N)</b>		<b>Analyses</b>		<b>For lab use only</b>	
TRIP BLANK_19		2/23/23		---		1		NG		X		1 Trip Blank	
MW-2225-022323		2/23/23		14:10		6		NG		X		3 VOAs for 8260B 3 VOAs for 8260B SIM	
MW-07-022323		2/23/23		15:30		6		NG		X		X	
MW-09-022323		2/23/23		17:00		6		NG		X		X	
MW-14-022423		2/24/23		10:58		6		NG		X		X	
MW-54-022423		2/24/23		12:05		6		NG		X		X	
MW-57-022423		2/24/23		13:45		6		NG		X		X	
MW-14-022423		2/24/23		15:28		6		NG		X		X	
MW-24-022423		2/24/23		---		6		NG		X		X	
<b>Possible Hazard Identification</b> <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Irritant <input type="checkbox"/> Inflammable <input type="checkbox"/> Corrosive		<input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		<b>Special Instructions/OC Requirements &amp; Comments:</b>		Submit all results through Cadena at jtomella@cadenasco.com. Cadena #E203728 Level IV Reporting requested.		Date/Time: 2/24/23 17:45 Company: Arcadis		Date/Time: 2/28/23 12:00 Company: Arcadis		Date/Time: 2/28/23 17:45 Company: Arcadis	
Relinquished by: Samantha Spawichler		Date/Time: 2/24/23 17:45		Company: Arcadis		Received by: NOVI COUP STORAGE		Date/Time: 2/28/23 12:00		Company: Arcadis		Date/Time: 2/28/23 17:45	
Relinquished by: [Signature]		Date/Time: 2/28/23 12:00		Company: Arcadis		Received by: [Signature]		Date/Time: 2/28/23 12:00		Company: Arcadis		Date/Time: 2/28/23 17:45	
Relinquished by: [Signature]		Date/Time: 2/28/23 12:10		Company: Arcadis		Received by: [Signature]		Date/Time: 2/28/23 12:10		Company: Arcadis		Date/Time: 2/28/23 17:45	



240-181136 Chain of Custody

3-1-23



Barberton Facility

Client ARCADIS

Site Name \_\_\_\_\_

Cooler unpacked by: \_\_\_\_\_

Cooler Received on 3-1-23

Opened on 3-1-23

M. Yocum

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 # 70 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 -0.2 °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

- 2. 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

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)? Yes No

- 10. Were correct bottle(s) used for the test(s) indicated? Yes No
- 11. Sufficient quantity received to perform indicated analyzes? 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# HC203864

- 14. Were VOAs on the COC? Yes No
- 15. Were air bubbles >6 mm in any VOA vials? Yes None Larger than this. Yes No NA

- 16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # covered up 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 Sample Receipt Multiple Cooler Form													
Cooler Description (Circle)				IR Gun # (Circle)			Observed Temp °C	Corrected Temp °C	Coolant (Circle)				
EC	Client	Box	Other	IR-13	IR-16	IR-17	0.4	0.2	Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17	3.4	3.2	Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17	1.2	1.0	Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None
EC	Client	Box	Other	IR-13	IR-16	IR-17			Wet Ice	Blue Ice	Dry Ice	Water	None

See Temperature Excursion Form

# DATA VERIFICATION REPORT



March 08, 2023

Kris Hinskey  
Arcadis of Michigan  
28550 Cabot Drive  
Suite 500  
Novi, MI US 48377

CADENA project ID: E203728  
Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil  
Project number: 30167538.401.03- onsite groundwater  
Event Specific Scope of Work References: Sample COC  
Laboratory: Eurofins Environment Testing LLC - Barberton  
Laboratory submittal: 181136-1  
Sample date: 2023-02-23 2023-02-24  
Report received by CADENA: 2023-03-08  
Initial Data Verification completed by CADENA: 2023-03-08  
Number of Samples:8  
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.**

There were no significant QC anomalies or exceptions to report.

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.

Qualifiers added during verification have been added to the electronic data which is available for download from the CADENA CLMS. Refer to the attached table of analytical results that have been qualified during verification.

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.