

# ANALYTICAL REPORT

## PREPARED FOR

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## JOB DESCRIPTION

Ford LTP

## JOB NUMBER

240-204331-1

# Eurofins Cleveland

## Job Notes

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## Authorization



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# Definitions/Glossary

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

Job ID: 240-204331-1

## Qualifiers

### GC/MS VOA

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

## Glossary

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

# Case Narrative

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

Job ID: 240-204331-1

**Job ID: 240-204331-1**

**Eurofins Cleveland**

## Job Narrative 240-204331-1

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 5/11/2024 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 3.6°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: 240-204331-1

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

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- 10
- 11
- 12
- 13
- 14

# Sample Summary

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

Job ID: 240-204331-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-204331-1	TRIP BLANK_18	Water	05/09/24 00:00	05/11/24 08:00
240-204331-2	MW-10_050924	Water	05/09/24 12:35	05/11/24 08:00
240-204331-3	MW-04_050924	Water	05/09/24 11:05	05/11/24 08:00
240-204331-4	MW-02_050924	Water	05/09/24 09:35	05/11/24 08:00
240-204331-5	DUP-01	Water	05/09/24 00:00	05/11/24 08:00
240-204331-6	MW-220S_050924	Water	05/09/24 14:55	05/11/24 08:00

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- 10
- 11
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- 13
- 14

# Detection Summary

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

Job ID: 240-204331-1

## Client Sample ID: TRIP BLANK\_18

Lab Sample ID: 240-204331-1

No Detections.

## Client Sample ID: MW-10\_050924

Lab Sample ID: 240-204331-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	4.7		2.0	0.86	ug/L	1		8260D SIM	Total/NA
cis-1,2-Dichloroethene	14		1.0	0.46	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	1.7		1.0	0.51	ug/L	1		8260D	Total/NA
Vinyl chloride	6800		200	90	ug/L	200		8260D	Total/NA

## Client Sample ID: MW-04\_050924

Lab Sample ID: 240-204331-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.9	J	2.0	0.86	ug/L	1		8260D SIM	Total/NA
1,1-Dichloroethene	6.1		1.0	0.49	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	6400		200	92	ug/L	200		8260D	Total/NA
trans-1,2-Dichloroethene	230		200	100	ug/L	200		8260D	Total/NA
Trichloroethene	350		200	88	ug/L	200		8260D	Total/NA
Vinyl chloride	2800		200	90	ug/L	200		8260D	Total/NA

## Client Sample ID: MW-02\_050924

Lab Sample ID: 240-204331-4

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
1,1-Dichloroethene	3.5		1.0	0.49	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	6000		200	92	ug/L	200		8260D	Total/NA
trans-1,2-Dichloroethene	860		200	100	ug/L	200		8260D	Total/NA
Trichloroethene	5.4		1.0	0.44	ug/L	1		8260D	Total/NA
Vinyl chloride	330		200	90	ug/L	200		8260D	Total/NA

## Client Sample ID: DUP-01

Lab Sample ID: 240-204331-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	4.8		2.0	0.86	ug/L	1		8260D SIM	Total/NA
1,1-Dichloroethene	3.5		1.0	0.49	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	6200		200	92	ug/L	200		8260D	Total/NA
trans-1,2-Dichloroethene	920		200	100	ug/L	200		8260D	Total/NA
Trichloroethene	4.1		1.0	0.44	ug/L	1		8260D	Total/NA
Vinyl chloride	340		200	90	ug/L	200		8260D	Total/NA

## Client Sample ID: MW-220S\_050924

Lab Sample ID: 240-204331-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.79	J	1.0	0.45	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

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

Job ID: 240-204331-1

**Client Sample ID: TRIP BLANK\_18**

**Lab Sample ID: 240-204331-1**

Date Collected: 05/09/24 00:00

Matrix: Water

Date Received: 05/11/24 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			05/19/24 04:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/19/24 04:41	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/19/24 04:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/19/24 04:41	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/19/24 04:41	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/19/24 04:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		62 - 137		05/19/24 04:41	1
4-Bromofluorobenzene (Surr)	93		56 - 136		05/19/24 04:41	1
Toluene-d8 (Surr)	98		78 - 122		05/19/24 04:41	1
Dibromofluoromethane (Surr)	101		73 - 120		05/19/24 04:41	1

# Client Sample Results

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

Job ID: 240-204331-1

**Client Sample ID: MW-10\_050924**

**Lab Sample ID: 240-204331-2**

Date Collected: 05/09/24 12:35

Matrix: Water

Date Received: 05/11/24 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	4.7		2.0	0.86	ug/L			05/17/24 18:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		68 - 127					05/17/24 18:18	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/19/24 09:36	1
cis-1,2-Dichloroethene	14		1.0	0.46	ug/L			05/19/24 09:36	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/19/24 09:36	1
trans-1,2-Dichloroethene	1.7		1.0	0.51	ug/L			05/19/24 09:36	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/19/24 09:36	1
Vinyl chloride	6800		200	90	ug/L			05/23/24 09:08	200
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		62 - 137					05/19/24 09:36	1
1,2-Dichloroethane-d4 (Surr)	116		62 - 137					05/23/24 09:08	200
4-Bromofluorobenzene (Surr)	89		56 - 136					05/19/24 09:36	1
4-Bromofluorobenzene (Surr)	79		56 - 136					05/23/24 09:08	200
Toluene-d8 (Surr)	98		78 - 122					05/19/24 09:36	1
Toluene-d8 (Surr)	92		78 - 122					05/23/24 09:08	200
Dibromofluoromethane (Surr)	102		73 - 120					05/19/24 09:36	1
Dibromofluoromethane (Surr)	99		73 - 120					05/23/24 09:08	200

# Client Sample Results

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

Job ID: 240-204331-1

**Client Sample ID: MW-04\_050924**

**Lab Sample ID: 240-204331-3**

Date Collected: 05/09/24 11:05

Matrix: Water

Date Received: 05/11/24 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.9	J	2.0	0.86	ug/L			05/17/24 18:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		68 - 127					05/17/24 18:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	6.1		1.0	0.49	ug/L			05/19/24 10:00	1
cis-1,2-Dichloroethene	6400		200	92	ug/L			05/23/24 09:33	200
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/19/24 10:00	1
trans-1,2-Dichloroethene	230		200	100	ug/L			05/23/24 09:33	200
Trichloroethene	350		200	88	ug/L			05/23/24 09:33	200
Vinyl chloride	2800		200	90	ug/L			05/23/24 09:33	200
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		62 - 137					05/19/24 10:00	1
1,2-Dichloroethane-d4 (Surr)	115		62 - 137					05/23/24 09:33	200
4-Bromofluorobenzene (Surr)	91		56 - 136					05/19/24 10:00	1
4-Bromofluorobenzene (Surr)	80		56 - 136					05/23/24 09:33	200
Toluene-d8 (Surr)	100		78 - 122					05/19/24 10:00	1
Toluene-d8 (Surr)	94		78 - 122					05/23/24 09:33	200
Dibromofluoromethane (Surr)	104		73 - 120					05/19/24 10:00	1
Dibromofluoromethane (Surr)	99		73 - 120					05/23/24 09:33	200

# Client Sample Results

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

Job ID: 240-204331-1

**Client Sample ID: MW-02\_050924**

**Lab Sample ID: 240-204331-4**

Date Collected: 05/09/24 09:35

Matrix: Water

Date Received: 05/11/24 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	4.9		2.0	0.86	ug/L			05/17/24 19:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		68 - 127					05/17/24 19:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	3.5		1.0	0.49	ug/L			05/19/24 10:25	1
cis-1,2-Dichloroethene	6000		200	92	ug/L			05/23/24 09:57	200
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/19/24 10:25	1
trans-1,2-Dichloroethene	860		200	100	ug/L			05/23/24 09:57	200
Trichloroethene	5.4		1.0	0.44	ug/L			05/19/24 10:25	1
Vinyl chloride	330		200	90	ug/L			05/23/24 09:57	200
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		62 - 137					05/19/24 10:25	1
1,2-Dichloroethane-d4 (Surr)	116		62 - 137					05/23/24 09:57	200
4-Bromofluorobenzene (Surr)	92		56 - 136					05/19/24 10:25	1
4-Bromofluorobenzene (Surr)	82		56 - 136					05/23/24 09:57	200
Toluene-d8 (Surr)	99		78 - 122					05/19/24 10:25	1
Toluene-d8 (Surr)	93		78 - 122					05/23/24 09:57	200
Dibromofluoromethane (Surr)	107		73 - 120					05/19/24 10:25	1
Dibromofluoromethane (Surr)	99		73 - 120					05/23/24 09:57	200

# Client Sample Results

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

Job ID: 240-204331-1

**Client Sample ID: DUP-01**

**Lab Sample ID: 240-204331-5**

Date Collected: 05/09/24 00:00

Matrix: Water

Date Received: 05/11/24 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	4.8		2.0	0.86	ug/L			05/17/24 19:28	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)	108		68 - 127					05/17/24 19:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	3.5		1.0	0.49	ug/L			05/19/24 10:50	1
cis-1,2-Dichloroethene	6200		200	92	ug/L			05/23/24 10:22	200
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/19/24 10:50	1
trans-1,2-Dichloroethene	920		200	100	ug/L			05/23/24 10:22	200
Trichloroethene	4.1		1.0	0.44	ug/L			05/19/24 10:50	1
Vinyl chloride	340		200	90	ug/L			05/23/24 10:22	200
<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)	116		62 - 137					05/19/24 10:50	1
1,2-Dichloroethane-d4 (Surr)	100		62 - 137					05/23/24 10:22	200
4-Bromofluorobenzene (Surr)	90		56 - 136					05/19/24 10:50	1
4-Bromofluorobenzene (Surr)	67		56 - 136					05/23/24 10:22	200
Toluene-d8 (Surr)	99		78 - 122					05/19/24 10:50	1
Toluene-d8 (Surr)	79		78 - 122					05/23/24 10:22	200
Dibromofluoromethane (Surr)	107		73 - 120					05/19/24 10:50	1
Dibromofluoromethane (Surr)	85		73 - 120					05/23/24 10:22	200

# Client Sample Results

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

Job ID: 240-204331-1

**Client Sample ID: MW-220S\_050924**

**Lab Sample ID: 240-204331-6**

Date Collected: 05/09/24 14:55

Matrix: Water

Date Received: 05/11/24 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			05/17/24 19:51	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)	105		68 - 127					05/17/24 19:51	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			05/19/24 11:14	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/23/24 08:43	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/19/24 11:14	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/23/24 08:43	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/19/24 11:14	1
<b>Vinyl chloride</b>	<b>0.79</b>	<b>J</b>	1.0	0.45	ug/L			05/23/24 08:43	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)	118		62 - 137					05/19/24 11:14	1
1,2-Dichloroethane-d4 (Surr)	116		62 - 137					05/23/24 08:43	1
4-Bromofluorobenzene (Surr)	91		56 - 136					05/19/24 11:14	1
4-Bromofluorobenzene (Surr)	82		56 - 136					05/23/24 08:43	1
Toluene-d8 (Surr)	99		78 - 122					05/19/24 11:14	1
Toluene-d8 (Surr)	93		78 - 122					05/23/24 08:43	1
Dibromofluoromethane (Surr)	104		73 - 120					05/19/24 11:14	1
Dibromofluoromethane (Surr)	99		73 - 120					05/23/24 08:43	1

# Surrogate Summary

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

Job ID: 240-204331-1

## 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)
240-204275-C-15 MS	Matrix Spike	108	110	104	100
240-204275-C-15 MSD	Matrix Spike Duplicate	107	108	102	101
240-204331-1	TRIP BLANK_18	117	93	98	101
240-204331-2	MW-10_050924	117	89	98	102
240-204331-2	MW-10_050924	116	79	92	99
240-204331-3	MW-04_050924	113	91	100	104
240-204331-3	MW-04_050924	115	80	94	99
240-204331-4	MW-02_050924	116	92	99	107
240-204331-4	MW-02_050924	116	82	93	99
240-204331-5	DUP-01	116	90	99	107
240-204331-5	DUP-01	100	67	79	85
240-204331-6	MW-220S_050924	118	91	99	104
240-204331-6	MW-220S_050924	116	82	93	99
240-204501-B-14 MSD	Matrix Spike Duplicate	105	101	95	100
240-204501-C-14 MS	Matrix Spike	104	97	94	100
LCS 240-613545/3	Lab Control Sample	108	109	103	100
LCS 240-614071/4	Lab Control Sample	97	93	89	89
MB 240-613545/5	Method Blank	117	90	99	100
MB 240-614071/7	Method Blank	117	85	94	100

### 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)
240-204330-B-3 MS	Matrix Spike	109
240-204330-C-3 MSD	Matrix Spike Duplicate	101
240-204331-2	MW-10_050924	104
240-204331-3	MW-04_050924	102
240-204331-4	MW-02_050924	106
240-204331-5	DUP-01	108
240-204331-6	MW-220S_050924	105
LCS 240-613472/4	Lab Control Sample	97
MB 240-613472/6	Method Blank	101

### Surrogate Legend

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

# QC Sample Results

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

Job ID: 240-204331-1

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

Lab Sample ID: MB 240-613545/5

Matrix: Water

Analysis Batch: 613545

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			05/19/24 03:27	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/19/24 03:27	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/19/24 03:27	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/19/24 03:27	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/19/24 03:27	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/19/24 03:27	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	117		62 - 137		05/19/24 03:27	1
4-Bromofluorobenzene (Surr)	90		56 - 136		05/19/24 03:27	1
Toluene-d8 (Surr)	99		78 - 122		05/19/24 03:27	1
Dibromofluoromethane (Surr)	100		73 - 120		05/19/24 03:27	1

Lab Sample ID: LCS 240-613545/3

Matrix: Water

Analysis Batch: 613545

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
1,1-Dichloroethene	25.0	24.6		ug/L		98	63 - 134
cis-1,2-Dichloroethene	25.0	24.4		ug/L		98	77 - 123
Tetrachloroethene	25.0	23.5		ug/L		94	76 - 123
trans-1,2-Dichloroethene	25.0	25.0		ug/L		100	75 - 124
Trichloroethene	25.0	25.1		ug/L		100	70 - 122
Vinyl chloride	12.5	9.94		ug/L		80	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	108		62 - 137
4-Bromofluorobenzene (Surr)	109		56 - 136
Toluene-d8 (Surr)	103		78 - 122
Dibromofluoromethane (Surr)	100		73 - 120

Lab Sample ID: 240-204275-C-15 MS

Matrix: Water

Analysis Batch: 613545

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
cis-1,2-Dichloroethene	1700		1250	2650		ug/L		77	66 - 128
Tetrachloroethene	50	U	1250	1080		ug/L		86	62 - 131
trans-1,2-Dichloroethene	120		1250	1310		ug/L		95	56 - 136
Trichloroethene	50	U	1250	1120		ug/L		89	61 - 124
Vinyl chloride	2700		625	2850	4	ug/L		24	43 - 157

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	108		62 - 137
4-Bromofluorobenzene (Surr)	110		56 - 136
Toluene-d8 (Surr)	104		78 - 122
Dibromofluoromethane (Surr)	100		73 - 120

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# QC Sample Results

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

Job ID: 240-204331-1

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

Lab Sample ID: 240-204275-C-15 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 613545

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
cis-1,2-Dichloroethene	1700		1250	2560		ug/L		70	66 - 128	3	14
Tetrachloroethene	50	U	1250	990		ug/L		79	62 - 131	9	20
trans-1,2-Dichloroethene	120		1250	1230		ug/L		89	56 - 136	6	15
Trichloroethene	50	U	1250	1050		ug/L		84	61 - 124	6	15
Vinyl chloride	2700		625	2660	4	ug/L		-7	43 - 157	7	24
<b>MSD MSD</b>											
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>								
1,2-Dichloroethane-d4 (Surr)	107		62 - 137								
4-Bromofluorobenzene (Surr)	108		56 - 136								
Toluene-d8 (Surr)	102		78 - 122								
Dibromofluoromethane (Surr)	101		73 - 120								

Lab Sample ID: MB 240-614071/7

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 614071

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			05/23/24 06:57	1	
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/23/24 06:57	1	
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/23/24 06:57	1	
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/23/24 06:57	1	
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/23/24 06:57	1	
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/23/24 06:57	1	
<b>MB MB</b>										
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>				
1,2-Dichloroethane-d4 (Surr)	117		62 - 137		05/23/24 06:57	1				
4-Bromofluorobenzene (Surr)	85		56 - 136		05/23/24 06:57	1				
Toluene-d8 (Surr)	94		78 - 122		05/23/24 06:57	1				
Dibromofluoromethane (Surr)	100		73 - 120		05/23/24 06:57	1				

Lab Sample ID: LCS 240-614071/4

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 614071

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
1,1-Dichloroethene	25.0	26.6		ug/L		107	63 - 134
cis-1,2-Dichloroethene	25.0	25.9		ug/L		103	77 - 123
Tetrachloroethene	25.0	26.4		ug/L		105	76 - 123
trans-1,2-Dichloroethene	25.0	26.5		ug/L		106	75 - 124
Trichloroethene	25.0	24.9		ug/L		100	70 - 122
Vinyl chloride	12.5	10.3		ug/L		82	60 - 144
<b>LCS LCS</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				
1,2-Dichloroethane-d4 (Surr)	97		62 - 137				
4-Bromofluorobenzene (Surr)	93		56 - 136				
Toluene-d8 (Surr)	89		78 - 122				
Dibromofluoromethane (Surr)	89		73 - 120				

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# QC Sample Results

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

Job ID: 240-204331-1

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

Lab Sample ID: 240-204501-B-14 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 614071

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
1,1-Dichloroethene	56		25.0	77.1	E	ug/L		84	56 - 135	1	26
cis-1,2-Dichloroethene	21		25.0	46.9		ug/L		102	66 - 128	2	14
Tetrachloroethene	22		25.0	45.2		ug/L		93	62 - 131	0	20
trans-1,2-Dichloroethene	14		25.0	39.7		ug/L		103	56 - 136	0	15
Trichloroethene	91	E	25.0	110	E	ug/L		77	61 - 124	0	15
Vinyl chloride	0.98	J	12.5	11.3		ug/L		83	43 - 157	2	24
<b>MSD MSD</b>											
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>								
1,2-Dichloroethane-d4 (Surr)	105		62 - 137								
4-Bromofluorobenzene (Surr)	101		56 - 136								
Toluene-d8 (Surr)	95		78 - 122								
Dibromofluoromethane (Surr)	100		73 - 120								

Lab Sample ID: 240-204501-C-14 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 614071

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
1,1-Dichloroethene	56		25.0	77.9	E	ug/L		87	56 - 135		
cis-1,2-Dichloroethene	21		25.0	46.0		ug/L		99	66 - 128		
Tetrachloroethene	22		25.0	45.0		ug/L		92	62 - 131		
trans-1,2-Dichloroethene	14		25.0	39.8		ug/L		103	56 - 136		
Trichloroethene	91	E	25.0	110	E	ug/L		77	61 - 124		
Vinyl chloride	0.98	J	12.5	11.1		ug/L		81	43 - 157		
<b>MS MS</b>											
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>								
1,2-Dichloroethane-d4 (Surr)	104		62 - 137								
4-Bromofluorobenzene (Surr)	97		56 - 136								
Toluene-d8 (Surr)	94		78 - 122								
Dibromofluoromethane (Surr)	100		73 - 120								

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

Lab Sample ID: MB 240-613472/6

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 613472

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/17/24 13:36	1
<b>MB MB</b>									
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
1,2-Dichloroethane-d4 (Surr)	101		68 - 127						

# QC Sample Results

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

Job ID: 240-204331-1

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

Lab Sample ID: LCS 240-613472/4

Matrix: Water

Analysis Batch: 613472

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	9.74		ug/L		97	75 - 121
<b>Surrogate</b>		<b>%Recovery</b>	<b>Qualifier</b>				<b>Limits</b>
1,2-Dichloroethane-d4 (Surr)		97					68 - 127

Lab Sample ID: 240-204330-B-3 MS

Matrix: Water

Analysis Batch: 613472

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	9.67		ug/L		97	20 - 180
<b>Surrogate</b>		<b>%Recovery</b>			<b>Qualifier</b>				<b>Limits</b>
1,2-Dichloroethane-d4 (Surr)		109							68 - 127

Lab Sample ID: 240-204330-C-3 MSD

Matrix: Water

Analysis Batch: 613472

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	Limit
1,4-Dioxane	2.0	U	10.0	9.93		ug/L		99	20 - 180	3	20
<b>Surrogate</b>		<b>%Recovery</b>			<b>Qualifier</b>						<b>Limits</b>
1,2-Dichloroethane-d4 (Surr)		101									68 - 127

# QC Association Summary

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

Job ID: 240-204331-1

## GC/MS VOA

### Analysis Batch: 613472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-204331-2	MW-10_050924	Total/NA	Water	8260D SIM	
240-204331-3	MW-04_050924	Total/NA	Water	8260D SIM	
240-204331-4	MW-02_050924	Total/NA	Water	8260D SIM	
240-204331-5	DUP-01	Total/NA	Water	8260D SIM	
240-204331-6	MW-220S_050924	Total/NA	Water	8260D SIM	
MB 240-613472/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-613472/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-204330-B-3 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-204330-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

### Analysis Batch: 613545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-204331-1	TRIP BLANK_18	Total/NA	Water	8260D	
240-204331-2	MW-10_050924	Total/NA	Water	8260D	
240-204331-3	MW-04_050924	Total/NA	Water	8260D	
240-204331-4	MW-02_050924	Total/NA	Water	8260D	
240-204331-5	DUP-01	Total/NA	Water	8260D	
240-204331-6	MW-220S_050924	Total/NA	Water	8260D	
MB 240-613545/5	Method Blank	Total/NA	Water	8260D	
LCS 240-613545/3	Lab Control Sample	Total/NA	Water	8260D	
240-204275-C-15 MS	Matrix Spike	Total/NA	Water	8260D	
240-204275-C-15 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

### Analysis Batch: 614071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-204331-2	MW-10_050924	Total/NA	Water	8260D	
240-204331-3	MW-04_050924	Total/NA	Water	8260D	
240-204331-4	MW-02_050924	Total/NA	Water	8260D	
240-204331-5	DUP-01	Total/NA	Water	8260D	
240-204331-6	MW-220S_050924	Total/NA	Water	8260D	
MB 240-614071/7	Method Blank	Total/NA	Water	8260D	
LCS 240-614071/4	Lab Control Sample	Total/NA	Water	8260D	
240-204501-B-14 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	
240-204501-C-14 MS	Matrix Spike	Total/NA	Water	8260D	

# Lab Chronicle

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

Job ID: 240-204331-1

**Client Sample ID: TRIP BLANK\_18**

**Lab Sample ID: 240-204331-1**

Date Collected: 05/09/24 00:00

Matrix: Water

Date Received: 05/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	613545	TJL2	EET CLE	05/19/24 04:41

**Client Sample ID: MW-10\_050924**

**Lab Sample ID: 240-204331-2**

Date Collected: 05/09/24 12:35

Matrix: Water

Date Received: 05/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	613545	TJL2	EET CLE	05/19/24 09:36
Total/NA	Analysis	8260D		200	614071	TJL2	EET CLE	05/23/24 09:08
Total/NA	Analysis	8260D SIM		1	613472	MDH	EET CLE	05/17/24 18:18

**Client Sample ID: MW-04\_050924**

**Lab Sample ID: 240-204331-3**

Date Collected: 05/09/24 11:05

Matrix: Water

Date Received: 05/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	613545	TJL2	EET CLE	05/19/24 10:00
Total/NA	Analysis	8260D		200	614071	TJL2	EET CLE	05/23/24 09:33
Total/NA	Analysis	8260D SIM		1	613472	MDH	EET CLE	05/17/24 18:41

**Client Sample ID: MW-02\_050924**

**Lab Sample ID: 240-204331-4**

Date Collected: 05/09/24 09:35

Matrix: Water

Date Received: 05/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	613545	TJL2	EET CLE	05/19/24 10:25
Total/NA	Analysis	8260D		200	614071	TJL2	EET CLE	05/23/24 09:57
Total/NA	Analysis	8260D SIM		1	613472	MDH	EET CLE	05/17/24 19:04

**Client Sample ID: DUP-01**

**Lab Sample ID: 240-204331-5**

Date Collected: 05/09/24 00:00

Matrix: Water

Date Received: 05/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	613545	TJL2	EET CLE	05/19/24 10:50
Total/NA	Analysis	8260D		200	614071	TJL2	EET CLE	05/23/24 10:22
Total/NA	Analysis	8260D SIM		1	613472	MDH	EET CLE	05/17/24 19:28

**Client Sample ID: MW-220S\_050924**

**Lab Sample ID: 240-204331-6**

Date Collected: 05/09/24 14:55

Matrix: Water

Date Received: 05/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	613545	TJL2	EET CLE	05/19/24 11:14
Total/NA	Analysis	8260D		1	614071	TJL2	EET CLE	05/23/24 08:43

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# Lab Chronicle

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

Job ID: 240-204331-1

**Client Sample ID: MW-220S\_050924**

**Lab Sample ID: 240-204331-6**

**Date Collected: 05/09/24 14:55**

**Matrix: Water**

**Date Received: 05/11/24 08:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D SIM		1	613472	MDH	EET CLE	05/17/24 19:51

**Laboratory References:**

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

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- 2
- 3
- 4
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# Accreditation/Certification Summary

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

Job ID: 240-204331-1

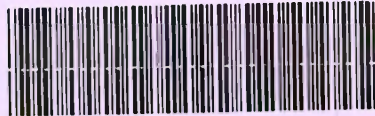
## Laboratory: Eurofins Cleveland

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: 9   20											
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>Analysis Turnaround Time</b>				<b>Analyses</b>		For lab use only											
Phone: 248-994-2240		Sampler Name: <i>Kent Kasprer</i>				TAT if different from below						Walk-in client											
Project Name: Ford LTP		Method of Shipment/Carrier:				10 day <input checked="" type="checkbox"/> 3 weeks <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day						Lab sampling											
Project Number: 30206169.0401.03		Shipping/Tracking No:										Job/SDG No:											
PO # US3410018772																							
Sample Identification	Sample Date	Sample Time	Matrix					Containers & Preservatives					Filtered Sample (Y/N)	Composite=C / Grab=G	Sample Specific Notes / Special Instructions:								
			Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl	NaOH	ZnAc				Unpres	Other:	1,1-DCE 8260D	cis-1,2-DCE 8260D	Trans-1,2-DCE 8260D	PCE 8260D	TCE 8260D	Vinyl Chloride 8260D
TRIP BLANK_ 18	---	---	1					1						NG	X	X	X	X	X	X			1 Trip Blank
MW-10_050924	5/9/24	1235	6					6						NG	X	X	X	X	X	X			3 VOAs for 8260D 3 VOAs for 8260D SIM
MW-11_050924	5/9/24	1105	6					6						NG	X	X	X	X	X	X			
MW-12_050924	5/9/24	0935	6					6						NG	X	X	X	X	X	X			
DUP-01	5/9/24	-	6					6						NG	X	X	X	X	X	X			
MW-22DS_050924	5/9/24	1455	6					6						NG	X	X	X	X	X	X			
 240-204331 Chain of Custody																							
<b>Possible Hazard Identification</b>										<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>													
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin 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 _____ Months													
<b>Special Instructions/QC Requirements &amp; Comments:</b>																							
Submit all results through Cadena at <a href="mailto:jtomalia@cadenaco.com">jtomalia@cadenaco.com</a> . Cadena #E203728 Level IV Reporting requested.																							
Relinquished by: <i>[Signature]</i>		Company: Arcadis		Date/Time: 5/9/24 1622		Received by: <i>[Signature]</i>		Company: Arcadis		Date/Time: 5/9/24 1622													
Relinquished by: <i>[Signature]</i>		Company: Arcadis		Date/Time: 5/10/24 1610		Received by: <i>[Signature]</i>		Company: EEIA		Date/Time: 5/10/24													
Relinquished by: <i>[Signature]</i>		Company: EEIA		Date/Time: 5/10/24		Received in Laboratory by: TAWMY ROYER		Company: EETOC		Date/Time: 5-11-24 800													

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Burton's Cleveland Sample Receipt Form/ Narrative Log # 204331  
 Barberion Facility

Client Acadix Site Name \_\_\_\_\_  
 Cooler unpacked by: **TAMMY ROYER**

Cooler Received on 5-11-24 Opened on 5-11-24

FedEx 1<sup>st</sup> Grd Exp UPS PAS Waypoint Client Drop Off Burton's Courner Other \_\_\_\_\_  
 Receipt After-hours-Drop-off/Date/Time \_\_\_\_\_ Storage Location \_\_\_\_\_

Burton's Cooler # EC Form Box Client Cooler Box Other \_\_\_\_\_  
 Packing material used Shrink 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 # 18 (OR 00 °C) Observed Cooler Temp 3.6 °C Corrected Cooler Temp 3.6 °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity \_\_\_\_\_  
 Were the seals on the outside of the cooler(s) signed & dated? Yes No NA

Were tamper/custody seals on the bottle(s) or bottle kits (LI/Hg/MeHg)? Yes No NA  
 Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No NA  
 4. Did custody papers accompany the sample(s)? Yes No NA

5. Were the custody papers relinquished & signed in the appropriate place? Yes No NA  
 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No NA

7. Did all bottles arrive in good condition (Unbroken)? Yes No NA  
 8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No NA

9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? Yes No NA  
 10. Were correct bottle(s) used for the test(s) indicated? Yes No NA

11. Sufficient quantity received to perform indicated analyses? Yes No NA  
 12. Are these work share samples and all listed on the COC? Yes No NA

If yes, Questions 13-17 have been checked at the originating laboratory  
 13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# 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 trap blank present in the cooler(s)? Trap Blank Lot # Covered Yes No NA  
 17. Was a LI, Hg or Me Hg trap 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 \_\_\_\_\_

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



Temperature readings

<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>
TRIP BLANK_18	240-204331-A-1	Voa Vial 40ml - Hydrochloric Acid				
MW-10_050924	240-204331-A-2	Voa Vial 40ml - Hydrochloric Acid				
MW-10_050924	240-204331-B-2	Voa Vial 40ml - Hydrochloric Acid				
MW-10_050924	240-204331-C-2	Voa Vial 40ml - Hydrochloric Acid				
MW-10_050924	240-204331-D-2	Voa Vial 40ml - Hydrochloric Acid				
MW-10_050924	240-204331-E-2	Voa Vial 40ml - Hydrochloric Acid				
MW-10_050924	240-204331-F-2	Voa Vial 40ml - Hydrochloric Acid				
MW-04_050924	240-204331-A-3	Voa Vial 40ml - Hydrochloric Acid				
MW-04_050924	240-204331-B-3	Voa Vial 40ml - Hydrochloric Acid				
MW-04_050924	240-204331-C-3	Voa Vial 40ml - Hydrochloric Acid				
MW-04_050924	240-204331-D-3	Voa Vial 40ml - Hydrochloric Acid				
MW-04_050924	240-204331-E-3	Voa Vial 40ml - Hydrochloric Acid				
MW-04_050924	240-204331-F-3	Voa Vial 40ml - Hydrochloric Acid				
MW-02_050924	240-204331-A-4	Voa Vial 40ml - Hydrochloric Acid				
MW-02_050924	240-204331-B-4	Voa Vial 40ml - Hydrochloric Acid				
MW-02_050924	240-204331-C-4	Voa Vial 40ml - Hydrochloric Acid				
MW-02_050924	240-204331-D-4	Voa Vial 40ml - Hydrochloric Acid				
MW-02_050924	240-204331-E-4	Voa Vial 40ml - Hydrochloric Acid				
MW-02_050924	240-204331-F-4	Voa Vial 40ml - Hydrochloric Acid				
DUP-01	240-204331-A-5	Voa Vial 40ml - Hydrochloric Acid				
DUP-01	240-204331-B-5	Voa Vial 40ml - Hydrochloric Acid				
DUP-01	240-204331-C-5	Voa Vial 40ml - Hydrochloric Acid				
DUP-01	240-204331-D-5	Voa Vial 40ml - Hydrochloric Acid				
DUP-01	240-204331-E-5	Voa Vial 40ml - Hydrochloric Acid				
DUP-01	240-204331-F-5	Voa Vial 40ml - Hydrochloric Acid				
MW-220S_050924	240-204331-A-6	Voa Vial 40ml - Hydrochloric Acid				
MW-220S_050924	240-204331-B-6	Voa Vial 40ml - Hydrochloric Acid				
MW-220S_050924	240-204331-C-6	Voa Vial 40ml - Hydrochloric Acid				
MW-220S_050924	240-204331-D-6	Voa Vial 40ml - Hydrochloric Acid				
MW-220S_050924	240-204331-E-6	Voa Vial 40ml - Hydrochloric Acid				
MW-220S_050924	240-204331-F-6	Voa Vial 40ml - Hydrochloric Acid				

# DATA VERIFICATION REPORT



May 29, 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: 204331-1  
Sample date: 2024-05-09  
Report received by CADENA: 2024-05-29  
Initial Data Verification completed by CADENA: 2024-05-29  
Number of Samples:6  
Sample Matrices:Water  
Test Categories:GCMS VOC  
**Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.**

The following minor QC exceptions or missing information were noted:

MS/MSD recovery outliers or sample duplicate RPD outliers were not determined using a client sample from this submittal for the test and QC batch noted so qualification was not required based on these sample-specific QC outliers: GCMS VOC QC batch 613545.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

## CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

## Analytical Results Summary

CADENA Project ID: E203728

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory Submittal: 204331-1

Analyte	Cas No.	Sample Name: TRIP BLANK_18				MW-10_050924				MW-04_050924				MW-02_050924				DUP-01				MW-220S_050924			
		Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier
<b>GC/MS VOC</b>																									
<u>OSW-8260D</u>																									
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	6.1	1.0	ug/l	---	3.5	1.0	ug/l	---	3.5	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	14	1.0	ug/l	---	6400	200	ug/l	---	6000	200	ug/l	---	6200	200	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	1.7	1.0	ug/l	---	230	200	ug/l	---	860	200	ug/l	---	920	200	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	350	200	ug/l	---	5.4	1.0	ug/l	---	4.1	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	6800	200	ug/l	---	2800	200	ug/l	---	330	200	ug/l	---	340	200	ug/l	---	0.79	1.0	ug/l	J
<u>OSW-8260DSIM</u>																									
1,4-Dioxane	123-91-1					4.7	2.0	ug/l	---	1.9	2.0	ug/l	J	4.9	2.0	ug/l	---	4.8	2.0	ug/l	---	ND	2.0	ug/l	---