

## ANALYTICAL REPORT

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

Laboratory Job ID: 240-144443-1  
Client Project/Site: Ford LTP - Off Site

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

Attn: Kristoffer Hinskey



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Authorized for release by:  
2/24/2021 11:27:50 AM

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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 - Off Site

Job ID: 240-144443-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control 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 - Off Site

Job ID: 240-144443-1

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## Job ID: 240-144443-1

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### Laboratory: Eurofins TestAmerica, Canton

#### Narrative

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#### Job Narrative 240-144443-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 2/12/2021 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 0.3° C.

#### GC/MS VOA

Method 8260B: The continuing calibration verification (CCV) associated with batch 473553 recovered above the upper control limit for 1,1-Dichloroethene. The samples associated with this CCV were non-detect for the affected analyte; therefore, the data have been reported. The associated samples are impacted: TRIP BLANK (240-144443-1), MW-75SR\_021021 (240-144443-2), MW-75D\_021021 (240-144443-3), DUP-11 (240-144443-4), MW-72\_021021 (240-144443-5) and MW-72S\_021021 (240-144443-6).

Method 8260B: The laboratory control sample (LCS) for 473553 recovered outside control limits for the following analyte: 1,1-Dichloroethene. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported: TRIP BLANK (240-144443-1), MW-75SR\_021021 (240-144443-2), MW-75D\_021021 (240-144443-3), DUP-11 (240-144443-4), MW-72\_021021 (240-144443-5), MW-72S\_021021 (240-144443-6) and (LCS 240-473553/4).

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 - Off Site

Job ID: 240-144443-1

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

**Protocol References:**

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

**Laboratory References:**

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

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- 12
- 13
- 14

# Sample Summary

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

Job ID: 240-144443-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-144443-1	TRIP BLANK	Water	02/10/21 00:00	02/12/21 08:00	
240-144443-2	MW-75SR_021021	Water	02/10/21 10:00	02/12/21 08:00	
240-144443-3	MW-75D_021021	Water	02/10/21 11:30	02/12/21 08:00	
240-144443-4	DUP-11	Water	02/10/21 00:00	02/12/21 08:00	
240-144443-5	MW-72_021021	Water	02/10/21 13:10	02/12/21 08:00	
240-144443-6	MW-72S_021021	Water	02/10/21 14:45	02/12/21 08:00	

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- 13
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# Detection Summary

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

Job ID: 240-144443-1

## Client Sample ID: TRIP BLANK

Lab Sample ID: 240-144443-1

No Detections.

## Client Sample ID: MW-75SR\_021021

Lab Sample ID: 240-144443-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.36	J	1.0	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-75D\_021021

Lab Sample ID: 240-144443-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.5		2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	1.1		1.0	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: DUP-11

Lab Sample ID: 240-144443-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.5		2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	1.1		1.0	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-72\_021021

Lab Sample ID: 240-144443-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	1.2		1.0	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-72S\_021021

Lab Sample ID: 240-144443-6

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 - Off Site

Job ID: 240-144443-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-144443-1**

**Date Collected: 02/10/21 00:00**

**Matrix: Water**

**Date Received: 02/12/21 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			02/18/21 16:14	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/18/21 16:14	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/18/21 16:14	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/18/21 16:14	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/18/21 16:14	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/18/21 16:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		75 - 130		02/18/21 16:14	1
4-Bromofluorobenzene (Surr)	80		47 - 134		02/18/21 16:14	1
Toluene-d8 (Surr)	86		69 - 122		02/18/21 16:14	1
Dibromofluoromethane (Surr)	107		78 - 129		02/18/21 16:14	1



# Client Sample Results

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

Job ID: 240-144443-1

**Client Sample ID: MW-75SR\_021021**

**Lab Sample ID: 240-144443-2**

Date Collected: 02/10/21 10:00

Matrix: Water

Date Received: 02/12/21 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			02/18/21 14:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		70 - 133		02/18/21 14:58	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			02/18/21 16:35	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/18/21 16:35	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/18/21 16:35	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/18/21 16:35	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/18/21 16:35	1
<b>Vinyl chloride</b>	<b>0.36</b>	<b>J</b>	1.0	0.20	ug/L			02/18/21 16:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	125		75 - 130		02/18/21 16:35	1
4-Bromofluorobenzene (Surr)	80		47 - 134		02/18/21 16:35	1
Toluene-d8 (Surr)	87		69 - 122		02/18/21 16:35	1
Dibromofluoromethane (Surr)	110		78 - 129		02/18/21 16:35	1

# Client Sample Results

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

Job ID: 240-144443-1

**Client Sample ID: MW-75D\_021021**

**Lab Sample ID: 240-144443-3**

Date Collected: 02/10/21 11:30

Matrix: Water

Date Received: 02/12/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.5		2.0	0.86	ug/L			02/18/21 15:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		70 - 133					02/18/21 15:23	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			02/18/21 16:57	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/18/21 16:57	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/18/21 16:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/18/21 16:57	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/18/21 16:57	1
Vinyl chloride	1.1		1.0	0.20	ug/L			02/18/21 16:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	126		75 - 130					02/18/21 16:57	1
4-Bromofluorobenzene (Surr)	81		47 - 134					02/18/21 16:57	1
Toluene-d8 (Surr)	90		69 - 122					02/18/21 16:57	1
Dibromofluoromethane (Surr)	110		78 - 129					02/18/21 16:57	1

# Client Sample Results

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

Job ID: 240-144443-1

**Client Sample ID: DUP-11**

**Lab Sample ID: 240-144443-4**

**Date Collected: 02/10/21 00:00**

**Matrix: Water**

**Date Received: 02/12/21 08:00**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.5		2.0	0.86	ug/L			02/18/21 15:49	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					02/18/21 15:49	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			02/18/21 17:19	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/18/21 17:19	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/18/21 17:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/18/21 17:19	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/18/21 17:19	1
<b>Vinyl chloride</b>	<b>1.1</b>		1.0	0.20	ug/L			02/18/21 17:19	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)	125		75 - 130					02/18/21 17:19	1
4-Bromofluorobenzene (Surr)	82		47 - 134					02/18/21 17:19	1
Toluene-d8 (Surr)	90		69 - 122					02/18/21 17:19	1
Dibromofluoromethane (Surr)	112		78 - 129					02/18/21 17:19	1

# Client Sample Results

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

Job ID: 240-144443-1

**Client Sample ID: MW-72\_021021**

**Lab Sample ID: 240-144443-5**

Date Collected: 02/10/21 13:10

Matrix: Water

Date Received: 02/12/21 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			02/18/21 16:14	1
<b>Surrogate</b>									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		70 - 133					02/18/21 16:14	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			02/18/21 17:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/18/21 17:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/18/21 17:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/18/21 17:41	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/18/21 17:41	1
<b>Vinyl chloride</b>	<b>1.2</b>		1.0	0.20	ug/L			02/18/21 17:41	1
<b>Surrogate</b>									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	127		75 - 130					02/18/21 17:41	1
4-Bromofluorobenzene (Surr)	78		47 - 134					02/18/21 17:41	1
Toluene-d8 (Surr)	90		69 - 122					02/18/21 17:41	1
Dibromofluoromethane (Surr)	113		78 - 129					02/18/21 17:41	1

# Client Sample Results

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

Job ID: 240-144443-1

**Client Sample ID: MW-72S\_021021**

**Lab Sample ID: 240-144443-6**

**Date Collected: 02/10/21 14:45**

**Matrix: Water**

**Date Received: 02/12/21 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			02/18/21 16:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		70 - 133		02/18/21 16:39	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			02/18/21 18:03	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/18/21 18:03	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/18/21 18:03	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/18/21 18:03	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/18/21 18:03	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/18/21 18:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	126		75 - 130		02/18/21 18:03	1
4-Bromofluorobenzene (Surr)	78		47 - 134		02/18/21 18:03	1
Toluene-d8 (Surr)	86		69 - 122		02/18/21 18:03	1
Dibromofluoromethane (Surr)	113		78 - 129		02/18/21 18:03	1

# Surrogate Summary

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

Job ID: 240-144443-1

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-144443-1	TRIP BLANK	121	80	86	107
240-144443-2	MW-75SR_021021	125	80	87	110
240-144443-3	MW-75D_021021	126	81	90	110
240-144443-4	DUP-11	125	82	90	112
240-144443-5	MW-72_021021	127	78	90	113
240-144443-6	MW-72S_021021	126	78	86	113
240-144460-B-2 MS	Matrix Spike	111	110	100	102
240-144460-B-2 MSD	Matrix Spike Duplicate	104	107	99	95
LCS 240-473553/4	Lab Control Sample	105	107	96	95
MB 240-473553/7	Method Blank	116	86	91	101

### Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(70-133)
240-144425-C-2 MS	Matrix Spike	82
240-144425-C-2 MSD	Matrix Spike Duplicate	81
240-144443-2	MW-75SR_021021	81
240-144443-3	MW-75D_021021	82
240-144443-4	DUP-11	83
240-144443-5	MW-72_021021	83
240-144443-6	MW-72S_021021	82
LCS 240-473604/4	Lab Control Sample	81
MB 240-473604/5	Method Blank	80

### Surrogate Legend

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

# QC Sample Results

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

Job ID: 240-144443-1

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

**Lab Sample ID: MB 240-473553/7**  
**Matrix: Water**  
**Analysis Batch: 473553**

**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			02/18/21 12:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/18/21 12:13	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/18/21 12:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/18/21 12:13	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/18/21 12:13	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/18/21 12:13	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	116		75 - 130		02/18/21 12:13	1
4-Bromofluorobenzene (Surr)	86		47 - 134		02/18/21 12:13	1
Toluene-d8 (Surr)	91		69 - 122		02/18/21 12:13	1
Dibromofluoromethane (Surr)	101		78 - 129		02/18/21 12:13	1

**Lab Sample ID: LCS 240-473553/4**  
**Matrix: Water**  
**Analysis Batch: 473553**

**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	17.3	*+	ug/L		173	73 - 129
cis-1,2-Dichloroethene	10.0	9.52		ug/L		95	75 - 124
Tetrachloroethene	10.0	9.34		ug/L		93	70 - 125
trans-1,2-Dichloroethene	10.0	9.59		ug/L		96	74 - 130
Trichloroethene	10.0	9.06		ug/L		91	71 - 121
Vinyl chloride	10.0	8.30		ug/L		83	61 - 134

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	105		75 - 130
4-Bromofluorobenzene (Surr)	107		47 - 134
Toluene-d8 (Surr)	96		69 - 122
Dibromofluoromethane (Surr)	95		78 - 129

**Lab Sample ID: 240-144460-B-2 MS**  
**Matrix: Water**  
**Analysis Batch: 473553**

**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	2500	U F1 **	25000	35500	F1	ug/L		142	64 - 132
cis-1,2-Dichloroethene	2900		25000	25500		ug/L		91	68 - 121
Tetrachloroethene	2500	U	25000	21400		ug/L		86	52 - 129
Trichloroethene	50000		25000	65000		ug/L		59	56 - 124
Vinyl chloride	2500	U	25000	15800		ug/L		63	49 - 136

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	111		75 - 130
4-Bromofluorobenzene (Surr)	110		47 - 134
Toluene-d8 (Surr)	100		69 - 122
Dibromofluoromethane (Surr)	102		78 - 129

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-144443-1

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

Lab Sample ID: 240-144460-B-2 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 473553

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	2500	U F1 **	25000	38200	F1	ug/L		153	64 - 132	7	35
cis-1,2-Dichloroethene	2900		25000	26200		ug/L		93	68 - 121	2	35
Tetrachloroethene	2500	U	25000	24000		ug/L		96	52 - 129	12	35
Trichloroethene	50000		25000	65000		ug/L		59	56 - 124	0	35
Vinyl chloride	2500	U	25000	18200		ug/L		73	49 - 136	14	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		75 - 130
4-Bromofluorobenzene (Surr)	107		47 - 134
Toluene-d8 (Surr)	99		69 - 122
Dibromofluoromethane (Surr)	95		78 - 129

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

Lab Sample ID: MB 240-473604/5

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 473604

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			02/18/21 12:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		70 - 133		02/18/21 12:27	1

Lab Sample ID: LCS 240-473604/4

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 473604

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)	81		70 - 133

Lab Sample ID: 240-144425-C-2 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 473604

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

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	82		70 - 133



# QC Sample Results

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

Job ID: 240-144443-1

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

**Lab Sample ID: 240-144425-C-2 MSD**

**Client Sample ID: Matrix Spike Duplicate**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 473604**

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	10.7		ug/L		107	46 - 170	3	26
<b>Surrogate</b>	<b>MSD %Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
1,2-Dichloroethane-d4 (Surr)	81		70 - 133								

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# QC Association Summary

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

Job ID: 240-144443-1

## GC/MS VOA

### Analysis Batch: 473553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144443-1	TRIP BLANK	Total/NA	Water	8260B	
240-144443-2	MW-75SR_021021	Total/NA	Water	8260B	
240-144443-3	MW-75D_021021	Total/NA	Water	8260B	
240-144443-4	DUP-11	Total/NA	Water	8260B	
240-144443-5	MW-72_021021	Total/NA	Water	8260B	
240-144443-6	MW-72S_021021	Total/NA	Water	8260B	
MB 240-473553/7	Method Blank	Total/NA	Water	8260B	
LCS 240-473553/4	Lab Control Sample	Total/NA	Water	8260B	
240-144460-B-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-144460-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

### Analysis Batch: 473604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144443-2	MW-75SR_021021	Total/NA	Water	8260B SIM	
240-144443-3	MW-75D_021021	Total/NA	Water	8260B SIM	
240-144443-4	DUP-11	Total/NA	Water	8260B SIM	
240-144443-5	MW-72_021021	Total/NA	Water	8260B SIM	
240-144443-6	MW-72S_021021	Total/NA	Water	8260B SIM	
MB 240-473604/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-473604/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-144425-C-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-144425-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

# Lab Chronicle

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

Job ID: 240-144443-1

## Client Sample ID: TRIP BLANK

Lab Sample ID: 240-144443-1

Date Collected: 02/10/21 00:00

Matrix: Water

Date Received: 02/12/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	473553	02/18/21 16:14	LEE	TAL CAN

## Client Sample ID: MW-75SR\_021021

Lab Sample ID: 240-144443-2

Date Collected: 02/10/21 10:00

Matrix: Water

Date Received: 02/12/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	473553	02/18/21 16:35	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	473604	02/18/21 14:58	SAM	TAL CAN

## Client Sample ID: MW-75D\_021021

Lab Sample ID: 240-144443-3

Date Collected: 02/10/21 11:30

Matrix: Water

Date Received: 02/12/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	473553	02/18/21 16:57	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	473604	02/18/21 15:23	SAM	TAL CAN

## Client Sample ID: DUP-11

Lab Sample ID: 240-144443-4

Date Collected: 02/10/21 00:00

Matrix: Water

Date Received: 02/12/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	473553	02/18/21 17:19	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	473604	02/18/21 15:49	SAM	TAL CAN

## Client Sample ID: MW-72\_021021

Lab Sample ID: 240-144443-5

Date Collected: 02/10/21 13:10

Matrix: Water

Date Received: 02/12/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	473553	02/18/21 17:41	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	473604	02/18/21 16:14	SAM	TAL CAN

## Client Sample ID: MW-72S\_021021

Lab Sample ID: 240-144443-6

Date Collected: 02/10/21 14:45

Matrix: Water

Date Received: 02/12/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	473553	02/18/21 18:03	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	473604	02/18/21 16:39	SAM	TAL CAN

### Laboratory References:

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

Eurofins TestAmerica, Canton

# Accreditation/Certification Summary

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

Job ID: 240-144443-1

## 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	02-24-21
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	01-12-22
West Virginia DEP	State	210	12-31-21

# Chain of Custody Record

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

Regulatory program:  DW  NPDES  RCRA  Other

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

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

Site Contact: Julia McClafferty  
 Telephone: 734-644-5131

Analysis Turnaround Time  
 TAT if different from below:  
 3 weeks  
 2 weeks  
 1 week  
 2 days  
 1 day  
**10 day**

Sampler Name: **ALLYSON HARTZ**  
 Method of Shipment/Carrier:  
 Shipping/Tracking No:

Matrix:  
 Air  Aqueous  Sediment  Solid  Other

Sample Identification	Sample Date	Sample Time	Filtered Sample (Y/N)	Composite=C/Grab=G	1,1-DCE 8260B	cis-1,2-DCE 8260B	Trans-1,2-DCE 8260B	PCE 8260B	TCE 8260B	Vinyl Chloride 8260B	1,4-Dioxane 8260B SIM
TRIP BLANK			N	G	X	X	X	X	X	X	X
MW-75SR-021021	2/10/21	10:00	N	G	X	X	X	X	X	X	X
MW-75D-021021	2/10/21	11:30	N	G	X	X	X	X	X	X	X
DUP-11	2/10/21		N	G	X	X	X	X	X	X	X
MW-72-021021	2/10/21	13:10	N	G	X	X	X	X	X	X	X
MW-72S-021021	2/10/21	14:45	N	G	X	X	X	X	X	X	X

Containers & Preservatives:  
 HCl  HNO3  H2SO4  Other:

Sample Disposal (A fee may be assessed)  
 Return to Client  Disposal By Lab  Archive for 1 .....

Possible Hazard Identification  
 Non-Hazard  Flammable  Irritant  Poison B  Unknown

Special Instructions/QC Requirements & Comments:  
 Submit all results through Cadena at jtomalia@cadenaco.com, Cadena #E203631  
 Level IV Reporting requested.

Relinquished by: *Allyson Hartz*  
 Relinquished by: *Cristina Uter*  
 Relinquished by: *Allyson Hartz*

Received by: *Novi CID Pijosevic*  
 Received by: *Allyson Hartz*  
 Received in Laboratory by: *Allyson Hartz*

Company: **ARCADIS**  
 Date/Time: 2/10/21 16:00  
 Company: **ARCADIS**  
 Date/Time: 2/11/21 / 0953  
 Company: **ARCADIS**  
 Date/Time: 2/11/21 / 0953  
 Company: **ETA**  
 Date/Time: 2-12-21 800

Company: **ARCADIS**  
 Date/Time: 2-10-21 16:00  
 Company: **ARCADIS**  
 Date/Time: 2/11/21 0953  
 Company: **ETA**  
 Date/Time: 2-12-21 800

Company: **ARCADIS**  
 Date/Time: 2-10-21 16:00  
 Company: **ARCADIS**  
 Date/Time: 2/11/21 0953  
 Company: **ETA**  
 Date/Time: 2-12-21 800

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

Login # : 144443

Client Arceid's Site Name \_\_\_\_\_

Cooler unpacked by:

Cooler Received on 2-12-21 Opened on 2-12-21 500

Ryan C

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. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °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 3 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

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

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 RJC  
 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No 2-12-21  
 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 # 59072 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 \_\_\_\_\_

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: \_\_\_\_\_