

## ANALYTICAL REPORT

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

Laboratory Job ID: 240-145136-1  
Client Project/Site: Ford LTP - On Site

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

Attn: Kristoffer Hinskey



---

Authorized for release by:  
3/12/2021 4:44:41 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 . . . . .	13
QC Sample Results . . . . .	14
QC Association Summary . . . . .	18
Lab Chronicle . . . . .	19
Certification Summary . . . . .	20
Chain of Custody . . . . .	21



# Definitions/Glossary

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

Job ID: 240-145136-1

## Qualifiers

### GC/MS VOA

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

## Glossary

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

# Case Narrative

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

Job ID: 240-145136-1

---

## Job ID: 240-145136-1

---

Laboratory: Eurofins TestAmerica, Canton

### Narrative

**Job Narrative**  
**240-145136-1**

### Comments

No additional comments.

### Receipt

The samples were received on 2/27/2021 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.9° C.

### GC/MS VOA

Method 8260B: The following volatiles samples were diluted due to foaming at the time of purging during the original sample analysis: MW-58\_022521 (240-145136-2), MW-58-MS\_022521 (240-145136-2[MS]), MW-58-MSD\_022521 (240-145136-2[MSD]) and MW-201S\_022521 (240-145136-5). Elevated reporting limits (RLs) are provided.

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

### VOA Prep

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

# Method Summary

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

Job ID: 240-145136-1

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

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

# Sample Summary

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

Job ID: 240-145136-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-145136-1	TRIP BLANK	Water	02/25/21 00:00	02/27/21 08:00	
240-145136-2	MW-58_022521	Water	02/25/21 11:00	02/27/21 08:00	
240-145136-3	MW-221S_022521	Water	02/25/21 13:00	02/27/21 08:00	
240-145136-4	MW-201_022521	Water	02/25/21 14:35	02/27/21 08:00	
240-145136-5	MW-201S_022521	Water	02/25/21 16:00	02/27/21 08:00	

- 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: 240-145136-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-145136-1**

No Detections.

**Client Sample ID: MW-58\_022521**

**Lab Sample ID: 240-145136-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	4.1		2.0	0.86	ug/L	1		8260B SIM	Total/NA

**Client Sample ID: MW-221S\_022521**

**Lab Sample ID: 240-145136-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.72	J	1.0	0.16	ug/L	1		8260B	Total/NA

**Client Sample ID: MW-201\_022521**

**Lab Sample ID: 240-145136-4**

No Detections.

**Client Sample ID: MW-201S\_022521**

**Lab Sample ID: 240-145136-5**

No Detections.

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: 240-145136-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-145136-1**

**Date Collected: 02/25/21 00:00**

**Matrix: Water**

**Date Received: 02/27/21 08:00**

**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			03/04/21 19:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/04/21 19:16	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/04/21 19:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/04/21 19:16	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/04/21 19:16	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/04/21 19:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		75 - 130		03/04/21 19:16	1
4-Bromofluorobenzene (Surr)	91		47 - 134		03/04/21 19:16	1
Toluene-d8 (Surr)	96		69 - 122		03/04/21 19:16	1
Dibromofluoromethane (Surr)	86		78 - 129		03/04/21 19:16	1



# Client Sample Results

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

Job ID: 240-145136-1

**Client Sample ID: MW-58\_022521**

**Lab Sample ID: 240-145136-2**

Date Collected: 02/25/21 11:00

Matrix: Water

Date Received: 02/27/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	4.1		2.0	0.86	ug/L			03/04/21 13:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 133		03/04/21 13:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	2.0	U	2.0	0.38	ug/L			03/04/21 19:41	2
cis-1,2-Dichloroethene	2.0	U	2.0	0.32	ug/L			03/04/21 19:41	2
Tetrachloroethene	2.0	U	2.0	0.30	ug/L			03/04/21 19:41	2
trans-1,2-Dichloroethene	2.0	U	2.0	0.38	ug/L			03/04/21 19:41	2
Trichloroethene	2.0	U	2.0	0.20	ug/L			03/04/21 19:41	2
Vinyl chloride	2.0	U	2.0	0.40	ug/L			03/04/21 19:41	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		75 - 130		03/04/21 19:41	2
4-Bromofluorobenzene (Surr)	91		47 - 134		03/04/21 19:41	2
Toluene-d8 (Surr)	96		69 - 122		03/04/21 19:41	2
Dibromofluoromethane (Surr)	85		78 - 129		03/04/21 19:41	2

# Client Sample Results

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

Job ID: 240-145136-1

**Client Sample ID: MW-221S\_022521**

**Lab Sample ID: 240-145136-3**

**Date Collected: 02/25/21 13:00**

**Matrix: Water**

**Date Received: 02/27/21 08:00**

**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			03/03/21 21:10	1
<b>Surrogate</b>									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 133					03/03/21 21:10	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			03/04/21 20:56	1
<b>cis-1,2-Dichloroethene</b>	<b>0.72</b>	<b>J</b>	1.0	0.16	ug/L			03/04/21 20:56	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/04/21 20:56	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/04/21 20:56	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/04/21 20:56	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/04/21 20:56	1
<b>Surrogate</b>									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		75 - 130					03/04/21 20:56	1
4-Bromofluorobenzene (Surr)	95		47 - 134					03/04/21 20:56	1
Toluene-d8 (Surr)	95		69 - 122					03/04/21 20:56	1
Dibromofluoromethane (Surr)	85		78 - 129					03/04/21 20:56	1

# Client Sample Results

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

Job ID: 240-145136-1

**Client Sample ID: MW-201\_022521**

**Lab Sample ID: 240-145136-4**

Date Collected: 02/25/21 14:35

Matrix: Water

Date Received: 02/27/21 08:00

**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			03/03/21 21:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 133					03/03/21 21:35	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			03/04/21 21:21	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/04/21 21:21	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/04/21 21:21	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/04/21 21:21	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/04/21 21:21	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/04/21 21:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		75 - 130					03/04/21 21:21	1
4-Bromofluorobenzene (Surr)	96		47 - 134					03/04/21 21:21	1
Toluene-d8 (Surr)	96		69 - 122					03/04/21 21:21	1
Dibromofluoromethane (Surr)	88		78 - 129					03/04/21 21:21	1

# Client Sample Results

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

Job ID: 240-145136-1

**Client Sample ID: MW-201S\_022521**

**Lab Sample ID: 240-145136-5**

**Date Collected: 02/25/21 16:00**

**Matrix: Water**

**Date Received: 02/27/21 08:00**

**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			03/03/21 22:00	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	83		70 - 133					03/03/21 22:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	5.0	U	5.0	0.95	ug/L			03/04/21 21:46	5
cis-1,2-Dichloroethene	5.0	U	5.0	0.80	ug/L			03/04/21 21:46	5
Tetrachloroethene	5.0	U	5.0	0.75	ug/L			03/04/21 21:46	5
trans-1,2-Dichloroethene	5.0	U	5.0	0.95	ug/L			03/04/21 21:46	5
Trichloroethene	5.0	U	5.0	0.50	ug/L			03/04/21 21:46	5
Vinyl chloride	5.0	U	5.0	1.0	ug/L			03/04/21 21:46	5
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	84		75 - 130					03/04/21 21:46	5
4-Bromofluorobenzene (Surr)	93		47 - 134					03/04/21 21:46	5
Toluene-d8 (Surr)	97		69 - 122					03/04/21 21:46	5
Dibromofluoromethane (Surr)	85		78 - 129					03/04/21 21:46	5

# Surrogate Summary

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

Job ID: 240-145136-1

## 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)
240-145136-1	TRIP BLANK	87	91	96	86
240-145136-2	MW-58_022521	84	91	96	85
240-145136-2 MS	MW-58-MS_022521	85	96	94	90
240-145136-2 MSD	MW-58-MSD_022521	83	95	97	85
240-145136-3	MW-221S_022521	87	95	95	85
240-145136-4	MW-201_022521	87	96	96	88
240-145136-5	MW-201S_022521	84	93	97	85
LCS 240-475464/4	Lab Control Sample	85	94	94	86
MB 240-475464/7	Method Blank	85	96	97	87

### 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)
240-145090-A-1 MS	Matrix Spike	92
240-145090-A-1 MSD	Matrix Spike Duplicate	88
240-145136-2	MW-58_022521	87
240-145136-2 MS	MW-58-MS_022521	85
240-145136-2 MSD	MW-58-MSD_022521	86
240-145136-3	MW-221S_022521	87
240-145136-4	MW-201_022521	86
240-145136-5	MW-201S_022521	83
LCS 240-475269/4	Lab Control Sample	95
LCS 240-475458/4	Lab Control Sample	84
MB 240-475269/5	Method Blank	92
MB 240-475458/5	Method Blank	87

### Surrogate Legend

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

# QC Sample Results

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

Job ID: 240-145136-1

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

**Lab Sample ID: MB 240-475464/7**  
**Matrix: Water**  
**Analysis Batch: 475464**

**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			03/04/21 15:30	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/04/21 15:30	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/04/21 15:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/04/21 15:30	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/04/21 15:30	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/04/21 15:30	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	85		75 - 130		03/04/21 15:30	1
4-Bromofluorobenzene (Surr)	96		47 - 134		03/04/21 15:30	1
Toluene-d8 (Surr)	97		69 - 122		03/04/21 15:30	1
Dibromofluoromethane (Surr)	87		78 - 129		03/04/21 15:30	1

**Lab Sample ID: LCS 240-475464/4**  
**Matrix: Water**  
**Analysis Batch: 475464**

**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	8.53		ug/L		85	73 - 129
cis-1,2-Dichloroethene	10.0	8.92		ug/L		89	75 - 124
Tetrachloroethene	10.0	9.83		ug/L		98	70 - 125
trans-1,2-Dichloroethene	10.0	8.95		ug/L		89	74 - 130
Trichloroethene	10.0	8.72		ug/L		87	71 - 121
Vinyl chloride	10.0	10.1		ug/L		101	61 - 134

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	85		75 - 130
4-Bromofluorobenzene (Surr)	94		47 - 134
Toluene-d8 (Surr)	94		69 - 122
Dibromofluoromethane (Surr)	86		78 - 129

**Lab Sample ID: 240-145136-2 MS**  
**Matrix: Water**  
**Analysis Batch: 475464**

**Client Sample ID: MW-58-MS\_022521**  
**Prep Type: Total/NA**

Analyte	Sample Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
1,1-Dichloroethene	2.0	U	20.0	17.1		ug/L		85	64 - 132
cis-1,2-Dichloroethene	2.0	U	20.0	19.2		ug/L		96	68 - 121
Tetrachloroethene	2.0	U	20.0	19.2		ug/L		96	52 - 129
trans-1,2-Dichloroethene	2.0	U	20.0	18.2		ug/L		91	69 - 126
Trichloroethene	2.0	U	20.0	17.8		ug/L		89	56 - 124
Vinyl chloride	2.0	U	20.0	19.8		ug/L		99	49 - 136

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	85		75 - 130
4-Bromofluorobenzene (Surr)	96		47 - 134
Toluene-d8 (Surr)	94		69 - 122

# QC Sample Results

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

Job ID: 240-145136-1

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

**Lab Sample ID: 240-145136-2 MS**  
**Matrix: Water**  
**Analysis Batch: 475464**

**Client Sample ID: MW-58-MS\_022521**  
**Prep Type: Total/NA**

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	90		78 - 129

**Lab Sample ID: 240-145136-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 475464**

**Client Sample ID: MW-58-MSD\_022521**  
**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	2.0	U	20.0	17.1		ug/L		85	64 - 132	0	35
cis-1,2-Dichloroethene	2.0	U	20.0	17.8		ug/L		89	68 - 121	8	35
Tetrachloroethene	2.0	U	20.0	18.4		ug/L		92	52 - 129	4	35
trans-1,2-Dichloroethene	2.0	U	20.0	16.6		ug/L		83	69 - 126	9	35
Trichloroethene	2.0	U	20.0	17.3		ug/L		87	56 - 124	3	35
Vinyl chloride	2.0	U	20.0	20.0		ug/L		100	49 - 136	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		75 - 130
4-Bromofluorobenzene (Surr)	95		47 - 134
Toluene-d8 (Surr)	97		69 - 122
Dibromofluoromethane (Surr)	85		78 - 129

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

**Lab Sample ID: MB 240-475269/5**  
**Matrix: Water**  
**Analysis Batch: 475269**

**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			03/03/21 12:02	1

  

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 133		03/03/21 12:02	1

**Lab Sample ID: LCS 240-475269/4**  
**Matrix: Water**  
**Analysis Batch: 475269**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	9.16		ug/L		92	80 - 135

  

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 133

**Lab Sample ID: 240-145090-A-1 MS**  
**Matrix: Water**  
**Analysis Batch: 475269**

**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	170		20.0	189	4	ug/L		94	46 - 170

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-145136-1

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

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

**Lab Sample ID: 240-145090-A-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 475269**

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

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
1,4-Dioxane	170		20.0	191	4	ug/L		104	46 - 170	1	26

	<i>MSD</i>	<i>MSD</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	88		70 - 133

**Lab Sample ID: MB 240-475458/5**  
**Matrix: Water**  
**Analysis Batch: 475458**

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

<i>Analyte</i>	<i>MB Result</i>	<i>MB Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/04/21 11:50	1

	<i>MB</i>	<i>MB</i>		<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			
1,2-Dichloroethane-d4 (Surr)	87		70 - 133		03/04/21 11:50	1

**Lab Sample ID: LCS 240-475458/4**  
**Matrix: Water**  
**Analysis Batch: 475458**

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

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>
1,4-Dioxane	10.0	8.91		ug/L		89	80 - 135

	<i>LCS</i>	<i>LCS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	84		70 - 133

**Lab Sample ID: 240-145136-2 MS**  
**Matrix: Water**  
**Analysis Batch: 475458**

**Client Sample ID: MW-58-MS\_022521**  
**Prep Type: Total/NA**

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>
1,4-Dioxane	4.1		10.0	13.2		ug/L		91	46 - 170

	<i>MS</i>	<i>MS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	85		70 - 133

**Lab Sample ID: 240-145136-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 475458**

**Client Sample ID: MW-58-MSD\_022521**  
**Prep Type: Total/NA**

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
1,4-Dioxane	4.1		10.0	14.1		ug/L		100	46 - 170	6	26



# QC Sample Results

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

Job ID: 240-145136-1

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

Lab Sample ID: 240-145136-2 MSD  
Matrix: Water  
Analysis Batch: 475458

Client Sample ID: MW-58-MSD\_022521  
Prep Type: Total/NA

<i>Surrogate</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
1,2-Dichloroethane-d4 (Surr)	86		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: 240-145136-1

## GC/MS VOA

### Analysis Batch: 475269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145136-3	MW-221S_022521	Total/NA	Water	8260B SIM	
240-145136-4	MW-201_022521	Total/NA	Water	8260B SIM	
240-145136-5	MW-201S_022521	Total/NA	Water	8260B SIM	
MB 240-475269/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-475269/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-145090-A-1 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-145090-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

### Analysis Batch: 475458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145136-2	MW-58_022521	Total/NA	Water	8260B SIM	
MB 240-475458/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-475458/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-145136-2 MS	MW-58-MS_022521	Total/NA	Water	8260B SIM	
240-145136-2 MSD	MW-58-MSD_022521	Total/NA	Water	8260B SIM	

### Analysis Batch: 475464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145136-1	TRIP BLANK	Total/NA	Water	8260B	
240-145136-2	MW-58_022521	Total/NA	Water	8260B	
240-145136-3	MW-221S_022521	Total/NA	Water	8260B	
240-145136-4	MW-201_022521	Total/NA	Water	8260B	
240-145136-5	MW-201S_022521	Total/NA	Water	8260B	
MB 240-475464/7	Method Blank	Total/NA	Water	8260B	
LCS 240-475464/4	Lab Control Sample	Total/NA	Water	8260B	
240-145136-2 MS	MW-58-MS_022521	Total/NA	Water	8260B	
240-145136-2 MSD	MW-58-MSD_022521	Total/NA	Water	8260B	

# Lab Chronicle

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

Job ID: 240-145136-1

## Client Sample ID: TRIP BLANK

Lab Sample ID: 240-145136-1

Date Collected: 02/25/21 00:00

Matrix: Water

Date Received: 02/27/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	475464	03/04/21 19:16	LRW	TAL CAN

## Client Sample ID: MW-58\_022521

Lab Sample ID: 240-145136-2

Date Collected: 02/25/21 11:00

Matrix: Water

Date Received: 02/27/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	475464	03/04/21 19:41	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	475458	03/04/21 13:05	SAM	TAL CAN

## Client Sample ID: MW-221S\_022521

Lab Sample ID: 240-145136-3

Date Collected: 02/25/21 13:00

Matrix: Water

Date Received: 02/27/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	475464	03/04/21 20:56	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	475269	03/03/21 21:10	SAM	TAL CAN

## Client Sample ID: MW-201\_022521

Lab Sample ID: 240-145136-4

Date Collected: 02/25/21 14:35

Matrix: Water

Date Received: 02/27/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	475464	03/04/21 21:21	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	475269	03/03/21 21:35	SAM	TAL CAN

## Client Sample ID: MW-201S\_022521

Lab Sample ID: 240-145136-5

Date Collected: 02/25/21 16:00

Matrix: Water

Date Received: 02/27/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	475464	03/04/21 21:46	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	475269	03/03/21 22:00	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: 240-145136-1

## 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	12-31-21
Minnesota	NELAP	OH00048	12-31-21
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	12-21-23
Oregon	NELAP	4062	02-23-22
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	01-12-22
West Virginia DEP	State	210	12-31-21

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

Eurofins TestAmerica, Canton

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

<b>Client Contact</b> Company Name: Arcadis Address: 28550 Cabot Drive, Suite 500 City/State/Zip: Novi, MI, 48377 Phone: 248-994-2240		<b>Regulatory program:</b> <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other	
<b>Client Project Manager:</b> Kris Hinskey Telephone: 248-994-2240 Email: kristoffer.hinskey@arcadis.com		<b>Lab Contact:</b> Mike DelMonico Telephone: 330-497-9196	
<b>Site Contact:</b> Julia McClafferty Telephone: 734-644-5131		<b>TestAmerica Laboratories, Inc.</b> COC No: _____ of _____ COCs	
<b>Sampler Name:</b> Emina Witherspoon		Walk-in client Lab sampling Job/SDG No: _____	
<b>Method of Shipment/Carrier:</b> Shipping/Tracking No: _____		Sample Specific Notes / Special Instructions: 1 TRIP BLANK 3 VOAS for 8260B 3 VOAS for 8260B SIM Run MS/MSD Run MS/MSD	
<b>Analysis Turnaround Time</b> TAT if different from below: 3 weeks 2 weeks 1 week 2 days 1 day		<b>Analyses</b>	
<b>Containers &amp; Preservatives</b>		1,4-Dioxane 8260B SIM Vinyl Chloride 8260B TCE 8260B PCE 8260B Trans-1,2-DCE 8260B Cis-1,2-DCE 8260B 1,1-DCE 8260B Composite=C / Grab=G	
<b>Matrix</b>		Filtered Sample (Y/N)	
Air Aqueous Sediment Solid Other:		NG NG NG NG NG NG NG	
<b>Sample Date</b>		<b>Sample Time</b>	
TRIP BLANK MW-58-022521 MW-58-MS-022521 MW-58-MSD-022521 MW-221S-022521 MW-201-022521 MW-201S-022521		--- 1100 1100 1100 1300 1435 1600	



240-145136 Chain of Custody

Possible Hazard Identification  
 Non-Hazard  Irritant  Poison B  Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 m)  
 Return to Client  Disposal By Lab  Archive For \_\_\_\_\_

Relinquished by: <i>Emina Witherspoon</i> Date/Time: 2/25/21 1700 Company: Arcadis	Received by: <i>Novi Gold Storage</i> Date/Time: 2/25/21 1700 Company: Arcadis
Relinquished by: <i>John Witherspoon</i> Date/Time: 2/26/21 0110 Company: Arcadis	Received by: <i>JMK</i> Date/Time: 2/26/21 0110 Company: Arcadis
Relinquished by: <i>JMK</i> Date/Time: 2/27/21 0800 Company: Arcadis	Received by: <i>ETA</i> Date/Time: 2/27/21 0800 Company: Arcadis

Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203728  
 Level IV Reporting requested.

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



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

Login # : 240-145736

Client Arcadis Site Name \_\_\_\_\_ Cooler unpacked by: MJS ETA CANTON  
 Cooler Received on FEB 27 2021 Opened on MAR 01 2021  
 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 +0.1 °C) Observed Cooler Temp. 1.8 °C Corrected Cooler Temp. 1.9 °C  
 IR GUN #IR-12 (CF +0.2 °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  
 -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
15. Were air bubbles >6 mm in any VOA vials? ← Larger than this. NA Yes No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # NA 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: MJS ETA CANTON

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: \_\_\_\_\_