

# ANALYTICAL REPORT

## PREPARED FOR

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## JOB DESCRIPTION

Ford LTP - On Site

## JOB NUMBER

240-190226-1

# Eurofins Cleveland

## Job Notes

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## Authorization



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# Definitions/Glossary

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-190226-1

## 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 US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-190226-1

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**Job ID: 240-190226-1**

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**Laboratory: Eurofins Cleveland**

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**Narrative**

**Job Narrative  
240-190226-1**

**Receipt**

The samples were received on 8/16/2023 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 0.3°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 US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-190226-1

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 US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-190226-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-190226-1	TRIP BLANK_107	Water	08/15/23 00:00	08/16/23 08:00
240-190226-2	MW-43_081523	Water	08/15/23 11:00	08/16/23 08:00
240-190226-3	MW-52_081523	Water	08/15/23 09:30	08/16/23 08:00
240-190226-4	MW-42_081523	Water	08/15/23 12:25	08/16/23 08:00

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- 10
- 11
- 12
- 13
- 14

# Detection Summary

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-190226-1

## Client Sample ID: TRIP BLANK\_107

Lab Sample ID: 240-190226-1

No Detections.

## Client Sample ID: MW-43\_081523

Lab Sample ID: 240-190226-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.5		2.0	0.86	ug/L	1		8260D SIM	Total/NA

## Client Sample ID: MW-52\_081523

Lab Sample ID: 240-190226-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.8	J	2.0	0.86	ug/L	1		8260D SIM	Total/NA
Vinyl chloride	1.5		1.0	0.45	ug/L	1		8260D	Total/NA

## Client Sample ID: MW-42\_081523

Lab Sample ID: 240-190226-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.70	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 US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-190226-1

**Client Sample ID: TRIP BLANK\_107**

**Lab Sample ID: 240-190226-1**

**Date Collected: 08/15/23 00:00**

**Matrix: Water**

**Date Received: 08/16/23 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			08/22/23 17:50	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/22/23 17:50	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/22/23 17:50	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/22/23 17:50	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/22/23 17:50	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/22/23 17:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		62 - 137		08/22/23 17:50	1
4-Bromofluorobenzene (Surr)	89		56 - 136		08/22/23 17:50	1
Toluene-d8 (Surr)	101		78 - 122		08/22/23 17:50	1
Dibromofluoromethane (Surr)	103		73 - 120		08/22/23 17:50	1

# Client Sample Results

Client: ARCADIS US Inc  
 Project/Site: Ford LTP - On Site

Job ID: 240-190226-1

**Client Sample ID: MW-43\_081523**

**Lab Sample ID: 240-190226-2**

Date Collected: 08/15/23 11:00

Matrix: Water

Date Received: 08/16/23 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	2.5		2.0	0.86	ug/L			08/24/23 11:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		66 - 120		08/24/23 11:00	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			08/22/23 21:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/22/23 21:10	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/22/23 21:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/22/23 21:10	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/22/23 21:10	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/22/23 21:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		62 - 137		08/22/23 21:10	1
4-Bromofluorobenzene (Surr)	87		56 - 136		08/22/23 21:10	1
Toluene-d8 (Surr)	102		78 - 122		08/22/23 21:10	1
Dibromofluoromethane (Surr)	104		73 - 120		08/22/23 21:10	1

# Client Sample Results

Client: ARCADIS US Inc  
 Project/Site: Ford LTP - On Site

Job ID: 240-190226-1

**Client Sample ID: MW-52\_081523**

**Lab Sample ID: 240-190226-3**

Date Collected: 08/15/23 09:30

Matrix: Water

Date Received: 08/16/23 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	1.8	J	2.0	0.86	ug/L			08/24/23 12:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		66 - 120					08/24/23 12:36	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			08/22/23 21:35	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/22/23 21:35	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/22/23 21:35	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/22/23 21:35	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/22/23 21:35	1
Vinyl chloride	1.5		1.0	0.45	ug/L			08/22/23 21:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		62 - 137					08/22/23 21:35	1
4-Bromofluorobenzene (Surr)	88		56 - 136					08/22/23 21:35	1
Toluene-d8 (Surr)	102		78 - 122					08/22/23 21:35	1
Dibromofluoromethane (Surr)	104		73 - 120					08/22/23 21:35	1

# Client Sample Results

Client: ARCADIS US Inc  
 Project/Site: Ford LTP - On Site

Job ID: 240-190226-1

**Client Sample ID: MW-42\_081523**

**Lab Sample ID: 240-190226-4**

Date Collected: 08/15/23 12:25

Matrix: Water

Date Received: 08/16/23 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			08/24/23 13:00	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)	117		66 - 120					08/24/23 13:00	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			08/22/23 22:00	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/22/23 22:00	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/22/23 22:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/22/23 22:00	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/22/23 22:00	1
<b>Vinyl chloride</b>	<b>0.70</b>	<b>J</b>	1.0	0.45	ug/L			08/22/23 22:00	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)	112		62 - 137					08/22/23 22:00	1
4-Bromofluorobenzene (Surr)	81		56 - 136					08/22/23 22:00	1
Toluene-d8 (Surr)	104		78 - 122					08/22/23 22:00	1
Dibromofluoromethane (Surr)	103		73 - 120					08/22/23 22:00	1

# Surrogate Summary

Client: ARCADIS US Inc  
 Project/Site: Ford LTP - On Site

Job ID: 240-190226-1

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (62-137)	BFB (56-136)	TOL (78-122)	DBFM (73-120)
240-190226-1	TRIP BLANK_107	112	89	101	103
240-190226-2	MW-43_081523	114	87	102	104
240-190226-2 MS	MW-43-MS_081523	106	98	108	103
240-190226-2 MSD	MW-43-MSD_081523	104	100	107	104
240-190226-3	MW-52_081523	113	88	102	104
240-190226-4	MW-42_081523	112	81	104	103
LCS 240-584780/4	Lab Control Sample	105	99	106	105
MB 240-584780/7	Method Blank	110	89	103	102

#### Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(66-120)
240-190226-2	MW-43_081523	104
240-190226-2 MS	MW-43-MS_081523	109
240-190226-2 MSD	MW-43-MSD_081523	99
240-190226-3	MW-52_081523	102
240-190226-4	MW-42_081523	117
LCS 240-585005/5	Lab Control Sample	112
MB 240-585005/7	Method Blank	106

#### Surrogate Legend

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

# QC Sample Results

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-190226-1

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

**Lab Sample ID: MB 240-584780/7**  
**Matrix: Water**  
**Analysis Batch: 584780**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			08/22/23 17:25	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/22/23 17:25	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/22/23 17:25	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/22/23 17:25	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/22/23 17:25	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/22/23 17:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		62 - 137		08/22/23 17:25	1
4-Bromofluorobenzene (Surr)	89		56 - 136		08/22/23 17:25	1
Toluene-d8 (Surr)	103		78 - 122		08/22/23 17:25	1
Dibromofluoromethane (Surr)	102		73 - 120		08/22/23 17:25	1

**Lab Sample ID: LCS 240-584780/4**  
**Matrix: Water**  
**Analysis Batch: 584780**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	25.0	25.7		ug/L		103	63 - 134
cis-1,2-Dichloroethene	25.0	23.2		ug/L		93	77 - 123
Tetrachloroethene	25.0	24.8		ug/L		99	76 - 123
trans-1,2-Dichloroethene	25.0	24.0		ug/L		96	75 - 124
Trichloroethene	25.0	23.3		ug/L		93	70 - 122
Vinyl chloride	12.5	10.6		ug/L		85	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		62 - 137
4-Bromofluorobenzene (Surr)	99		56 - 136
Toluene-d8 (Surr)	106		78 - 122
Dibromofluoromethane (Surr)	105		73 - 120

**Lab Sample ID: 240-190226-2 MS**  
**Matrix: Water**  
**Analysis Batch: 584780**

**Client Sample ID: MW-43-MS\_081523**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	1.0	U	25.0	25.8		ug/L		103	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	22.7		ug/L		91	66 - 128
Tetrachloroethene	1.0	U	25.0	24.1		ug/L		97	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	23.5		ug/L		94	56 - 136
Trichloroethene	1.0	U	25.0	22.1		ug/L		88	61 - 124
Vinyl chloride	1.0	U	12.5	11.2		ug/L		89	43 - 157

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	106		62 - 137
4-Bromofluorobenzene (Surr)	98		56 - 136
Toluene-d8 (Surr)	108		78 - 122

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# QC Sample Results

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-190226-1

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

**Lab Sample ID: 240-190226-2 MS**  
**Matrix: Water**  
**Analysis Batch: 584780**

**Client Sample ID: MW-43-MS\_081523**  
**Prep Type: Total/NA**

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	103		73 - 120

**Lab Sample ID: 240-190226-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 584780**

**Client Sample ID: MW-43-MSD\_081523**  
**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	1.0	U	25.0	25.8		ug/L		103	56 - 135	0	26
cis-1,2-Dichloroethene	1.0	U	25.0	22.8		ug/L		91	66 - 128	0	14
Tetrachloroethene	1.0	U	25.0	23.9		ug/L		96	62 - 131	1	20
trans-1,2-Dichloroethene	1.0	U	25.0	23.6		ug/L		94	56 - 136	1	15
Trichloroethene	1.0	U	25.0	22.6		ug/L		90	61 - 124	2	15
Vinyl chloride	1.0	U	12.5	10.5		ug/L		84	43 - 157	6	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		62 - 137
4-Bromofluorobenzene (Surr)	100		56 - 136
Toluene-d8 (Surr)	107		78 - 122
Dibromofluoromethane (Surr)	104		73 - 120

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

**Lab Sample ID: MB 240-585005/7**  
**Matrix: Water**  
**Analysis Batch: 585005**

**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			08/24/23 10:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		66 - 120		08/24/23 10:37	1

**Lab Sample ID: LCS 240-585005/5**  
**Matrix: Water**  
**Analysis Batch: 585005**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	10.0	10.3		ug/L		103	80 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	112		66 - 120

**Lab Sample ID: 240-190226-2 MS**  
**Matrix: Water**  
**Analysis Batch: 585005**

**Client Sample ID: MW-43-MS\_081523**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	2.5		10.0	12.5		ug/L		100	51 - 153

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# QC Sample Results

Client: ARCADIS US Inc  
 Project/Site: Ford LTP - On Site

Job ID: 240-190226-1

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

<i>Surrogate</i>	<i>MS</i> <i>%Recovery</i>	<i>MS</i> <i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	109		66 - 120

**Lab Sample ID: 240-190226-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 585005**

**Client Sample ID: MW-43-MSD\_081523**  
**Prep Type: Total/NA**

<i>Analyte</i>	<i>Sample</i> <i>Result</i>	<i>Sample</i> <i>Qualifier</i>	<i>Spike</i> <i>Added</i>	<i>MSD</i> <i>Result</i>	<i>MSD</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i> <i>Limits</i>	<i>RPD</i>	<i>RPD</i> <i>Limit</i>
1,4-Dioxane	2.5		10.0	12.3		ug/L		98	51 - 153	1	16

<i>Surrogate</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	99		66 - 120

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# QC Association Summary

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-190226-1

## GC/MS VOA

### Analysis Batch: 584780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-190226-1	TRIP BLANK_107	Total/NA	Water	8260D	
240-190226-2	MW-43_081523	Total/NA	Water	8260D	
240-190226-3	MW-52_081523	Total/NA	Water	8260D	
240-190226-4	MW-42_081523	Total/NA	Water	8260D	
MB 240-584780/7	Method Blank	Total/NA	Water	8260D	
LCS 240-584780/4	Lab Control Sample	Total/NA	Water	8260D	
240-190226-2 MS	MW-43-MS_081523	Total/NA	Water	8260D	
240-190226-2 MSD	MW-43-MSD_081523	Total/NA	Water	8260D	

### Analysis Batch: 585005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-190226-2	MW-43_081523	Total/NA	Water	8260D SIM	
240-190226-3	MW-52_081523	Total/NA	Water	8260D SIM	
240-190226-4	MW-42_081523	Total/NA	Water	8260D SIM	
MB 240-585005/7	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-585005/5	Lab Control Sample	Total/NA	Water	8260D SIM	
240-190226-2 MS	MW-43-MS_081523	Total/NA	Water	8260D SIM	
240-190226-2 MSD	MW-43-MSD_081523	Total/NA	Water	8260D SIM	

# Lab Chronicle

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-190226-1

**Client Sample ID: TRIP BLANK\_107**

**Lab Sample ID: 240-190226-1**

**Date Collected: 08/15/23 00:00**

**Matrix: Water**

**Date Received: 08/16/23 08:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	584780	CDG	EET CLE	08/22/23 17:50

**Client Sample ID: MW-43\_081523**

**Lab Sample ID: 240-190226-2**

**Date Collected: 08/15/23 11:00**

**Matrix: Water**

**Date Received: 08/16/23 08:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	584780	CDG	EET CLE	08/22/23 21:10
Total/NA	Analysis	8260D SIM		1	585005	MRL	EET CLE	08/24/23 11:00

**Client Sample ID: MW-52\_081523**

**Lab Sample ID: 240-190226-3**

**Date Collected: 08/15/23 09:30**

**Matrix: Water**

**Date Received: 08/16/23 08:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	584780	CDG	EET CLE	08/22/23 21:35
Total/NA	Analysis	8260D SIM		1	585005	MRL	EET CLE	08/24/23 12:36

**Client Sample ID: MW-42\_081523**

**Lab Sample ID: 240-190226-4**

**Date Collected: 08/15/23 12:25**

**Matrix: Water**

**Date Received: 08/16/23 08:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	584780	CDG	EET CLE	08/22/23 22:00
Total/NA	Analysis	8260D SIM		1	585005	MRL	EET CLE	08/24/23 13:00

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: ARCADIS US Inc  
Project/Site: Ford LTP - On Site

Job ID: 240-190226-1

## 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	02-27-24
Georgia	State	4062	02-27-24
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-28-24
Kentucky (WW)	State	KY98016	12-31-23
Michigan	State	9135	02-27-24
Minnesota	NELAP	039-999-348	12-31-23
Minnesota (Petrofund)	State	3506	08-01-23 *
New Jersey	NELAP	OH001	07-01-24
New York	NELAP	10975	04-02-24
Ohio	State	8303	02-27-24
Ohio VAP	State	ORELAP 4062	02-27-24
Oregon	NELAP	4062	02-27-24
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-23
Virginia	NELAP	460175	09-14-23
West Virginia DEP	State	210	12-31-23

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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

Client Contact: Arcadis  
 Address: 28550 Cabot Drive, Suite 500  
 City/State/Zip: Novi, MI, 48377  
 Phone: 248-994-2240

Regulatory program:  DW  NPDES  RCRA  Other

Client Project Manager: Kris Hinskey  
 Telephone: 248-994-2240  
 Email: kristoffer.hinskey@arcadis.com

Site Contact: Christina Weaver  
 Telephone: 248-994-2240

Lab Contact: Mike DeMonico  
 Telephone: 330-497-9396

TestAmerica Laboratories, Inc.  
 COC No: 1 of 1 COCs

Project Name: Ford LIP On-Site  
 Project Number: 30167538-401.03  
 PO # 30167538-401.03

Sampler Name: *Kent Kasper*  
 Method of Shipment/Carrier: *Kent Kasper*  
 Shipping/Tracking No: *107*

Analysis turnaround time:  
 FAT (if different from below):  
 10 day  3 weeks  
 1 week  2 weeks  
 2 days  1 day

Sample Identification	Sample Date	Sample Time	Matrix				Containers & Preservatives				Filtered Sample (Y/N)	Composite (Grab)	Analyses						Sample Specific Notes / Special Instructions					
			Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl			NaOH	ZnAc	LiPres	Other:	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
TRIP BLANK 107			1																					1 Trip Blank
MW-43-081523	8/15/23	1100	6																					3 VOAs for 8260D 3 VOAs for 8260D SIM
MW-43-MS-081523	8/15/23	1100	6																					Run ms/ms
MW-43-MSD-081523	8/15/23	1100	6																					Run ms/ms
MW-52-081523	8/15/23	0930	6																					
MW-42-081523	8/15/23	1225	6																					



Possible Hazard Identification  
 Non-hazard  Flammable  Irritant  Poison B  Unknown

Special Instructions/QC Requirements & Comments:  
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return to Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
<i>Kent Kasper</i>	Arcadis	8/15/23 1340	<i>Novi Cold Storage</i>	Arcadis	8/15/23 1341
<i>[Signature]</i>	Arcadis	8/15/23 1540	<i>[Signature]</i>	EEM	8/16/23
<i>[Signature]</i>	EEM	8/16/23	<i>[Signature]</i>	EETNC	8-16-23 800

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

Client Arcadis Site Name \_\_\_\_\_ Cooler unpacked by: Nancy Peyer  
 Cooler Received on 8-16-23 Opened on 8-16-23  
 FedEx: 1<sup>st</sup> Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other

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: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt  See Multiple Cooler Form  
 IR GUN # 22 (CF -0.1 °C) Observed Cooler Temp. 0.4 °C Corrected Cooler Temp. 0.3 °C

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

13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC312502  
 14. Were VOAs on the COC? Yes No  
 15. Were air bubbles >6 mm in any VOA vials?  Larger than this. Yes No NA  
 16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # Covered Yes No  
 17. Was a LL Hg or Me Hg trip blank present? Yes No

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

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

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

19. SAMPLE CONDITION

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

20. SAMPLE PRESERVATION

Sample(s) \_\_\_\_\_ were further preserved in the laboratory.  
 Time preserved: \_\_\_\_\_ Preservative(s) added/Lot number(s): \_\_\_\_\_  
 VOA Sample Preservation - Date/Time VOAs Frozen: \_\_\_\_\_

# DATA VERIFICATION REPORT



August 28, 2023

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

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil

Project number: 30167538.401.03- onsite groundwater

Event Specific Scope of Work References: Sample COC

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory submittal: 190226-1

Sample date: 2023-08-15

Report received by CADENA: 2023-08-28

Initial Data Verification completed by CADENA: 2023-08-28

Number of Samples:4

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 Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

## CADENA Valid Qualifiers

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



## Analytical Results Summary

CADENA Project ID: E203728

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory Submittal: 190226-1

Analyte	Cas No.	Sample Name: TRIP BLANK_107				MW-43_081523				MW-52_081523				MW-42_081523			
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier
		Lab Sample ID: 2401902261				2401902262				2401902263				2401902264			
		Sample Date: 8/15/2023				8/15/2023				8/15/2023				8/15/2023			

### GC/MS VOC

#### OSW-8260D

1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	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	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	1.5	1.0	ug/l	---	0.70	1.0	ug/l	J

#### OSW-8260DSIM

1,4-Dioxane	123-91-1					2.5	2.0	ug/l	---	1.8	2.0	ug/l	J	ND	2.0	ug/l	---
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