

## ANALYTICAL REPORT

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Tel: (330)497-9396

Laboratory Job ID: 240-139784-1  
Client Project/Site: Ford LTP - On Site

For:  
ARCADIS U.S., Inc.  
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Attn: Kristoffer Hinskey



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Authorized for release by:  
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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: 240-139784-1

## Qualifiers

### GC/MS VOA

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

## Glossary

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

# Case Narrative

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

Job ID: 240-139784-1

**Job ID: 240-139784-1**

**Laboratory: Eurofins TestAmerica, Canton**

## Narrative

### CASE NARRATIVE

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

**Project: Ford LTP - On Site**

**Report Number: 240-139784-1**

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.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

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

### **RECEIPT**

The samples were received on 11/7/2020 9:40 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.9° C.

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

Samples TRIP BLANK (240-139784-1), MW-54\_110520 (240-139784-2), MW-54S\_110520 (240-139784-3), MW-122\_110520 (240-139784-4) and MW-57\_110520 (240-139784-5) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 11/19/2020.

Vinyl chloride failed the recovery criteria high for LCS 240-461636/4. Refer to the QC report for details.

The continuing calibration verification (CCV) for analytical batch 461783 exceeded control criteria for multiple compounds. The samples associated with this CCV were non-detect for the affected analytes. In accordance with the laboratory SOP, a low level CCV at the reporting limit (labeled as an MRL) was analyzed and the affected compounds were detected; therefore the data has been reported. No further corrective action was required: MW-54\_110520 (240-139784-2) and MW-122\_110520 (240-139784-4).

The continuing calibration verification (CCV) associated with batch 461636 recovered above the upper control limit for Vinyl Chloride. The samples associated with this CCV were non-detect for the affected analytes; therefore, the data have been reported. The associated samples are impacted: TRIP BLANK (240-139784-1), MW-54S\_110520 (240-139784-3) and MW-57\_110520 (240-139784-5).

# Case Narrative

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

Job ID: 240-139784-1

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## Job ID: 240-139784-1 (Continued)

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### Laboratory: Eurofins TestAmerica, Canton (Continued)

The laboratory control sample (LCS) for 461636 recovered outside control limits for one or multiple analytes. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported: TRIP BLANK (240-139784-1), MW-54S\_110520 (240-139784-3), MW-57\_110520 (240-139784-5) and (LCS 240-461636/4).

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

### VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-54\_110520 (240-139784-2), MW-54S\_110520 (240-139784-3), MW-122\_110520 (240-139784-4) and MW-57\_110520 (240-139784-5) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 11/16/2020.

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: 240-139784-1

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



# Sample Summary

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

Job ID: 240-139784-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-139784-1	TRIP BLANK	Water	11/05/20 00:00	11/07/20 09:40	
240-139784-2	MW-54_110520	Water	11/05/20 09:55	11/07/20 09:40	
240-139784-3	MW-54S_110520	Water	11/05/20 10:56	11/07/20 09:40	
240-139784-4	MW-122_110520	Water	11/05/20 12:23	11/07/20 09:40	
240-139784-5	MW-57_110520	Water	11/05/20 14:08	11/07/20 09:40	

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

# Detection Summary

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

Job ID: 240-139784-1

## Client Sample ID: TRIP BLANK

Lab Sample ID: 240-139784-1

No Detections.

## Client Sample ID: MW-54\_110520

Lab Sample ID: 240-139784-2

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		8260B SIM	Total/NA
Vinyl chloride	0.99	J	1.0	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-54S\_110520

Lab Sample ID: 240-139784-3

No Detections.

## Client Sample ID: MW-122\_110520

Lab Sample ID: 240-139784-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.1	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	2.6		1.0	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-57\_110520

Lab Sample ID: 240-139784-5

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		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: 240-139784-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-139784-1**

**Date Collected: 11/05/20 00:00**

**Matrix: Water**

**Date Received: 11/07/20 09:40**

**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	0.19	ug/L			11/19/20 01:43	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/19/20 01:43	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/19/20 01:43	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/19/20 01:43	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/19/20 01:43	1
Vinyl chloride	1.0	U *	1.0	0.20	ug/L			11/19/20 01:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	126		75 - 130		11/19/20 01:43	1
4-Bromofluorobenzene (Surr)	101		47 - 134		11/19/20 01:43	1
Toluene-d8 (Surr)	116		69 - 122		11/19/20 01:43	1
Dibromofluoromethane (Surr)	125		78 - 129		11/19/20 01:43	1

# Client Sample Results

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

Job ID: 240-139784-1

**Client Sample ID: MW-54\_110520**

**Lab Sample ID: 240-139784-2**

Date Collected: 11/05/20 09:55

Matrix: Water

Date Received: 11/07/20 09:40

**Method: 8260B 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			11/16/20 12:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 133					11/16/20 12:01	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	0.19	ug/L			11/19/20 15:01	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/19/20 15:01	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/19/20 15:01	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/19/20 15:01	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/19/20 15:01	1
Vinyl chloride	0.99	J	1.0	0.20	ug/L			11/19/20 15:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		75 - 130					11/19/20 15:01	1
4-Bromofluorobenzene (Surr)	80		47 - 134					11/19/20 15:01	1
Toluene-d8 (Surr)	98		69 - 122					11/19/20 15:01	1
Dibromofluoromethane (Surr)	88		78 - 129					11/19/20 15:01	1

# Client Sample Results

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

Job ID: 240-139784-1

**Client Sample ID: MW-54S\_110520**

**Lab Sample ID: 240-139784-3**

Date Collected: 11/05/20 10:56

Matrix: Water

Date Received: 11/07/20 09:40

**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			11/16/20 12:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 133		11/16/20 12:26	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	0.19	ug/L			11/19/20 02:27	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/19/20 02:27	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/19/20 02:27	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/19/20 02:27	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/19/20 02:27	1
Vinyl chloride	1.0	U *	1.0	0.20	ug/L			11/19/20 02:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		75 - 130		11/19/20 02:27	1
4-Bromofluorobenzene (Surr)	88		47 - 134		11/19/20 02:27	1
Toluene-d8 (Surr)	102		69 - 122		11/19/20 02:27	1
Dibromofluoromethane (Surr)	107		78 - 129		11/19/20 02:27	1

# Client Sample Results

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

Job ID: 240-139784-1

**Client Sample ID: MW-122\_110520**

**Lab Sample ID: 240-139784-4**

Date Collected: 11/05/20 12:23

Matrix: Water

Date Received: 11/07/20 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.1	J	2.0	0.86	ug/L			11/16/20 12:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 133		11/16/20 12:51	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	0.19	ug/L			11/19/20 15:22	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/19/20 15:22	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/19/20 15:22	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/19/20 15:22	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/19/20 15:22	1
Vinyl chloride	2.6		1.0	0.20	ug/L			11/19/20 15:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		75 - 130		11/19/20 15:22	1
4-Bromofluorobenzene (Surr)	77		47 - 134		11/19/20 15:22	1
Toluene-d8 (Surr)	100		69 - 122		11/19/20 15:22	1
Dibromofluoromethane (Surr)	90		78 - 129		11/19/20 15:22	1

# Client Sample Results

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

Job ID: 240-139784-1

**Client Sample ID: MW-57\_110520**

**Lab Sample ID: 240-139784-5**

Date Collected: 11/05/20 14:08

Matrix: Water

Date Received: 11/07/20 09:40

**Method: 8260B 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			11/16/20 13:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 133		11/16/20 13:16	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	0.19	ug/L			11/19/20 03:11	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/19/20 03:11	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/19/20 03:11	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/19/20 03:11	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/19/20 03:11	1
Vinyl chloride	1.0	U *	1.0	0.20	ug/L			11/19/20 03:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	127		75 - 130		11/19/20 03:11	1
4-Bromofluorobenzene (Surr)	100		47 - 134		11/19/20 03:11	1
Toluene-d8 (Surr)	113		69 - 122		11/19/20 03:11	1
Dibromofluoromethane (Surr)	120		78 - 129		11/19/20 03:11	1

# Surrogate Summary

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

Job ID: 240-139784-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-139700-B-12 MS	Matrix Spike	95	100	108	82
240-139700-B-12 MSD	Matrix Spike Duplicate	95	101	104	82
240-139784-1	TRIP BLANK	126	101	116	125
240-139784-2	MW-54_110520	110	80	98	88
240-139784-3	MW-54S_110520	107	88	102	107
240-139784-4	MW-122_110520	112	77	100	90
240-139784-5	MW-57_110520	127	100	113	120
LCS 240-461636/4	Lab Control Sample	109	103	108	108
LCS 240-461783/4	Lab Control Sample	95	102	106	83
MB 240-461636/6	Method Blank	117	91	105	112
MB 240-461783/7	Method Blank	111	79	97	93

### 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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (70-133)
240-139784-2	MW-54_110520	103
240-139784-3	MW-54S_110520	107
240-139784-4	MW-122_110520	108
240-139784-5	MW-57_110520	111
240-139954-C-3 MS	Matrix Spike	111
240-139954-C-3 MSD	Matrix Spike Duplicate	110
LCS 240-461111/4	Lab Control Sample	102
MB 240-461111/5	Method Blank	104

### Surrogate Legend

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

# QC Sample Results

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

Job ID: 240-139784-1

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

**Lab Sample ID: MB 240-461636/6**  
**Matrix: Water**  
**Analysis Batch: 461636**

**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	0.19	ug/L			11/18/20 19:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/18/20 19:47	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/18/20 19:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/18/20 19:47	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/18/20 19:47	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/18/20 19:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		75 - 130		11/18/20 19:47	1
4-Bromofluorobenzene (Surr)	91		47 - 134		11/18/20 19:47	1
Toluene-d8 (Surr)	105		69 - 122		11/18/20 19:47	1
Dibromofluoromethane (Surr)	112		78 - 129		11/18/20 19:47	1

**Lab Sample ID: LCS 240-461636/4**  
**Matrix: Water**  
**Analysis Batch: 461636**

**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	10.0	10.6		ug/L		106	73 - 129
cis-1,2-Dichloroethene	10.0	9.94		ug/L		99	75 - 124
Tetrachloroethene	10.0	7.64		ug/L		76	70 - 125
trans-1,2-Dichloroethene	10.0	10.1		ug/L		101	74 - 130
Trichloroethene	10.0	7.44		ug/L		74	71 - 121
Vinyl chloride	10.0	13.8 *		ug/L		138	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	109		75 - 130
4-Bromofluorobenzene (Surr)	103		47 - 134
Toluene-d8 (Surr)	108		69 - 122
Dibromofluoromethane (Surr)	108		78 - 129

**Lab Sample ID: MB 240-461783/7**  
**Matrix: Water**  
**Analysis Batch: 461783**

**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	0.19	ug/L			11/19/20 11:44	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/19/20 11:44	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/19/20 11:44	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/19/20 11:44	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/19/20 11:44	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/19/20 11:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		75 - 130		11/19/20 11:44	1
4-Bromofluorobenzene (Surr)	79		47 - 134		11/19/20 11:44	1
Toluene-d8 (Surr)	97		69 - 122		11/19/20 11:44	1

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-139784-1

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

**Lab Sample ID: MB 240-461783/7**  
**Matrix: Water**  
**Analysis Batch: 461783**

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

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Dibromofluoromethane (Surr)	93		78 - 129		11/19/20 11:44	1

**Lab Sample ID: LCS 240-461783/4**  
**Matrix: Water**  
**Analysis Batch: 461783**

**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	10.0	8.36		ug/L		84	73 - 129
cis-1,2-Dichloroethene	10.0	10.3		ug/L		103	75 - 124
Tetrachloroethene	10.0	9.24		ug/L		92	70 - 125
trans-1,2-Dichloroethene	10.0	10.2		ug/L		102	74 - 130
Trichloroethene	10.0	7.81		ug/L		78	71 - 121
Vinyl chloride	10.0	8.07		ug/L		81	61 - 134

  

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	95		75 - 130
4-Bromofluorobenzene (Surr)	102		47 - 134
Toluene-d8 (Surr)	106		69 - 122
Dibromofluoromethane (Surr)	83		78 - 129

**Lab Sample ID: 240-139700-B-12 MS**  
**Matrix: Water**  
**Analysis Batch: 461783**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
1,1-Dichloroethene	1.0	U	10.0	7.52		ug/L		75	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	9.51		ug/L		95	68 - 121
Tetrachloroethene	1.0	U	10.0	8.12		ug/L		81	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	9.67		ug/L		97	69 - 126
Trichloroethene	1.0	U	10.0	6.90		ug/L		69	56 - 124
Vinyl chloride	1.0	U	10.0	7.74		ug/L		77	49 - 136

  

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	95		75 - 130
4-Bromofluorobenzene (Surr)	100		47 - 134
Toluene-d8 (Surr)	108		69 - 122
Dibromofluoromethane (Surr)	82		78 - 129

**Lab Sample ID: 240-139700-B-12 MSD**  
**Matrix: Water**  
**Analysis Batch: 461783**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
				Result	Qualifier						
1,1-Dichloroethene	1.0	U	10.0	8.00		ug/L		80	64 - 132	6	35
cis-1,2-Dichloroethene	1.0	U	10.0	9.63		ug/L		96	68 - 121	1	35
Tetrachloroethene	1.0	U	10.0	8.71		ug/L		87	52 - 129	7	35
trans-1,2-Dichloroethene	1.0	U	10.0	9.89		ug/L		99	69 - 126	2	35
Trichloroethene	1.0	U	10.0	7.52		ug/L		75	56 - 124	9	35

Eurofins TestAmerica, Canton



# QC Sample Results

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

Job ID: 240-139784-1

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

**Lab Sample ID: 240-139700-B-12 MSD**  
**Matrix: Water**  
**Analysis Batch: 461783**

**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
Vinyl chloride	1.0	U	10.0	8.01		ug/L		80	49 - 136	4	35
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>MSD Limits</b>								
1,2-Dichloroethane-d4 (Surr)	95		75 - 130								
4-Bromofluorobenzene (Surr)	101		47 - 134								
Toluene-d8 (Surr)	104		69 - 122								
Dibromofluoromethane (Surr)	82		78 - 129								

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

**Lab Sample ID: MB 240-461111/5**  
**Matrix: Water**  
**Analysis Batch: 461111**

**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			11/16/20 11:12	1	
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>Limits</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>				
1,2-Dichloroethane-d4 (Surr)	104		70 - 133		11/16/20 11:12	1				

**Lab Sample ID: LCS 240-461111/4**  
**Matrix: Water**  
**Analysis Batch: 461111**

**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	11.4		ug/L		114	80 - 135
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>				
1,2-Dichloroethane-d4 (Surr)	102		70 - 133				

**Lab Sample ID: 240-139954-C-3 MS**  
**Matrix: Water**  
**Analysis Batch: 461111**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	11.1		ug/L		111	46 - 170
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
1,2-Dichloroethane-d4 (Surr)	111		70 - 133						

**Lab Sample ID: 240-139954-C-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 461111**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	11.5		ug/L		115	46 - 170	3	26

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-139784-1

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

Lab Sample ID: 240-139954-C-3 MSD

Matrix: Water

Analysis Batch: 461111

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	110		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: 240-139784-1

## GC/MS VOA

### Analysis Batch: 461111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-139784-2	MW-54_110520	Total/NA	Water	8260B SIM	
240-139784-3	MW-54S_110520	Total/NA	Water	8260B SIM	
240-139784-4	MW-122_110520	Total/NA	Water	8260B SIM	
240-139784-5	MW-57_110520	Total/NA	Water	8260B SIM	
MB 240-461111/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-461111/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-139954-C-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-139954-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

### Analysis Batch: 461636

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-139784-1	TRIP BLANK	Total/NA	Water	8260B	
240-139784-3	MW-54S_110520	Total/NA	Water	8260B	
240-139784-5	MW-57_110520	Total/NA	Water	8260B	
MB 240-461636/6	Method Blank	Total/NA	Water	8260B	
LCS 240-461636/4	Lab Control Sample	Total/NA	Water	8260B	

### Analysis Batch: 461783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-139784-2	MW-54_110520	Total/NA	Water	8260B	
240-139784-4	MW-122_110520	Total/NA	Water	8260B	
MB 240-461783/7	Method Blank	Total/NA	Water	8260B	
LCS 240-461783/4	Lab Control Sample	Total/NA	Water	8260B	
240-139700-B-12 MS	Matrix Spike	Total/NA	Water	8260B	
240-139700-B-12 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

# Lab Chronicle

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

Job ID: 240-139784-1

## Client Sample ID: TRIP BLANK

Lab Sample ID: 240-139784-1

Date Collected: 11/05/20 00:00

Matrix: Water

Date Received: 11/07/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	461636	11/19/20 01:43	LEE	TAL CAN

## Client Sample ID: MW-54\_110520

Lab Sample ID: 240-139784-2

Date Collected: 11/05/20 09:55

Matrix: Water

Date Received: 11/07/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	461783	11/19/20 15:01	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	461111	11/16/20 12:01	SAM	TAL CAN

## Client Sample ID: MW-54S\_110520

Lab Sample ID: 240-139784-3

Date Collected: 11/05/20 10:56

Matrix: Water

Date Received: 11/07/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	461636	11/19/20 02:27	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	461111	11/16/20 12:26	SAM	TAL CAN

## Client Sample ID: MW-122\_110520

Lab Sample ID: 240-139784-4

Date Collected: 11/05/20 12:23

Matrix: Water

Date Received: 11/07/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	461783	11/19/20 15:22	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	461111	11/16/20 12:51	SAM	TAL CAN

## Client Sample ID: MW-57\_110520

Lab Sample ID: 240-139784-5

Date Collected: 11/05/20 14:08

Matrix: Water

Date Received: 11/07/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	461636	11/19/20 03:11	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	461111	11/16/20 13:16	SAM	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: 240-139784-1

## 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	07-31-21
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	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20



**Eurofins TestAmerica Canton Sample Receipt Form/Narrative** Login # : 139784  
**Canton Facility**

Client Arcadis Site Name \_\_\_\_\_ Cooler unpacked by: \_\_\_\_\_  
Cooler Received on 11-7-20 Opened on 11-9-20  
FedEx: 1<sup>st</sup> Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other \_\_\_\_\_

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

TestAmerica Cooler # TA 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-11 (CF +0.9 °C) Observed Cooler Temp. 1.0 °C Corrected Cooler Temp. 1.9 °C  
IR GUN #IR-12 (CF +0.5°C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C

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

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)?  
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# HC907861  
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 # \_\_\_\_\_ 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: \_\_\_\_\_