

# ANALYTICAL REPORT

## PREPARED FOR

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## JOB DESCRIPTION

Ford LTP

## JOB NUMBER

240-204762-1

# Eurofins Cleveland

## Job Notes

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## Authorization



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# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Method Summary . . . . .	6
Sample Summary . . . . .	7
Detection Summary . . . . .	8
Client Sample Results . . . . .	9
Surrogate Summary . . . . .	16
QC Sample Results . . . . .	17
QC Association Summary . . . . .	21
Lab Chronicle . . . . .	22
Certification Summary . . . . .	24
Chain of Custody . . . . .	25

# Definitions/Glossary

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

Job ID: 240-204762-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

## Glossary

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

# Case Narrative

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

Job ID: 240-204762-1

**Job ID: 240-204762-1**

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## Job Narrative 240-204762-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 5/18/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.7°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

Job ID: 240-204762-1

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

**Protocol References:**

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

**Laboratory References:**

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



# Sample Summary

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

Job ID: 240-204762-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-204762-1	TRIP BLANK_64	Water	05/15/24 00:00	05/18/24 08:00
240-204762-2	MW-62_051524	Water	05/15/24 08:55	05/18/24 08:00
240-204762-3	MW-64_051524	Water	05/15/24 10:25	05/18/24 08:00
240-204762-4	MW-195S_051524	Water	05/15/24 12:05	05/18/24 08:00
240-204762-5	DUP-04	Water	05/15/24 00:00	05/18/24 08:00
240-204762-6	MW-197S_051524	Water	05/15/24 13:25	05/18/24 08:00
240-204762-7	DUP-05	Water	05/15/24 00:00	05/18/24 08:00

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

## Detection Summary

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

Job ID: 240-204762-1

### Client Sample ID: TRIP BLANK\_64

Lab Sample ID: 240-204762-1

No Detections.

### Client Sample ID: MW-62\_051524

Lab Sample ID: 240-204762-2

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

### Client Sample ID: MW-64\_051524

Lab Sample ID: 240-204762-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	3.6		1.0	0.45	ug/L	1		8260D	Total/NA

### Client Sample ID: MW-195S\_051524

Lab Sample ID: 240-204762-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	94	J	100	46	ug/L	100		8260D	Total/NA
trans-1,2-Dichloroethene	190		100	51	ug/L	100		8260D	Total/NA
Trichloroethene	2800		100	44	ug/L	100		8260D	Total/NA

### Client Sample ID: DUP-04

Lab Sample ID: 240-204762-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	60	J	100	46	ug/L	100		8260D	Total/NA
trans-1,2-Dichloroethene	160		100	51	ug/L	100		8260D	Total/NA
Trichloroethene	2400		100	44	ug/L	100		8260D	Total/NA

### Client Sample ID: MW-197S\_051524

Lab Sample ID: 240-204762-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.54	J	1.0	0.49	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	19		1.0	0.46	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	1.2		1.0	0.51	ug/L	1		8260D	Total/NA
Trichloroethene	93		2.5	1.1	ug/L	2.5		8260D	Total/NA
Vinyl chloride	2.1		1.0	0.45	ug/L	1		8260D	Total/NA

### Client Sample ID: DUP-05

Lab Sample ID: 240-204762-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	17		2.0	0.92	ug/L	2		8260D	Total/NA
trans-1,2-Dichloroethene	1.1	J	2.0	1.0	ug/L	2		8260D	Total/NA
Trichloroethene	67		2.0	0.88	ug/L	2		8260D	Total/NA
Vinyl chloride	1.7	J	2.0	0.90	ug/L	2		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

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

Job ID: 240-204762-1

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

**Lab Sample ID: 240-204762-1**

Date Collected: 05/15/24 00:00

Matrix: Water

Date Received: 05/18/24 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/25/24 14:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/25/24 14:10	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/25/24 14:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/25/24 14:10	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/25/24 14:10	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/25/24 14:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		62 - 137		05/25/24 14:10	1
4-Bromofluorobenzene (Surr)	94		56 - 136		05/25/24 14:10	1
Toluene-d8 (Surr)	97		78 - 122		05/25/24 14:10	1
Dibromofluoromethane (Surr)	99		73 - 120		05/25/24 14:10	1

# Client Sample Results

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

Job ID: 240-204762-1

**Client Sample ID: MW-62\_051524**

**Lab Sample ID: 240-204762-2**

Date Collected: 05/15/24 08:55

Matrix: Water

Date Received: 05/18/24 08:00

**Method: SW846 8260D SIM - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0		2.0	0.86	ug/L			05/25/24 22:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		68 - 127					05/25/24 22:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/25/24 18:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/25/24 18:24	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/25/24 18:24	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/25/24 18:24	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/25/24 18:24	1
Vinyl chloride	1.0		1.0	0.45	ug/L			05/25/24 18:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		62 - 137					05/25/24 18:24	1
4-Bromofluorobenzene (Surr)	87		56 - 136					05/25/24 18:24	1
Toluene-d8 (Surr)	90		78 - 122					05/25/24 18:24	1
Dibromofluoromethane (Surr)	98		73 - 120					05/25/24 18:24	1

# Client Sample Results

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

Job ID: 240-204762-1

**Client Sample ID: MW-64\_051524**

**Lab Sample ID: 240-204762-3**

Date Collected: 05/15/24 10:25

Matrix: Water

Date Received: 05/18/24 08:00

**Method: SW846 8260D SIM - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/25/24 23:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		68 - 127					05/25/24 23:07	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			05/25/24 18:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/25/24 18:47	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/25/24 18:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/25/24 18:47	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/25/24 18:47	1
<b>Vinyl chloride</b>	<b>3.6</b>		1.0	0.45	ug/L			05/25/24 18:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		62 - 137					05/25/24 18:47	1
4-Bromofluorobenzene (Surr)	85		56 - 136					05/25/24 18:47	1
Toluene-d8 (Surr)	88		78 - 122					05/25/24 18:47	1
Dibromofluoromethane (Surr)	95		73 - 120					05/25/24 18:47	1

# Client Sample Results

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

Job ID: 240-204762-1

**Client Sample ID: MW-195S\_051524**

**Lab Sample ID: 240-204762-4**

Date Collected: 05/15/24 12:05

Matrix: Water

Date Received: 05/18/24 08:00

**Method: SW846 8260D SIM - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/25/24 23:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		68 - 127					05/25/24 23:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	100	U	100	49	ug/L			05/29/24 16:32	100
<b>cis-1,2-Dichloroethene</b>	<b>94</b>	<b>J</b>	100	46	ug/L			05/29/24 16:32	100
Tetrachloroethene	100	U	100	44	ug/L			05/29/24 16:32	100
<b>trans-1,2-Dichloroethene</b>	<b>190</b>		100	51	ug/L			05/29/24 16:32	100
<b>Trichloroethene</b>	<b>2800</b>		100	44	ug/L			05/29/24 16:32	100
Vinyl chloride	100	U	100	45	ug/L			05/29/24 16:32	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		62 - 137					05/29/24 16:32	100
4-Bromofluorobenzene (Surr)	95		56 - 136					05/29/24 16:32	100
Toluene-d8 (Surr)	95		78 - 122					05/29/24 16:32	100
Dibromofluoromethane (Surr)	106		73 - 120					05/29/24 16:32	100

# Client Sample Results

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

Job ID: 240-204762-1

**Client Sample ID: DUP-04**

**Lab Sample ID: 240-204762-5**

Date Collected: 05/15/24 00:00

Matrix: Water

Date Received: 05/18/24 08:00

**Method: SW846 8260D SIM - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/25/24 23:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		68 - 127					05/25/24 23:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	100	U	100	49	ug/L			05/25/24 19:56	100
<b>cis-1,2-Dichloroethene</b>	<b>60</b>	<b>J</b>	100	46	ug/L			05/25/24 19:56	100
Tetrachloroethene	100	U	100	44	ug/L			05/25/24 19:56	100
<b>trans-1,2-Dichloroethene</b>	<b>160</b>		100	51	ug/L			05/25/24 19:56	100
<b>Trichloroethene</b>	<b>2400</b>		100	44	ug/L			05/25/24 19:56	100
Vinyl chloride	100	U	100	45	ug/L			05/25/24 19:56	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		62 - 137					05/25/24 19:56	100
4-Bromofluorobenzene (Surr)	88		56 - 136					05/25/24 19:56	100
Toluene-d8 (Surr)	89		78 - 122					05/25/24 19:56	100
Dibromofluoromethane (Surr)	93		73 - 120					05/25/24 19:56	100

# Client Sample Results

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

Job ID: 240-204762-1

**Client Sample ID: MW-197S\_051524**

**Lab Sample ID: 240-204762-6**

Date Collected: 05/15/24 13:25

Matrix: Water

Date Received: 05/18/24 08:00

**Method: SW846 8260D SIM - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/26/24 00:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		68 - 127					05/26/24 00:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.54	J	1.0	0.49	ug/L			05/25/24 19:10	1
cis-1,2-Dichloroethene	19		1.0	0.46	ug/L			05/25/24 19:10	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/25/24 19:10	1
trans-1,2-Dichloroethene	1.2		1.0	0.51	ug/L			05/25/24 19:10	1
Trichloroethene	93		2.5	1.1	ug/L			05/29/24 16:55	2.5
Vinyl chloride	2.1		1.0	0.45	ug/L			05/25/24 19:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		62 - 137					05/25/24 19:10	1
1,2-Dichloroethane-d4 (Surr)	108		62 - 137					05/29/24 16:55	2.5
4-Bromofluorobenzene (Surr)	91		56 - 136					05/25/24 19:10	1
4-Bromofluorobenzene (Surr)	92		56 - 136					05/29/24 16:55	2.5
Toluene-d8 (Surr)	96		78 - 122					05/25/24 19:10	1
Toluene-d8 (Surr)	93		78 - 122					05/29/24 16:55	2.5
Dibromofluoromethane (Surr)	104		73 - 120					05/25/24 19:10	1
Dibromofluoromethane (Surr)	107		73 - 120					05/29/24 16:55	2.5

# Client Sample Results

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

Job ID: 240-204762-1

**Client Sample ID: DUP-05**

**Lab Sample ID: 240-204762-7**

Date Collected: 05/15/24 00:00

Matrix: Water

Date Received: 05/18/24 08:00

**Method: SW846 8260D SIM - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/26/24 00:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		68 - 127					05/26/24 00:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	2.0	U	2.0	0.98	ug/L			05/25/24 19:33	2
<b>cis-1,2-Dichloroethene</b>	<b>17</b>		2.0	0.92	ug/L			05/25/24 19:33	2
Tetrachloroethene	2.0	U	2.0	0.88	ug/L			05/25/24 19:33	2
<b>trans-1,2-Dichloroethene</b>	<b>1.1</b>	<b>J</b>	2.0	1.0	ug/L			05/25/24 19:33	2
<b>Trichloroethene</b>	<b>67</b>		2.0	0.88	ug/L			05/25/24 19:33	2
<b>Vinyl chloride</b>	<b>1.7</b>	<b>J</b>	2.0	0.90	ug/L			05/25/24 19:33	2
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		62 - 137					05/25/24 19:33	2
4-Bromofluorobenzene (Surr)	87		56 - 136					05/25/24 19:33	2
Toluene-d8 (Surr)	92		78 - 122					05/25/24 19:33	2
Dibromofluoromethane (Surr)	99		73 - 120					05/25/24 19:33	2

# Surrogate Summary

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

Job ID: 240-204762-1

## 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)
240-204759-B-3 MS	Matrix Spike	91	96	92	92
240-204759-B-3 MSD	Matrix Spike Duplicate	99	99	94	97
240-204762-1	TRIP BLANK_64	102	94	97	99
240-204762-2	MW-62_051524	101	87	90	98
240-204762-3	MW-64_051524	101	85	88	95
240-204762-4	MW-195S_051524	108	95	95	106
240-204762-4 MS	MW-195S_051524	96	98	94	96
240-204762-4 MSD	MW-195S_051524	98	101	95	103
240-204762-5	DUP-04	99	88	89	93
240-204762-6	MW-197S_051524	105	91	96	104
240-204762-6	MW-197S_051524	108	92	93	107
240-204762-7	DUP-05	102	87	92	99
LCS 240-614422/5	Lab Control Sample	97	102	100	97
LCS 240-614711/5	Lab Control Sample	97	102	100	100
MB 240-614422/8	Method Blank	104	94	99	102
MB 240-614711/8	Method Blank	107	94	94	104

### Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (68-127)
240-204759-C-3 MS	Matrix Spike	89
240-204759-C-3 MSD	Matrix Spike Duplicate	88
240-204762-2	MW-62_051524	96
240-204762-3	MW-64_051524	92
240-204762-4	MW-195S_051524	89
240-204762-5	DUP-04	82
240-204762-6	MW-197S_051524	87
240-204762-7	DUP-05	86
LCS 240-614435/4	Lab Control Sample	88
MB 240-614435/6	Method Blank	86

### Surrogate Legend

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



# QC Sample Results

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

Job ID: 240-204762-1

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

Lab Sample ID: MB 240-614422/8

Matrix: Water

Analysis Batch: 614422

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			05/25/24 12:38	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/25/24 12:38	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/25/24 12:38	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/25/24 12:38	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/25/24 12:38	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/25/24 12:38	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	104		62 - 137		05/25/24 12:38	1
4-Bromofluorobenzene (Surr)	94		56 - 136		05/25/24 12:38	1
Toluene-d8 (Surr)	99		78 - 122		05/25/24 12:38	1
Dibromofluoromethane (Surr)	102		73 - 120		05/25/24 12:38	1

Lab Sample ID: LCS 240-614422/5

Matrix: Water

Analysis Batch: 614422

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,2-Dichloroethene	25.0	25.0		ug/L		100	77 - 123
Tetrachloroethene	25.0	24.3		ug/L		97	76 - 123
trans-1,2-Dichloroethene	25.0	23.6		ug/L		94	75 - 124
Trichloroethene	25.0	23.3		ug/L		93	70 - 122
Vinyl chloride	12.5	11.5		ug/L		92	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	97		62 - 137
4-Bromofluorobenzene (Surr)	102		56 - 136
Toluene-d8 (Surr)	100		78 - 122
Dibromofluoromethane (Surr)	97		73 - 120

Lab Sample ID: 240-204759-B-3 MS

Matrix: Water

Analysis Batch: 614422

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	25.0	22.9		ug/L		92	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	23.0		ug/L		92	66 - 128
Tetrachloroethene	1.0	U	25.0	22.4		ug/L		90	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	21.3		ug/L		85	56 - 136
Trichloroethene	1.0	U	25.0	21.2		ug/L		85	61 - 124
Vinyl chloride	1.0	U	12.5	11.2		ug/L		90	43 - 157

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	91		62 - 137
4-Bromofluorobenzene (Surr)	96		56 - 136
Toluene-d8 (Surr)	92		78 - 122

Eurofins Cleveland

# QC Sample Results

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

Job ID: 240-204762-1

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

**Lab Sample ID: 240-204759-B-3 MS**  
**Matrix: Water**  
**Analysis Batch: 614422**

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

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	92		73 - 120

**Lab Sample ID: 240-204759-B-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 614422**

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

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
1,1-Dichloroethene	1.0	U	25.0	23.4		ug/L		94	56 - 135	2	26
cis-1,2-Dichloroethene	1.0	U	25.0	23.0		ug/L		92	66 - 128	0	14
Tetrachloroethene	1.0	U	25.0	20.6		ug/L		82	62 - 131	8	20
trans-1,2-Dichloroethene	1.0	U	25.0	20.7		ug/L		83	56 - 136	3	15
Trichloroethene	1.0	U	25.0	20.7		ug/L		83	61 - 124	2	15
Vinyl chloride	1.0	U	12.5	10.7		ug/L		85	43 - 157	5	24

  

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	99		62 - 137
4-Bromofluorobenzene (Surr)	99		56 - 136
Toluene-d8 (Surr)	94		78 - 122
Dibromofluoromethane (Surr)	97		73 - 120

**Lab Sample ID: MB 240-614711/8**  
**Matrix: Water**  
**Analysis Batch: 614711**

**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		05/29/24 13:05	1	
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L		05/29/24 13:05	1	
Tetrachloroethene	1.0	U	1.0	0.44	ug/L		05/29/24 13:05	1	
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L		05/29/24 13:05	1	
Trichloroethene	1.0	U	1.0	0.44	ug/L		05/29/24 13:05	1	
Vinyl chloride	1.0	U	1.0	0.45	ug/L		05/29/24 13:05	1	

  

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	107		62 - 137		05/29/24 13:05	1
4-Bromofluorobenzene (Surr)	94		56 - 136		05/29/24 13:05	1
Toluene-d8 (Surr)	94		78 - 122		05/29/24 13:05	1
Dibromofluoromethane (Surr)	104		73 - 120		05/29/24 13:05	1

**Lab Sample ID: LCS 240-614711/5**  
**Matrix: Water**  
**Analysis Batch: 614711**

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
1,1-Dichloroethene	25.0	25.1		ug/L		100	63 - 134
cis-1,2-Dichloroethene	25.0	25.7		ug/L		103	77 - 123
Tetrachloroethene	25.0	25.0		ug/L		100	76 - 123
trans-1,2-Dichloroethene	25.0	23.8		ug/L		95	75 - 124
Trichloroethene	25.0	24.2		ug/L		97	70 - 122

Eurofins Cleveland

# QC Sample Results

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

Job ID: 240-204762-1

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

Lab Sample ID: LCS 240-614711/5

Matrix: Water

Analysis Batch: 614711

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl chloride	12.5	11.7		ug/L		93	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		62 - 137
4-Bromofluorobenzene (Surr)	102		56 - 136
Toluene-d8 (Surr)	100		78 - 122
Dibromofluoromethane (Surr)	100		73 - 120

Lab Sample ID: 240-204762-4 MS

Matrix: Water

Analysis Batch: 614711

Client Sample ID: MW-195S\_051524

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	100	U	2500	2280		ug/L		91	56 - 135
cis-1,2-Dichloroethene	94	J	2500	2550		ug/L		98	66 - 128
Tetrachloroethene	100	U	2500	2300		ug/L		92	62 - 131
trans-1,2-Dichloroethene	190		2500	2370		ug/L		87	56 - 136
Trichloroethene	2800		2500	4720		ug/L		76	61 - 124
Vinyl chloride	100	U	1250	1100		ug/L		88	43 - 157

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		62 - 137
4-Bromofluorobenzene (Surr)	98		56 - 136
Toluene-d8 (Surr)	94		78 - 122
Dibromofluoromethane (Surr)	96		73 - 120

Lab Sample ID: 240-204762-4 MSD

Matrix: Water

Analysis Batch: 614711

Client Sample ID: MW-195S\_051524

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	100	U	2500	2310		ug/L		92	56 - 135	1	26
cis-1,2-Dichloroethene	94	J	2500	2560		ug/L		99	66 - 128	0	14
Tetrachloroethene	100	U	2500	2310		ug/L		92	62 - 131	0	20
trans-1,2-Dichloroethene	190		2500	2380		ug/L		87	56 - 136	0	15
Trichloroethene	2800		2500	4810		ug/L		79	61 - 124	2	15
Vinyl chloride	100	U	1250	1120		ug/L		90	43 - 157	2	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		62 - 137
4-Bromofluorobenzene (Surr)	101		56 - 136
Toluene-d8 (Surr)	95		78 - 122
Dibromofluoromethane (Surr)	103		73 - 120

# QC Sample Results

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

Job ID: 240-204762-1

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

**Lab Sample ID: MB 240-614435/6**  
**Matrix: Water**  
**Analysis Batch: 614435**

**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			05/25/24 17:15	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		68 - 127					05/25/24 17:15	1

**Lab Sample ID: LCS 240-614435/4**  
**Matrix: Water**  
**Analysis Batch: 614435**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	10.0	9.90		ug/L		99	75 - 121
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	88		68 - 127				

**Lab Sample ID: 240-204759-C-3 MS**  
**Matrix: Water**  
**Analysis Batch: 614435**

**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	10.3		ug/L		103	20 - 180
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	89		68 - 127						

**Lab Sample ID: 240-204759-C-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 614435**

**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	10.7		ug/L		107	20 - 180	4	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	88		68 - 127								

# QC Association Summary

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

Job ID: 240-204762-1

## GC/MS VOA

### Analysis Batch: 614422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-204762-1	TRIP BLANK_64	Total/NA	Water	8260D	
240-204762-2	MW-62_051524	Total/NA	Water	8260D	
240-204762-3	MW-64_051524	Total/NA	Water	8260D	
240-204762-5	DUP-04	Total/NA	Water	8260D	
240-204762-6	MW-197S_051524	Total/NA	Water	8260D	
240-204762-7	DUP-05	Total/NA	Water	8260D	
MB 240-614422/8	Method Blank	Total/NA	Water	8260D	
LCS 240-614422/5	Lab Control Sample	Total/NA	Water	8260D	
240-204759-B-3 MS	Matrix Spike	Total/NA	Water	8260D	
240-204759-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

### Analysis Batch: 614435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-204762-2	MW-62_051524	Total/NA	Water	8260D SIM	
240-204762-3	MW-64_051524	Total/NA	Water	8260D SIM	
240-204762-4	MW-195S_051524	Total/NA	Water	8260D SIM	
240-204762-5	DUP-04	Total/NA	Water	8260D SIM	
240-204762-6	MW-197S_051524	Total/NA	Water	8260D SIM	
240-204762-7	DUP-05	Total/NA	Water	8260D SIM	
MB 240-614435/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-614435/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-204759-C-3 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-204759-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

### Analysis Batch: 614711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-204762-4	MW-195S_051524	Total/NA	Water	8260D	
240-204762-6	MW-197S_051524	Total/NA	Water	8260D	
MB 240-614711/8	Method Blank	Total/NA	Water	8260D	
LCS 240-614711/5	Lab Control Sample	Total/NA	Water	8260D	
240-204762-4 MS	MW-195S_051524	Total/NA	Water	8260D	
240-204762-4 MSD	MW-195S_051524	Total/NA	Water	8260D	

# Lab Chronicle

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

Job ID: 240-204762-1

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

**Lab Sample ID: 240-204762-1**

Date Collected: 05/15/24 00:00

Matrix: Water

Date Received: 05/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	614422	SAM	EET CLE	05/25/24 14:10

**Client Sample ID: MW-62\_051524**

**Lab Sample ID: 240-204762-2**

Date Collected: 05/15/24 08:55

Matrix: Water

Date Received: 05/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	614422	SAM	EET CLE	05/25/24 18:24
Total/NA	Analysis	8260D SIM		1	614435	MDH	EET CLE	05/25/24 22:44

**Client Sample ID: MW-64\_051524**

**Lab Sample ID: 240-204762-3**

Date Collected: 05/15/24 10:25

Matrix: Water

Date Received: 05/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	614422	SAM	EET CLE	05/25/24 18:47
Total/NA	Analysis	8260D SIM		1	614435	MDH	EET CLE	05/25/24 23:07

**Client Sample ID: MW-195S\_051524**

**Lab Sample ID: 240-204762-4**

Date Collected: 05/15/24 12:05

Matrix: Water

Date Received: 05/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		100	614711	SAM	EET CLE	05/29/24 16:32
Total/NA	Analysis	8260D SIM		1	614435	MDH	EET CLE	05/25/24 23:31

**Client Sample ID: DUP-04**

**Lab Sample ID: 240-204762-5**

Date Collected: 05/15/24 00:00

Matrix: Water

Date Received: 05/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		100	614422	SAM	EET CLE	05/25/24 19:56
Total/NA	Analysis	8260D SIM		1	614435	MDH	EET CLE	05/25/24 23:54

**Client Sample ID: MW-197S\_051524**

**Lab Sample ID: 240-204762-6**

Date Collected: 05/15/24 13:25

Matrix: Water

Date Received: 05/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	614422	SAM	EET CLE	05/25/24 19:10
Total/NA	Analysis	8260D		2.5	614711	SAM	EET CLE	05/29/24 16:55
Total/NA	Analysis	8260D SIM		1	614435	MDH	EET CLE	05/26/24 00:17

# Lab Chronicle

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

Job ID: 240-204762-1

**Client Sample ID: DUP-05**

**Lab Sample ID: 240-204762-7**

**Date Collected: 05/15/24 00:00**

**Matrix: Water**

**Date Received: 05/18/24 08:00**

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Analyst</u>	<u>Lab</u>	<u>Prepared or Analyzed</u>
Total/NA	Analysis	8260D		2	614422	SAM	EET CLE	05/25/24 19:33
Total/NA	Analysis	8260D SIM		1	614435	MDH	EET CLE	05/26/24 00:41

**Laboratory References:**

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

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# Accreditation/Certification Summary

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

Job ID: 240-204762-1

## Laboratory: Eurofins Cleveland

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-27-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	06-30-24
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24



Chain of Custody Record

TestAmerica Laboratory location: Brighton -- 10448 Citation Drive, Suite 200 / Brighton, MI 48116 / 810-229-2763

<b>Client Contact</b>			<b>Regulatory program:</b> <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other												<b>TestAmerica Laboratories, Inc.</b>														
Company Name: Arcadis			Client Project Manager: Kris Hinskey				Site Contact: Christina Weaver				Lab Contact: Mike DelMonico				COC No:														
Address: 28550 Cabot Drive, Suite 500			Telephone: 248-994-2240				Telephone: 248-994-2240				Telephone: 330-497-9396				1 of 1 COCs														
City/State/Zip: Novi, MI, 48377			Email: kristoffer.hinskey@arcadis.com				<b>Analyzes Turnaround Time</b>				<b>Analyses</b>				For lab use only														
Phone: 248-994-2240			Sampler Name: <i>Kent Kaspar</i>				TAT if different from below								Walk-in client														
Project Name: Ford LTP			Method of Shipment/Carrier:				10 day <input type="checkbox"/> 3 weeks								Lab sampling														
Project Number: 30206169.0401.03			Shipping/Tracking No:				<input type="checkbox"/> 2 weeks								Job/SDG No:														
PO # US3410018772							<input type="checkbox"/> 1 week																						
							<input type="checkbox"/> 2 days																						
							<input type="checkbox"/> 1 day																						
Sample Identification	Sample Date	Sample Time	Matrix					Containers & Preservatives					Filtered Sample (Y/N)	Composite-C / Grab=C	1,1-DCE 8260D	cis-1,2-DCE 8260D	Trans-1,2-DCE 8260D	PCE 8260D	TCE 8260D	Vinyl Chloride 8260D	1,4-Dioxane 8260D SIM	Sample Specific Notes / Special Instructions:							
			Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH											Unpres	Other:					
TRIP BLANK_ <i>64</i>	--	--	1					1						NG	X	X	X	X	X	X					1 Trip Blank				
MW-62-051524	5/15/24	0855	6					6						NG	X	X	X	X	X	X					3 VOAs for 8260D 3 VOAs for 8260D SIM				
MW-64-051524	5/15/24	1025	6					6						NG	X	X	X	X	X	X									
MW-1955-051524	5/15/24	1205	6					6						NG	X	X	X	X	X	X									
DUP-04	5/15/24	-	6					6						NG	X	X	X	X	X	X									
MW-1975-051524	5/15/24	1325	6					6						NG	X	X	X	X	X	X									
DUP-05	5/15/24	-	6					6						NG	X	X	X	X	X	X									
<b>Possible Hazard Identification</b>			<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>												240-204762 Chain of Custody														
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown			<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For																										
<b>Special Instructions/QC Requirements &amp; Comments:</b>																													
Submit all results through Cadena at jtomalla@cadenaco.com. Cadena #E203728 Level IV Reporting requested.																													
Relinquished by: <i>[Signature]</i>	Company: Arcadis	Date/Time: 5/15/24 1448	Received by: <i>[Signature]</i>	Company: Novi Cold Storage	Date/Time: 5/15/24 1448	Relinquished by: <i>[Signature]</i>	Company: Arcadis	Date/Time: 5/16/24 1655	Received by: <i>[Signature]</i>	Company: BETA	Date/Time: 5/16/24 1655	Relinquished by: <i>[Signature]</i>	Company: Arcadis	Date/Time: 5/16/24 0820	Received by: <i>[Signature]</i>	Company: BETA	Date/Time: 5/16/24 0820	Relinquished by: <i>[Signature]</i>	Company: Arcadis	Date/Time: 5/16/24 0820	Received by: <i>[Signature]</i>	Company: BETA	Date/Time: 5/16/24 0820	Relinquished by: <i>[Signature]</i>	Company: Arcadis	Date/Time: 5/16/24 0820	Received by: <i>[Signature]</i>	Company: BETA	Date/Time: 5/16/24 0820



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

Client Arcadis Site Name \_\_\_\_\_  
 Cooler Received on 05/18/24 Opened on 05/18/24  
 FedEx: 1<sup>st</sup> Grd Exp UPS FAS WExpmt Client Drop Off Eurofins Courier Other CO MORESCO  
 Receipt After-hours Drop-off Date/Time Storage Location \_\_\_\_\_

Eurofins Cooler # EC Foam Box Client Cooler Box Other \_\_\_\_\_  
 Packing material used Bubble Wrap Foam Plastic Bag None Other \_\_\_\_\_  
 COOLANT: Weigh Blue Ice Dry Ice Water None  See Multiple Cooler Form

1 Cooler temperature upon receipt  IR GUN # 18 (CF TD 0 °C) Observed Cooler Temp 3.7 °C Corrected Cooler Temp 3.7 °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 (Yes) No  
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA  
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA  
 -Were tamper/custody seals intact and uncompromised? Yes No NA  
 3 Shippers' packing slip attached to the cooler(s)? Yes No NA  
 4 Did custody papers accompany the sample(s)? Yes No NA  
 5 Were the custody papers relinquished & signed in the appropriate place? Yes No NA  
 6 Was/were the person(s) who collected the samples clearly identified on the COC? Yes No NA  
 7 Did all bottles arrive in good condition (Unbroken)? Yes No NA  
 8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No NA  
 9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? Yes No NA  
 10 Were correct bottle(s) used for the test(s) indicated? Yes No NA  
 11 Sufficient quantity received to perform indicated analyses? Yes No NA  
 12 Are these work share samples and all listed on the COC? Yes No NA  
 If yes, Questions 13-17 have been checked at the originating laboratory

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

13 Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC439975  
 14 Were VOAs on the COC? Yes No NA  
 15 Were air bubbles >6 mm in any VOA vials? Yes No NA Larger than this.   
 16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 0041301T Yes No NA  
 17 Was a LI Hg or Me Hg trip blank present? Yes No NA

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

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

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 \_\_\_\_\_

5/18/2024 Login Container Summary Report

240-204762

Temperature readings \_\_\_\_\_

5/31/2024

Client Sample ID	Lab ID	Container Type	Container pH	Preservation Temp	Preservation Added	Preservation Lot Number
TRIP BLANK_64	240-204762-A-1	Voa Vial 40ml - Hydrochloric Acid				
MW-62_051524	240-204762-A-2	Voa Vial 40ml - Hydrochloric Acid				
MW-62_051524	240-204762-B-2	Voa Vial 40ml - Hydrochloric Acid				
MW-62_051524	240-204762-C-2	Voa Vial 40ml - Hydrochloric Acid				
MW-62_051524	240-204762-D-2	Voa Vial 40ml - Hydrochloric Acid				
MW-62_051524	240-204762-E-2	Voa Vial 40ml - Hydrochloric Acid				
MW-62_051524	240-204762-F-2	Voa Vial 40ml - Hydrochloric Acid				
MW-64_051524	240-204762-A-3	Voa Vial 40ml - Hydrochloric Acid				
MW-64_051524	240-204762-B-3	Voa Vial 40ml - Hydrochloric Acid				
MW-64_051524	240-204762-C-3	Voa Vial 40ml - Hydrochloric Acid				
MW-64_051524	240-204762-D-3	Voa Vial 40ml - Hydrochloric Acid				
MW-64_051524	240-204762-E-3	Voa Vial 40ml - Hydrochloric Acid				
MW-64_051524	240-204762-F-3	Voa Vial 40ml - Hydrochloric Acid				
MW-195S_051524	240-204762-A-4	Voa Vial 40ml - Hydrochloric Acid				
MW-195S_051524	240-204762-B-4	Voa Vial 40ml - Hydrochloric Acid				
MW-195S_051524	240-204762-C-4	Voa Vial 40ml - Hydrochloric Acid				
MW-195S_051524	240-204762-D-4	Voa Vial 40ml - Hydrochloric Acid				
MW-195S_051524	240-204762-E-4	Voa Vial 40ml - Hydrochloric Acid				
MW-195S_051524	240-204762-F-4	Voa Vial 40ml - Hydrochloric Acid				
DUP-04	240-204762-A-5	Voa Vial 40ml - Hydrochloric Acid				
DUP-04	240-204762-B-5	Voa Vial 40ml - Hydrochloric Acid				
DUP-04	240-204762-C-5	Voa Vial 40ml - Hydrochloric Acid				
DUP-04	240-204762-D-5	Voa Vial 40ml - Hydrochloric Acid				
DUP-04	240-204762-E-5	Voa Vial 40ml - Hydrochloric Acid				
DUP-04	240-204762-F-5	Voa Vial 40ml - Hydrochloric Acid				
MW-197S_051524	240-204762-A-6	Voa Vial 40ml - Hydrochloric Acid				
MW-197S_051524	240-204762-B-6	Voa Vial 40ml - Hydrochloric Acid				
MW-197S_051524	240-204762-C-6	Voa Vial 40ml - Hydrochloric Acid				
MW-197S_051524	240-204762-D-6	Voa Vial 40ml - Hydrochloric Acid				
MW-197S_051524	240-204762-E-6	Voa Vial 40ml - Hydrochloric Acid				
MW-197S_051524	240-204762-F-6	Voa Vial 40ml - Hydrochloric Acid				
DUP-05	240-204762-A-7	Voa Vial 40ml - Hydrochloric Acid				
DUP-05	240-204762-B-7	Voa Vial 40ml - Hydrochloric Acid				
DUP-05	240-204762-C-7	Voa Vial 40ml - Hydrochloric Acid				
DUP-05	240-204762-D-7	Voa Vial 40ml - Hydrochloric Acid				



<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container pH</u>	<u>Preservation Temp</u>	<u>Preservation Added</u>	<u>Preservation Lot Number</u>
DUP-05	240-204762-E-7	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
DUP-05	240-204762-F-7	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____

# DATA VERIFICATION REPORT



May 31, 2024

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

CADENA project ID: E203728  
Project: Ford Livonia Transmission Plant - Soil Gas, Ground Water and Soil  
Project number: 30206169.401.03  
Event Specific Scope of Work References: Sample COC  
Laboratory: Eurofins Environment Testing LLC - Cleveland  
Laboratory submittal: 204762-1  
Sample date: 2024-05-15  
Report received by CADENA: 2024-05-31  
Initial Data Verification completed by CADENA: 2024-05-31  
Number of Samples:7  
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, MS/MSD Recovery, MS/MSD RPD, 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.

