

## ANALYTICAL REPORT

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North Canton, OH 44720  
Tel: (330)497-9396

Laboratory Job ID: 240-134991-1  
Client Project/Site: Ford LTP On-Site

For:  
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*Results relate only to the items tested and the sample(s) as received by the laboratory.*



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# Definitions/Glossary

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

Job ID: 240-134991-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

## Glossary

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

# Case Narrative

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

Job ID: 240-134991-1

**Job ID: 240-134991-1**

**Laboratory: Eurofins TestAmerica, Canton**

**Narrative**

## CASE NARRATIVE

**Client: ARCADIS U.S., Inc.**

**Project: Ford LTP On-Site**

**Report Number: 240-134991-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

### **RECEIPT**

The samples were received on 8/14/2020 9:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.9° C.

### **VOLATILE ORGANIC COMPOUNDS (GCMS)**

Samples TRIP BLANK (240-134991-1), MW-221S\_081220 (240-134991-2), MW-222S\_081220 (240-134991-3), MW-224S\_081220 (240-134991-4) and MW-194\_081220 (240-134991-5) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 08/24/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **VOLATILE ORGANIC COMPOUNDS (GCMS SIM)**

Samples MW-221S\_081220 (240-134991-2), MW-222S\_081220 (240-134991-3), MW-224S\_081220 (240-134991-4) and MW-194\_081220 (240-134991-5) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 08/22/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Method Summary

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

Job ID: 240-134991-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

**Protocol References:**

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

**Laboratory References:**

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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- 14

# Sample Summary

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

Job ID: 240-134991-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-134991-1	TRIP BLANK	Water	08/12/20 00:00	08/14/20 09:30	
240-134991-2	MW-221S_081220	Water	08/12/20 09:56	08/14/20 09:30	
240-134991-3	MW-222S_081220	Water	08/12/20 12:04	08/14/20 09:30	
240-134991-4	MW-224S_081220	Water	08/12/20 14:20	08/14/20 09:30	
240-134991-5	MW-194_081220	Water	08/12/20 16:06	08/14/20 09:30	

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# Detection Summary

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

Job ID: 240-134991-1

## Client Sample ID: TRIP BLANK

Lab Sample ID: 240-134991-1

No Detections.

## Client Sample ID: MW-221S\_081220

Lab Sample ID: 240-134991-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.2		1.0	0.38	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-222S\_081220

Lab Sample ID: 240-134991-3

No Detections.

## Client Sample ID: MW-224S\_081220

Lab Sample ID: 240-134991-4

No Detections.

## Client Sample ID: MW-194\_081220

Lab Sample ID: 240-134991-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.3		2.0	0.86	ug/L	1		8260B SIM	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

# Client Sample Results

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

Job ID: 240-134991-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-134991-1**

**Date Collected: 08/12/20 00:00**

**Matrix: Water**

**Date Received: 08/14/20 09:30**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/24/20 16:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/24/20 16:37	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 16:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 16:37	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 16:37	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/24/20 16:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		75 - 130		08/24/20 16:37	1
4-Bromofluorobenzene (Surr)	107		47 - 134		08/24/20 16:37	1
Toluene-d8 (Surr)	101		69 - 122		08/24/20 16:37	1
Dibromofluoromethane (Surr)	112		78 - 129		08/24/20 16:37	1



# Client Sample Results

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

Job ID: 240-134991-1

**Client Sample ID: MW-221S\_081220**

**Lab Sample ID: 240-134991-2**

Date Collected: 08/12/20 09:56

Matrix: Water

Date Received: 08/14/20 09:30

**Method: 8260B 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			08/22/20 07:50	1
<b>Surrogate</b>									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 133					08/22/20 07:50	1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/24/20 17:02	1
<b>cis-1,2-Dichloroethene</b>	<b>1.2</b>		1.0	0.38	ug/L			08/24/20 17:02	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 17:02	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 17:02	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 17:02	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/24/20 17:02	1
<b>Surrogate</b>									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		75 - 130					08/24/20 17:02	1
4-Bromofluorobenzene (Surr)	108		47 - 134					08/24/20 17:02	1
Toluene-d8 (Surr)	100		69 - 122					08/24/20 17:02	1
Dibromofluoromethane (Surr)	113		78 - 129					08/24/20 17:02	1

# Client Sample Results

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

Job ID: 240-134991-1

**Client Sample ID: MW-222S\_081220**

**Lab Sample ID: 240-134991-3**

Date Collected: 08/12/20 12:04

Matrix: Water

Date Received: 08/14/20 09:30

**Method: 8260B 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			08/22/20 08:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 133		08/22/20 08:15	1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/24/20 17:26	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/24/20 17:26	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 17:26	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 17:26	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 17:26	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/24/20 17:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		75 - 130		08/24/20 17:26	1
4-Bromofluorobenzene (Surr)	108		47 - 134		08/24/20 17:26	1
Toluene-d8 (Surr)	101		69 - 122		08/24/20 17:26	1
Dibromofluoromethane (Surr)	113		78 - 129		08/24/20 17:26	1

# Client Sample Results

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

Job ID: 240-134991-1

**Client Sample ID: MW-224S\_081220**

**Lab Sample ID: 240-134991-4**

**Date Collected: 08/12/20 14:20**

**Matrix: Water**

**Date Received: 08/14/20 09:30**

**Method: 8260B 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			08/22/20 08:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		70 - 133		08/22/20 08:40	1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/24/20 17:51	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/24/20 17:51	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 17:51	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 17:51	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 17:51	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/24/20 17:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		75 - 130		08/24/20 17:51	1
4-Bromofluorobenzene (Surr)	106		47 - 134		08/24/20 17:51	1
Toluene-d8 (Surr)	100		69 - 122		08/24/20 17:51	1
Dibromofluoromethane (Surr)	112		78 - 129		08/24/20 17:51	1

# Client Sample Results

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

Job ID: 240-134991-1

**Client Sample ID: MW-194\_081220**

**Lab Sample ID: 240-134991-5**

Date Collected: 08/12/20 16:06

Matrix: Water

Date Received: 08/14/20 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.3		2.0	0.86	ug/L			08/22/20 09:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 133		08/22/20 09:05	1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/24/20 18:15	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/24/20 18:15	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 18:15	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 18:15	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 18:15	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/24/20 18:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		75 - 130		08/24/20 18:15	1
4-Bromofluorobenzene (Surr)	106		47 - 134		08/24/20 18:15	1
Toluene-d8 (Surr)	101		69 - 122		08/24/20 18:15	1
Dibromofluoromethane (Surr)	114		78 - 129		08/24/20 18:15	1

# Surrogate Summary

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

Job ID: 240-134991-1

## Method: 8260B - Volatile Organic Compounds (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 (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-134991-1	TRIP BLANK	100	107	101	112
240-134991-2	MW-221S_081220	101	108	100	113
240-134991-3	MW-222S_081220	100	108	101	113
240-134991-4	MW-224S_081220	99	106	100	112
240-134991-5	MW-194_081220	101	106	101	114
240-134992-E-5 MS	Matrix Spike	92	109	104	107
240-134992-E-5 MSD	Matrix Spike Duplicate	94	109	104	108
LCS 240-448443/5	Lab Control Sample	92	108	102	106
MB 240-448443/8	Method Blank	100	108	101	114

#### Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(70-133)
240-134991-2	MW-221S_081220	87
240-134991-3	MW-222S_081220	85
240-134991-4	MW-224S_081220	88
240-134991-5	MW-194_081220	89
240-134992-B-5 MS	Matrix Spike	92
240-134992-B-5 MSD	Matrix Spike Duplicate	92
LCS 240-448279/4	Lab Control Sample	88
MB 240-448279/5	Method Blank	86

#### Surrogate Legend

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

# QC Sample Results

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

Job ID: 240-134991-1

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

**Lab Sample ID: MB 240-448443/8**  
**Matrix: Water**  
**Analysis Batch: 448443**

**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	0.46	ug/L			08/24/20 14:58	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/24/20 14:58	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 14:58	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 14:58	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 14:58	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/24/20 14:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		75 - 130		08/24/20 14:58	1
4-Bromofluorobenzene (Surr)	108		47 - 134		08/24/20 14:58	1
Toluene-d8 (Surr)	101		69 - 122		08/24/20 14:58	1
Dibromofluoromethane (Surr)	114		78 - 129		08/24/20 14:58	1

**Lab Sample ID: LCS 240-448443/5**  
**Matrix: Water**  
**Analysis Batch: 448443**

**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	20.0	19.0		ug/L		95	73 - 129
cis-1,2-Dichloroethene	20.0	18.4		ug/L		92	75 - 124
Tetrachloroethene	20.0	23.3		ug/L		116	70 - 125
trans-1,2-Dichloroethene	20.0	18.6		ug/L		93	74 - 130
Trichloroethene	20.0	20.2		ug/L		101	71 - 121
Vinyl chloride	20.0	22.5		ug/L		112	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		75 - 130
4-Bromofluorobenzene (Surr)	108		47 - 134
Toluene-d8 (Surr)	102		69 - 122
Dibromofluoromethane (Surr)	106		78 - 129

**Lab Sample ID: 240-134992-E-5 MS**  
**Matrix: Water**  
**Analysis Batch: 448443**

**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
1,1-Dichloroethene	3.3	U	66.6	63.6		ug/L		95	64 - 132
cis-1,2-Dichloroethene	3.3	U	66.6	60.8		ug/L		91	68 - 121
Tetrachloroethene	3.3	U	66.6	74.8		ug/L		112	52 - 129
trans-1,2-Dichloroethene	3.3	U	66.6	61.8		ug/L		93	69 - 126
Trichloroethene	3.3	U	66.6	64.6		ug/L		97	56 - 124
Vinyl chloride	3.3	U	66.6	78.8		ug/L		118	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		75 - 130
4-Bromofluorobenzene (Surr)	109		47 - 134
Toluene-d8 (Surr)	104		69 - 122

# QC Sample Results

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

Job ID: 240-134991-1

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

**Lab Sample ID: 240-134992-E-5 MS**  
**Matrix: Water**  
**Analysis Batch: 448443**

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

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
Dibromofluoromethane (Surr)	107		78 - 129

**Lab Sample ID: 240-134992-E-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 448443**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	3.3	U	66.6	63.3		ug/L		95	64 - 132	0	35
cis-1,2-Dichloroethene	3.3	U	66.6	61.4		ug/L		92	68 - 121	1	35
Tetrachloroethene	3.3	U	66.6	73.8		ug/L		111	52 - 129	1	35
trans-1,2-Dichloroethene	3.3	U	66.6	62.4		ug/L		94	69 - 126	1	35
Trichloroethene	3.3	U	66.6	65.6		ug/L		98	56 - 124	2	35
Vinyl chloride	3.3	U	66.6	78.1		ug/L		117	49 - 136	1	35

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		75 - 130
4-Bromofluorobenzene (Surr)	109		47 - 134
Toluene-d8 (Surr)	104		69 - 122
Dibromofluoromethane (Surr)	108		78 - 129

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

**Lab Sample ID: MB 240-448279/5**  
**Matrix: Water**  
**Analysis Batch: 448279**

**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			08/22/20 07:01	1

	MB	MB							
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)	86		70 - 133		08/22/20 07:01	1			

**Lab Sample ID: LCS 240-448279/4**  
**Matrix: Water**  
**Analysis Batch: 448279**

**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	10.2		ug/L		102	80 - 135

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		70 - 133

**Lab Sample ID: 240-134992-B-5 MS**  
**Matrix: Water**  
**Analysis Batch: 448279**

**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	2.6		10.0	11.9		ug/L		94	46 - 170

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-134991-1

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

<u>Surrogate</u>	<u>MS</u> <u>%Recovery</u>	<u>MS</u> <u>Qualifier</u>	<u>Limits</u>
1,2-Dichloroethane-d4 (Surr)	92		70 - 133

**Lab Sample ID: 240-134992-B-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 448279**

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

<u>Analyte</u>	<u>Sample</u> <u>Result</u>	<u>Sample</u> <u>Qualifier</u>	<u>Spike</u> <u>Added</u>	<u>MSD</u> <u>Result</u>	<u>MSD</u> <u>Qualifier</u>	<u>Unit</u>	<u>D</u>	<u>%Rec</u>	<u>%Rec.</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>Limit</u>
1,4-Dioxane	2.6		10.0	11.1		ug/L		85	46 - 170	7	26

<u>Surrogate</u>	<u>MSD</u> <u>%Recovery</u>	<u>MSD</u> <u>Qualifier</u>	<u>Limits</u>
1,2-Dichloroethane-d4 (Surr)	92		70 - 133

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



# QC Association Summary

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

Job ID: 240-134991-1

## GC/MS VOA

### Analysis Batch: 448279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134991-2	MW-221S_081220	Total/NA	Water	8260B SIM	
240-134991-3	MW-222S_081220	Total/NA	Water	8260B SIM	
240-134991-4	MW-224S_081220	Total/NA	Water	8260B SIM	
240-134991-5	MW-194_081220	Total/NA	Water	8260B SIM	
MB 240-448279/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-448279/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-134992-B-5 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-134992-B-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

### Analysis Batch: 448443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134991-1	TRIP BLANK	Total/NA	Water	8260B	
240-134991-2	MW-221S_081220	Total/NA	Water	8260B	
240-134991-3	MW-222S_081220	Total/NA	Water	8260B	
240-134991-4	MW-224S_081220	Total/NA	Water	8260B	
240-134991-5	MW-194_081220	Total/NA	Water	8260B	
MB 240-448443/8	Method Blank	Total/NA	Water	8260B	
LCS 240-448443/5	Lab Control Sample	Total/NA	Water	8260B	
240-134992-E-5 MS	Matrix Spike	Total/NA	Water	8260B	
240-134992-E-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

# Lab Chronicle

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

Job ID: 240-134991-1

## Client Sample ID: TRIP BLANK

Date Collected: 08/12/20 00:00

Date Received: 08/14/20 09:30

Lab Sample ID: 240-134991-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448443	08/24/20 16:37	HMB	TAL CAN

## Client Sample ID: MW-221S\_081220

Date Collected: 08/12/20 09:56

Date Received: 08/14/20 09:30

Lab Sample ID: 240-134991-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448443	08/24/20 17:02	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	448279	08/22/20 07:50	TJL2	TAL CAN

## Client Sample ID: MW-222S\_081220

Date Collected: 08/12/20 12:04

Date Received: 08/14/20 09:30

Lab Sample ID: 240-134991-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448443	08/24/20 17:26	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	448279	08/22/20 08:15	TJL2	TAL CAN

## Client Sample ID: MW-224S\_081220

Date Collected: 08/12/20 14:20

Date Received: 08/14/20 09:30

Lab Sample ID: 240-134991-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448443	08/24/20 17:51	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	448279	08/22/20 08:40	TJL2	TAL CAN

## Client Sample ID: MW-194\_081220

Date Collected: 08/12/20 16:06

Date Received: 08/14/20 09:30

Lab Sample ID: 240-134991-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448443	08/24/20 18:15	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	448279	08/22/20 09:05	TJL2	TAL CAN

### Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

# Accreditation/Certification Summary

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

Job ID: 240-134991-1

## Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-20 *
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

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



TestAmerica Michigan  
10448 Citation Drive  
Suite 200  
Brighton, MI 48116-6561  
phone 810.229.2763 fax

MICHIGAN  
190  
2.9 3.9 4.8

Chain of Custody Record

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program:  DW  NPDES  RCRA  Other:

Client Project Manager: Kris Hinskey  
Tel/Fax: 248-994-2240

Client Contact  
ARCADIS of Michigan  
28550 Cabot Drive Suite 500  
Novi, Michigan 48377  
(248)-994-2240 Phone  
(248)-994-2241 FAX  
Project Name: Ford LTP On-Site  
Site: Ford LTP  
P O # 9004200670401-02 30650315-401.02 8/12/20  
3 pm 8/13/20

Analysis Turnaround Time  
 CALENDAR DAYS  WORKING DAYS  
TAT If different from Below: 3 days  
2 weeks AMH 8/13/20  
1 week  
2 days  
1 day

Site Contact: Julia McClafferty  
Lab Contact: Mike DelMonico

Date: 8/12/20  
Carrier: \_\_\_\_\_

COC No: \_\_\_\_\_ of \_\_\_\_\_ COCs

Sampler Name: AINSON HARTZ  
For Lab Use Only:  
Walk-in Client:  
Lab Sampling:  
Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Vinyl Chloride 8260B	TCE 8260B	cis-1,2-DCE 8260B	Trans-1,2-DCE 8260B	1,1-DCE 8260B	PCE 8260B	1,4-Dioxane 8260B SIM	Sample Specific Notes:
TRIP BLANK	8/12/20	—	G	W	1	N	N								trip blank
MW-2215-081220	8/12/20	09:56	G	W	6	N	N	X	X	X	X	X	X	X	3 vials for 8260B 3 vials for 8260B SIM
MW-2225-081220	8/12/20	12:04	G	W	6	N	N	X	X	X	X	X	X	X	
MW-2245-081220	8/12/20	14:20	G	W	6	N	N	X	X	X	X	X	X	X	
MW-194-081220	8/12/20	16:00	G	W	6	N	N	X	X	X	X	X	X	X	

240-134991 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other \_\_\_\_\_

Possible Hazard Identification: Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown

Special Instructions/QC Requirements & Comments:  
Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203728  
Level IV Reporting requested

Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Cooler Temp. (°C): Obs'd: \_\_\_\_\_ Corrd: \_\_\_\_\_

Received by: \_\_\_\_\_ Company: ARCADIS  
Date/Time: 8/12/20 17:45

Received by: \_\_\_\_\_ Company: ARCADIS  
Date/Time: 8/13/20 14:30

Received in Laboratory by: \_\_\_\_\_ Company: ARCADIS  
Date/Time: 8/13/20 9:30

Custody Seal No.: \_\_\_\_\_  
Company: ARCADIS  
Company: ARCADIS  
Company: ARCADIS



**Eurofins TestAmerica Canton Sample Receipt Form/Narrative** Login # : 134991  
**Canton Facility**

Client Arcadis Site Name \_\_\_\_\_ Cooler unpacked by: [Signature]  
Cooler Received on 8/14/20 Opened on 8/14/20  
FedEx:  Gro Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other \_\_\_\_\_


**Receipt After-hours: Drop-off Date/Time** \_\_\_\_\_ **Storage Location** \_\_\_\_\_

TestAmerica Cooler # \_\_\_\_\_ Foam Box  Client Cooler Box Other \_\_\_\_\_  
Packing material used:  Bubble Wrap Foam Plastic Bag None Other \_\_\_\_\_  
COOLANT:  Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt  See Multiple Cooler Form  
IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C  
IR GUN #IR-11 (CF +0.9 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2  Yes  No  
-Were the seals on the outside of the cooler(s) signed & dated?  Yes  No NA  
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?  Yes  No  
-Were tamper/custody seals intact and uncompromised?  Yes  No NA

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 be reconciled with the COC?  Yes  No  
9. Were correct bottle(s) used for the test(s) indicated?  Yes  No  
10. Sufficient quantity received to perform indicated analyses?  Yes  No  
11. Are these work share samples?  Yes  No  
If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt?  Yes  No  NA pH Strip Lot# HC911298  
13. Were VOAs on the COC?  Yes  No  
14. Were air bubbles >6 mm in any VOA vials?  Yes  No  NA  Larger than this.  
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 0417701E  Yes  No  
16. 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

**17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES** Samples processed by: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**18. 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)

**19. 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: \_\_\_\_\_

