

## ANALYTICAL REPORT

Eurofins TestAmerica, Canton  
4101 Shuffel Street NW  
North Canton, OH 44720  
Tel: (330)497-9396

Laboratory Job ID: 240-140742-1  
Client Project/Site: Ford LTP - Off Site

For:  
ARCADIS U.S., Inc.  
28550 Cabot Drive  
Suite 500  
Novi, Michigan 48377

Attn: Kristoffer Hinskey



---

Authorized for release by:  
12/4/2020 1:56:10 PM

Michael DelMonico, Project Manager I  
(330)497-9396  
[Michael.DelMonico@Eurofinset.com](mailto:Michael.DelMonico@Eurofinset.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

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



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Definitions/Glossary . . . . .	3
Case Narrative . . . . .	4
Method Summary . . . . .	5
Sample Summary . . . . .	6
Detection Summary . . . . .	7
Client Sample Results . . . . .	8
Surrogate Summary . . . . .	10
QC Sample Results . . . . .	11
QC Association Summary . . . . .	15
Lab Chronicle . . . . .	16
Certification Summary . . . . .	17
Chain of Custody . . . . .	18

# Definitions/Glossary

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

Job ID: 240-140742-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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 - Off Site

Job ID: 240-140742-1

**Job ID: 240-140742-1**

**Laboratory: Eurofins TestAmerica, Canton**

**Narrative**

## CASE NARRATIVE

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

**Project: Ford LTP - Off Site**

**Report Number: 240-140742-1**

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 11/20/2020 9:20 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.2° C and 3.4° C.

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

Samples TRIP BLANK (240-140742-1) and MW-132S\_111820 (240-140742-2) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 11/29/2020 and 12/02/2020.

The continuing calibration verification (CCV) for analytical batch 463613 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: TRIP BLANK (240-140742-1).

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

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

Sample MW-132S\_111820 (240-140742-2) was analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 11/27/2020.

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 - Off Site

Job ID: 240-140742-1

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 - Off Site

Job ID: 240-140742-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-140742-1	TRIP BLANK	Water	11/18/20 00:00	11/21/20 09:20	
240-140742-2	MW-132S_111820	Water	11/18/20 10:05	11/21/20 09:20	

- 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 - Off Site

Job ID: 240-140742-1

---

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-140742-1**

No Detections.

---

**Client Sample ID: MW-132S\_111820**

**Lab Sample ID: 240-140742-2**

No Detections.

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

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

# Client Sample Results

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

Job ID: 240-140742-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-140742-1**

Date Collected: 11/18/20 00:00

Matrix: Water

Date Received: 11/21/20 09:20

**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			12/02/20 11:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			12/02/20 11:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			12/02/20 11:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			12/02/20 11:41	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			12/02/20 11:41	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			12/02/20 11:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 130		12/02/20 11:41	1
4-Bromofluorobenzene (Surr)	77		47 - 134		12/02/20 11:41	1
Toluene-d8 (Surr)	99		69 - 122		12/02/20 11:41	1
Dibromofluoromethane (Surr)	91		78 - 129		12/02/20 11:41	1



# Client Sample Results

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

Job ID: 240-140742-1

**Client Sample ID: MW-132S\_111820**

**Lab Sample ID: 240-140742-2**

Date Collected: 11/18/20 10:05

Matrix: Water

Date Received: 11/21/20 09:20

**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			11/27/20 16:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 133					11/27/20 16:12	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			11/29/20 17:19	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/29/20 17:19	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/29/20 17:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/29/20 17:19	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/29/20 17:19	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/29/20 17:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		75 - 130					11/29/20 17:19	1
4-Bromofluorobenzene (Surr)	101		47 - 134					11/29/20 17:19	1
Toluene-d8 (Surr)	98		69 - 122					11/29/20 17:19	1
Dibromofluoromethane (Surr)	95		78 - 129					11/29/20 17:19	1

# Surrogate Summary

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

Job ID: 240-140742-1

## 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)
240-140679-E-13 MSD	Matrix Spike Duplicate	83	102	109	89
240-140679-I-13 MS	Matrix Spike	82	100	106	83
240-140742-1	TRIP BLANK	95	77	99	91
240-140742-2	MW-132S_111820	106	101	98	95
240-140742-2 MS	MW-132S-MS_111820	96	106	104	87
240-140742-2 MSD	MW-132S-MSD_111820	94	104	102	83
LCS 240-463144/5	Lab Control Sample	101	108	103	84
LCS 240-463613/4	Lab Control Sample	81	100	106	84
MB 240-463144/8	Method Blank	112	103	99	95
MB 240-463613/7	Method Blank	91	80	96	89

**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)
240-140742-2	MW-132S_111820	97
240-140742-2 MS	MW-132S-MS_111820	97
240-140742-2 MSD	MW-132S-MSD_111820	99
LCS 240-462974/4	Lab Control Sample	96
MB 240-462974/5	Method Blank	94

**Surrogate Legend**

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

# QC Sample Results

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

Job ID: 240-140742-1

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

**Lab Sample ID: MB 240-463144/8**  
**Matrix: Water**  
**Analysis Batch: 463144**

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/29/20 11:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/29/20 11:08	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/29/20 11:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/29/20 11:08	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/29/20 11:08	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/29/20 11:08	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	112		75 - 130		11/29/20 11:08	1
4-Bromofluorobenzene (Surr)	103		47 - 134		11/29/20 11:08	1
Toluene-d8 (Surr)	99		69 - 122		11/29/20 11:08	1
Dibromofluoromethane (Surr)	95		78 - 129		11/29/20 11:08	1

**Lab Sample ID: LCS 240-463144/5**  
**Matrix: Water**  
**Analysis Batch: 463144**

**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	20.0	19.2		ug/L		96	73 - 129
cis-1,2-Dichloroethene	20.0	19.0		ug/L		95	75 - 124
Tetrachloroethene	20.0	17.1		ug/L		86	70 - 125
trans-1,2-Dichloroethene	20.0	19.0		ug/L		95	74 - 130
Trichloroethene	20.0	16.1		ug/L		80	71 - 121
Vinyl chloride	20.0	18.2		ug/L		91	61 - 134

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	101		75 - 130
4-Bromofluorobenzene (Surr)	108		47 - 134
Toluene-d8 (Surr)	103		69 - 122
Dibromofluoromethane (Surr)	84		78 - 129

**Lab Sample ID: 240-140742-2 MS**  
**Matrix: Water**  
**Analysis Batch: 463144**

**Client Sample ID: MW-132S-MS\_111820**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
1,1-Dichloroethene	1.0	U	20.0	21.4		ug/L		107	64 - 132
cis-1,2-Dichloroethene	1.0	U	20.0	20.4		ug/L		102	68 - 121
Tetrachloroethene	1.0	U	20.0	19.4		ug/L		97	52 - 129
trans-1,2-Dichloroethene	1.0	U	20.0	20.5		ug/L		103	69 - 126
Trichloroethene	1.0	U	20.0	18.0		ug/L		90	56 - 124
Vinyl chloride	1.0	U	20.0	15.0		ug/L		75	49 - 136

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	96		75 - 130
4-Bromofluorobenzene (Surr)	106		47 - 134
Toluene-d8 (Surr)	104		69 - 122

# QC Sample Results

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

Job ID: 240-140742-1

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

**Lab Sample ID: 240-140742-2 MS**  
**Matrix: Water**  
**Analysis Batch: 463144**

**Client Sample ID: MW-132S-MS\_111820**  
**Prep Type: Total/NA**

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	87		78 - 129

**Lab Sample ID: 240-140742-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 463144**

**Client Sample ID: MW-132S-MSD\_111820**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
1,1-Dichloroethene	1.0	U	20.0	22.1		ug/L		110	64 - 132	3	35
cis-1,2-Dichloroethene	1.0	U	20.0	21.0		ug/L		105	68 - 121	3	35
Tetrachloroethene	1.0	U	20.0	20.0		ug/L		100	52 - 129	3	35
trans-1,2-Dichloroethene	1.0	U	20.0	20.9		ug/L		105	69 - 126	2	35
Trichloroethene	1.0	U	20.0	18.5		ug/L		92	56 - 124	2	35
Vinyl chloride	1.0	U	20.0	15.6		ug/L		78	49 - 136	4	35

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	94		75 - 130
4-Bromofluorobenzene (Surr)	104		47 - 134
Toluene-d8 (Surr)	102		69 - 122
Dibromofluoromethane (Surr)	83		78 - 129

**Lab Sample ID: MB 240-463613/7**  
**Matrix: Water**  
**Analysis Batch: 463613**

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			12/02/20 10:57	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			12/02/20 10:57	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			12/02/20 10:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			12/02/20 10:57	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			12/02/20 10:57	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			12/02/20 10:57	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	91		75 - 130		12/02/20 10:57	1
4-Bromofluorobenzene (Surr)	80		47 - 134		12/02/20 10:57	1
Toluene-d8 (Surr)	96		69 - 122		12/02/20 10:57	1
Dibromofluoromethane (Surr)	89		78 - 129		12/02/20 10:57	1

**Lab Sample ID: LCS 240-463613/4**  
**Matrix: Water**  
**Analysis Batch: 463613**

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec.
		Result	Qualifier				Limits
1,1-Dichloroethene	10.0	7.63		ug/L		76	73 - 129
cis-1,2-Dichloroethene	10.0	10.5		ug/L		105	75 - 124
Tetrachloroethene	10.0	11.1		ug/L		111	70 - 125
trans-1,2-Dichloroethene	10.0	10.7		ug/L		107	74 - 130
Trichloroethene	10.0	8.80		ug/L		88	71 - 121

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-140742-1

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

Lab Sample ID: LCS 240-463613/4

Matrix: Water

Analysis Batch: 463613

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	7.57		ug/L		76	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	81		75 - 130
4-Bromofluorobenzene (Surr)	100		47 - 134
Toluene-d8 (Surr)	106		69 - 122
Dibromofluoromethane (Surr)	84		78 - 129

Lab Sample ID: 240-140679-E-13 MSD

Matrix: Water

Analysis Batch: 463613

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	1.0	U F1	10.0	7.62		ug/L		76	64 - 132	21	35
cis-1,2-Dichloroethene	1.0	U	10.0	10.1		ug/L		101	68 - 121	5	35
Tetrachloroethene	1.0	U	10.0	10.8		ug/L		108	52 - 129	10	35
trans-1,2-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	69 - 126	9	35
Trichloroethene	1.0	U	10.0	8.12		ug/L		81	56 - 124	7	35
Vinyl chloride	1.0	U	10.0	7.85		ug/L		78	49 - 136	9	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		75 - 130
4-Bromofluorobenzene (Surr)	102		47 - 134
Toluene-d8 (Surr)	109		69 - 122
Dibromofluoromethane (Surr)	89		78 - 129

Lab Sample ID: 240-140679-I-13 MS

Matrix: Water

Analysis Batch: 463613

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	1.0	U F1	10.0	6.17	F1	ug/L		62	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	9.65		ug/L		96	68 - 121
Tetrachloroethene	1.0	U	10.0	9.83		ug/L		98	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	9.57		ug/L		96	69 - 126
Trichloroethene	1.0	U	10.0	7.61		ug/L		76	56 - 124
Vinyl chloride	1.0	U	10.0	7.17		ug/L		72	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	82		75 - 130
4-Bromofluorobenzene (Surr)	100		47 - 134
Toluene-d8 (Surr)	106		69 - 122
Dibromofluoromethane (Surr)	83		78 - 129

# QC Sample Results

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

Job ID: 240-140742-1

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

**Lab Sample ID: MB 240-462974/5**  
**Matrix: Water**  
**Analysis Batch: 462974**

**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			11/27/20 13:15	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 133					11/27/20 13:15	1

**Lab Sample ID: LCS 240-462974/4**  
**Matrix: Water**  
**Analysis Batch: 462974**

**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	10.5		ug/L		105	80 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	96		70 - 133				

**Lab Sample ID: 240-140742-2 MS**  
**Matrix: Water**  
**Analysis Batch: 462974**

**Client Sample ID: MW-132S-MS\_111820**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	10.2		ug/L		102	46 - 170
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	97		70 - 133						

**Lab Sample ID: 240-140742-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 462974**

**Client Sample ID: MW-132S-MSD\_111820**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,4-Dioxane	2.0	U	10.0	10.8		ug/L		108	46 - 170	6	26
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	99		70 - 133								

# QC Association Summary

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

Job ID: 240-140742-1

## GC/MS VOA

### Analysis Batch: 462974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-140742-2	MW-132S_111820	Total/NA	Water	8260B SIM	
MB 240-462974/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-462974/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-140742-2 MS	MW-132S-MS_111820	Total/NA	Water	8260B SIM	
240-140742-2 MSD	MW-132S-MSD_111820	Total/NA	Water	8260B SIM	

### Analysis Batch: 463144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-140742-2	MW-132S_111820	Total/NA	Water	8260B	
MB 240-463144/8	Method Blank	Total/NA	Water	8260B	
LCS 240-463144/5	Lab Control Sample	Total/NA	Water	8260B	
240-140742-2 MS	MW-132S-MS_111820	Total/NA	Water	8260B	
240-140742-2 MSD	MW-132S-MSD_111820	Total/NA	Water	8260B	

### Analysis Batch: 463613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-140742-1	TRIP BLANK	Total/NA	Water	8260B	
MB 240-463613/7	Method Blank	Total/NA	Water	8260B	
LCS 240-463613/4	Lab Control Sample	Total/NA	Water	8260B	
240-140679-E-13 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
240-140679-I-13 MS	Matrix Spike	Total/NA	Water	8260B	

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

# Lab Chronicle

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

Job ID: 240-140742-1

## Client Sample ID: TRIP BLANK

Lab Sample ID: 240-140742-1

Date Collected: 11/18/20 00:00

Matrix: Water

Date Received: 11/21/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	463613	12/02/20 11:41	LEE	TAL CAN

## Client Sample ID: MW-132S\_111820

Lab Sample ID: 240-140742-2

Date Collected: 11/18/20 10:05

Matrix: Water

Date Received: 11/21/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	463144	11/29/20 17:19	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	462974	11/27/20 16:12	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 - Off Site

Job ID: 240-140742-1

### 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



# Chain of Custody Record

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

**MICHIGAN**  
190

<b>Client Contact</b> Company Name: Arcadis Address: 28550 Cabot Drive, Suite 500 City/State/Zip: Novi, MI, 48377 Phone: 248-994-2240 Project Name: Ford LTP D16-Site Project Number: 30050315.402.04 PO # 30050315.402.04		<b>Regulatory program:</b> <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other		<b>Site Contact: Julia McClafferty</b> Telephone: 734-644-5131		<b>Lab Contact: Mike DeMonico</b> Telephone: 330-497-9396		TestAmerica Laboratories, Inc. COC No: _____ of _____ COCs			
<b>Client Project Manager: Kris Hinskey</b> Telephone: 248-994-2240 Email: kris@hinskey.com		<b>Analysis Turnaround Time</b> TAT if different from below: 10 day <input type="checkbox"/> 3 weeks <input type="checkbox"/> 2 weeks <input checked="" type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day <input type="checkbox"/>		<b>Containers &amp; Preservatives</b> H2SO4 <input type="checkbox"/> HNO3 <input type="checkbox"/> HCl <input type="checkbox"/> NaOH <input type="checkbox"/> ZnAc <input type="checkbox"/> NH4OH <input type="checkbox"/> Unpres <input type="checkbox"/> Other: _____		<b>Filtered Sample (Y/N)</b> Composite C/Grab G <input type="checkbox"/>		<b>Analyses</b> 1,1-DCE 8260B <input type="checkbox"/> cis-1,2-DCE 8260B <input type="checkbox"/> Trans-1,2-DCE 8260B <input type="checkbox"/> PCE 8260B <input type="checkbox"/> TCE 8260B <input type="checkbox"/> Vinyl Chloride 8260B <input type="checkbox"/> 1,4-Dioxane 8260B SIM <input type="checkbox"/>		<b>Sample Specific Notes / Special Instructions:</b> TRIP BLANK 3 VOLS FOR B300B 3 VOLS FOR B200B 1 MIN MS MSP 1 UN MS MSP	
<b>Sampler Name:</b> Allyson Hartz		<b>Matrix</b> Air <input type="checkbox"/> Aqueous <input type="checkbox"/> Sediment <input type="checkbox"/> Solid <input type="checkbox"/> Other: _____		<b>Sample Date</b> <b>Sample Time</b>		<b>Sample Identification</b>		Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Irritant <input type="checkbox"/> Unknown <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Sample Date: 11/18/20    Sample Time: 10:05		Matrix: Air		Sample Date: 11/18/20    Sample Time: 10:05		Sample Identification: MW-1325-111620		Sample Specific Notes: 1 Trip Blank			
Sample Date: 11/18/20    Sample Time: 10:05		Matrix: Air		Sample Date: 11/18/20    Sample Time: 10:05		Sample Identification: MW-1325-MS-111620		Sample Specific Notes: 3 VOLS FOR B300B, 3 VOLS FOR B200B			
Sample Date: 11/18/20    Sample Time: 10:05		Matrix: Air		Sample Date: 11/18/20    Sample Time: 10:05		Sample Identification: MW-1325-MSD-111620		Sample Specific Notes: 1 MIN MS MSP, 1 UN MS MSP			
 240-140742 Chain of Custody											
<b>Special Instructions/QC Requirements &amp; Comments:</b> Submit all results through Cadena at jtomalia@cadenaco.com, Cadena #E203631 Level IV Reporting requested.											
Relinquished by: ASHURTH		Company: ARCADIS		Date/Time: 11/18/20 10:15		Received by: NCV, CULD STORAGE		Company: ARCADIS			
Relinquished by: [Signature]		Company: ARCADIS		Date/Time: 11/19/20 1055		Received by: [Signature]		Company: ETA			
Relinquished by: [Signature]		Company: ETA		Date/Time: 11/19/20 700		Received by: [Signature]		Company: ETA			
Relinquished by: [Signature]		Company: ETA		Date/Time: 11-20-20 920		Received by: [Signature]		Company: ETA			

©2008 TestAmerica Laboratories, Inc. All rights reserved. TestAmerica & Logo™ are trademarks of TestAmerica Laboratories, Inc.



**Eurofins TestAmerica Canton Sample Receipt Form/Narrative**  
**Canton Facility**


Login # : 146742

Client Arcodis Site Name \_\_\_\_\_  
 Cooler Received on 11-20-20 Opened on 11-21-20  
 FedEx: 1<sup>st</sup>  Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other \_\_\_\_\_

Cooler unpacked by:  
Matthew Snyder

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

TestAmerica Cooler # TD 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. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °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 1  Yes  No  
 -Were the seals on the outside of the cooler(s) signed & dated?  Yes  No  NA  
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?  Yes  No  NA  
 -Were tamper/custody seals intact and uncompromised?  Yes  No  NA
3. Shippers' packing slip attached to the cooler(s)?  Yes  No
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# HC907861
14. Were VOAs on the COC?  Yes  No  NA
15. Were air bubbles >6 mm in any VOA vials?  Yes  No  NA  Larger than this.
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # \_\_\_\_\_  Yes  No
17. Was a LL Hg or Me Hg trip blank present? \_\_\_\_\_  Yes  No

**Tests that are not checked for pH by Receiving:**

VOAs  
 Oil and Grease  
 TOC

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

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

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

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



