

## ANALYTICAL REPORT

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Barberton, OH 44203  
Tel: (330)497-9396

Laboratory Job ID: 240-166891-1  
Client Project/Site: Ford LTP - Off Site

For:  
ARCADIS U.S., Inc.  
28550 Cabot Drive  
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Attn: Kristoffer Hinskey



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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: 240-166891-1

## Qualifiers

### GC/MS VOA

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

## Glossary

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

# Case Narrative

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

Job ID: 240-166891-1

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**Job ID: 240-166891-1**

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**Laboratory: Eurofins Canton**

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**Narrative**

**Job Narrative  
240-166891-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 5/19/2022 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.1° C and 0.7° C.

**GC/MS VOA**

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

**VOA Prep**

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

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- 14

# Method Summary

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

Job ID: 240-166891-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	TAL CAN
8260D SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030C	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 Canton, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

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- 13
- 14

# Sample Summary

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

Job ID: 240-166891-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-166891-1	TRIP BLANK_131	Water	05/17/22 00:00	05/19/22 08:00
240-166891-2	MW-140S_051722	Water	05/17/22 11:10	05/19/22 08:00
240-166891-3	MW-139S_051722	Water	05/17/22 12:05	05/19/22 08:00
240-166891-4	DUP-15	Water	05/17/22 00:00	05/19/22 08:00

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- 2
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- 5
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- 7
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- 9
- 10
- 11
- 12
- 13
- 14

# Detection Summary

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

Job ID: 240-166891-1

**Client Sample ID: TRIP BLANK\_131**

**Lab Sample ID: 240-166891-1**

No Detections.

**Client Sample ID: MW-140S\_051722**

**Lab Sample ID: 240-166891-2**

No Detections.

**Client Sample ID: MW-139S\_051722**

**Lab Sample ID: 240-166891-3**

No Detections.

**Client Sample ID: DUP-15**

**Lab Sample ID: 240-166891-4**

No Detections.

- 1
- 2
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- 6
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- 9
- 10
- 11
- 12
- 13
- 14

This Detection Summary does not include radiochemical test results.

Eurofins Canton

# Client Sample Results

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

Job ID: 240-166891-1

**Client Sample ID: TRIP BLANK\_131**

**Lab Sample ID: 240-166891-1**

**Date Collected: 05/17/22 00:00**

**Matrix: Water**

**Date Received: 05/19/22 08:00**

**Method: 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/26/22 20:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/26/22 20:37	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 20:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/26/22 20:37	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 20:37	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/26/22 20:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		62 - 137		05/26/22 20:37	1
4-Bromofluorobenzene (Surr)	92		56 - 136		05/26/22 20:37	1
Toluene-d8 (Surr)	91		78 - 122		05/26/22 20:37	1
Dibromofluoromethane (Surr)	99		73 - 120		05/26/22 20:37	1



# Client Sample Results

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

Job ID: 240-166891-1

**Client Sample ID: MW-140S\_051722**

**Lab Sample ID: 240-166891-2**

**Date Collected: 05/17/22 11:10**

**Matrix: Water**

**Date Received: 05/19/22 08:00**

**Method: 8260D 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			05/25/22 21:55	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)	109		66 - 120					05/25/22 21:55	1

**Method: 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/26/22 18:57	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/26/22 18:57	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 18:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/26/22 18:57	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 18:57	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/26/22 18:57	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)	103		62 - 137					05/26/22 18:57	1
4-Bromofluorobenzene (Surr)	83		56 - 136					05/26/22 18:57	1
Toluene-d8 (Surr)	99		78 - 122					05/26/22 18:57	1
Dibromofluoromethane (Surr)	105		73 - 120					05/26/22 18:57	1

# Client Sample Results

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

Job ID: 240-166891-1

**Client Sample ID: MW-139S\_051722**

**Lab Sample ID: 240-166891-3**

**Date Collected: 05/17/22 12:05**

**Matrix: Water**

**Date Received: 05/19/22 08:00**

**Method: 8260D 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			05/25/22 22:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		66 - 120		05/25/22 22:20	1

**Method: 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/26/22 17:17	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/26/22 17:17	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 17:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/26/22 17:17	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 17:17	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/26/22 17:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		62 - 137		05/26/22 17:17	1
4-Bromofluorobenzene (Surr)	84		56 - 136		05/26/22 17:17	1
Toluene-d8 (Surr)	99		78 - 122		05/26/22 17:17	1
Dibromofluoromethane (Surr)	105		73 - 120		05/26/22 17:17	1

# Client Sample Results

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

Job ID: 240-166891-1

**Client Sample ID: DUP-15**

**Lab Sample ID: 240-166891-4**

**Date Collected: 05/17/22 00:00**

**Matrix: Water**

**Date Received: 05/19/22 08:00**

**Method: 8260D 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			05/25/22 22:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		66 - 120		05/25/22 22:45	1

**Method: 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/26/22 17:42	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/26/22 17:42	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 17:42	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/26/22 17:42	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 17:42	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/26/22 17:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		62 - 137		05/26/22 17:42	1
4-Bromofluorobenzene (Surr)	81		56 - 136		05/26/22 17:42	1
Toluene-d8 (Surr)	99		78 - 122		05/26/22 17:42	1
Dibromofluoromethane (Surr)	106		73 - 120		05/26/22 17:42	1

# Surrogate Summary

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

Job ID: 240-166891-1

## Method: 8260D - Volatile Organic Compounds by 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 (62-137)	BFB (56-136)	TOL (78-122)	DBFM (73-120)
240-166883-H-3 MS	Matrix Spike	95	94	92	96
240-166883-N-3 MSD	Matrix Spike Duplicate	94	92	91	97
240-166891-1	TRIP BLANK_131	97	92	91	99
240-166891-2	MW-140S_051722	103	83	99	105
240-166891-3	MW-139S_051722	103	84	99	105
240-166891-4	DUP-15	103	81	99	106
240-166938-B-2 MSD	Matrix Spike Duplicate	99	98	101	104
240-166938-C-2 MS	Matrix Spike	98	95	99	108
LCS 240-528054/5	Lab Control Sample	95	97	94	98
LCS 240-528106/4	Lab Control Sample	97	96	100	106
MB 240-528054/8	Method Blank	96	89	90	97
MB 240-528106/6	Method Blank	101	86	97	103

#### Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(66-120)
240-166886-I-3 MS	Matrix Spike	109
240-166886-O-3 MSD	Matrix Spike Duplicate	110
240-166891-2	MW-140S_051722	109
240-166891-3	MW-139S_051722	112
240-166891-4	DUP-15	111
LCS 240-527981/3	Lab Control Sample	106
MB 240-527981/4	Method Blank	107

#### Surrogate Legend

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

# QC Sample Results

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

Job ID: 240-166891-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 240-528054/8**  
**Matrix: Water**  
**Analysis Batch: 528054**

**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	0.49	ug/L			05/26/22 12:02	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/26/22 12:02	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 12:02	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/26/22 12:02	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 12:02	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/26/22 12:02	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	96		62 - 137		05/26/22 12:02	1
4-Bromofluorobenzene (Surr)	89		56 - 136		05/26/22 12:02	1
Toluene-d8 (Surr)	90		78 - 122		05/26/22 12:02	1
Dibromofluoromethane (Surr)	97		73 - 120		05/26/22 12:02	1

**Lab Sample ID: LCS 240-528054/5**  
**Matrix: Water**  
**Analysis Batch: 528054**

**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	20.6		ug/L		103	63 - 134
cis-1,2-Dichloroethene	20.0	19.3		ug/L		97	77 - 123
Tetrachloroethene	20.0	16.8		ug/L		84	76 - 123
trans-1,2-Dichloroethene	20.0	19.3		ug/L		96	75 - 124
Trichloroethene	20.0	19.3		ug/L		97	70 - 122
Vinyl chloride	20.0	17.8		ug/L		89	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	95		62 - 137
4-Bromofluorobenzene (Surr)	97		56 - 136
Toluene-d8 (Surr)	94		78 - 122
Dibromofluoromethane (Surr)	98		73 - 120

**Lab Sample ID: 240-166883-H-3 MS**  
**Matrix: Water**  
**Analysis Batch: 528054**

**Client Sample ID: Matrix Spike**  
**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	19.3		ug/L		97	56 - 135
cis-1,2-Dichloroethene	1.0	U	20.0	18.4		ug/L		92	66 - 128
Tetrachloroethene	1.0	U	20.0	15.8		ug/L		79	62 - 131
trans-1,2-Dichloroethene	1.0	U	20.0	18.0		ug/L		90	56 - 136
Trichloroethene	1.0	U	20.0	17.6		ug/L		88	61 - 124
Vinyl chloride	1.0	U	20.0	18.6		ug/L		93	43 - 157

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	95		62 - 137
4-Bromofluorobenzene (Surr)	94		56 - 136
Toluene-d8 (Surr)	92		78 - 122

# QC Sample Results

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

Job ID: 240-166891-1

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

**Lab Sample ID: 240-166883-H-3 MS**  
**Matrix: Water**  
**Analysis Batch: 528054**

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

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	96		73 - 120

**Lab Sample ID: 240-166883-N-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 528054**

**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	20.0	19.7		ug/L		98	56 - 135	2	26
cis-1,2-Dichloroethene	1.0	U	20.0	18.8		ug/L		94	66 - 128	2	14
Tetrachloroethene	1.0	U	20.0	15.9		ug/L		80	62 - 131	1	20
trans-1,2-Dichloroethene	1.0	U	20.0	18.5		ug/L		92	56 - 136	2	15
Trichloroethene	1.0	U	20.0	17.8		ug/L		89	61 - 124	2	15
Vinyl chloride	1.0	U	20.0	17.8		ug/L		89	43 - 157	4	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		62 - 137
4-Bromofluorobenzene (Surr)	92		56 - 136
Toluene-d8 (Surr)	91		78 - 122
Dibromofluoromethane (Surr)	97		73 - 120

**Lab Sample ID: MB 240-528106/6**  
**Matrix: Water**  
**Analysis Batch: 528106**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/26/22 13:56	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/26/22 13:56	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 13:56	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/26/22 13:56	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 13:56	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/26/22 13:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		62 - 137		05/26/22 13:56	1
4-Bromofluorobenzene (Surr)	86		56 - 136		05/26/22 13:56	1
Toluene-d8 (Surr)	97		78 - 122		05/26/22 13:56	1
Dibromofluoromethane (Surr)	103		73 - 120		05/26/22 13:56	1

**Lab Sample ID: LCS 240-528106/4**  
**Matrix: Water**  
**Analysis Batch: 528106**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	25.0	23.9		ug/L		96	63 - 134
cis-1,2-Dichloroethene	25.0	26.9		ug/L		108	77 - 123
Tetrachloroethene	25.0	26.4		ug/L		106	76 - 123
trans-1,2-Dichloroethene	25.0	27.9		ug/L		112	75 - 124
Trichloroethene	25.0	26.4		ug/L		106	70 - 122

Eurofins Canton

# QC Sample Results

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

Job ID: 240-166891-1

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

**Lab Sample ID: LCS 240-528106/4**

**Matrix: Water**

**Analysis Batch: 528106**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl chloride	12.5	11.5		ug/L		92	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		62 - 137
4-Bromofluorobenzene (Surr)	96		56 - 136
Toluene-d8 (Surr)	100		78 - 122
Dibromofluoromethane (Surr)	106		73 - 120

**Lab Sample ID: 240-166938-B-2 MSD**

**Matrix: Water**

**Analysis Batch: 528106**

**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	25.0	29.6		ug/L		118	56 - 135	1	26
cis-1,2-Dichloroethene	1.0	U	25.0	25.8		ug/L		103	66 - 128	1	14
Tetrachloroethene	1.0	U	25.0	25.3		ug/L		101	62 - 131	1	20
trans-1,2-Dichloroethene	1.0	U	25.0	26.3		ug/L		105	56 - 136	5	15
Trichloroethene	1.0	U	25.0	25.0		ug/L		100	61 - 124	2	15
Vinyl chloride	1.0	U	25.0	22.8		ug/L		91	43 - 157	1	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		62 - 137
4-Bromofluorobenzene (Surr)	98		56 - 136
Toluene-d8 (Surr)	101		78 - 122
Dibromofluoromethane (Surr)	104		73 - 120

**Lab Sample ID: 240-166938-C-2 MS**

**Matrix: Water**

**Analysis Batch: 528106**

**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	25.0	29.4		ug/L		117	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	25.9		ug/L		104	66 - 128
Tetrachloroethene	1.0	U	25.0	25.1		ug/L		101	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	27.6		ug/L		110	56 - 136
Trichloroethene	1.0	U	25.0	25.4		ug/L		102	61 - 124
Vinyl chloride	1.0	U	25.0	23.0		ug/L		92	43 - 157

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		62 - 137
4-Bromofluorobenzene (Surr)	95		56 - 136
Toluene-d8 (Surr)	99		78 - 122
Dibromofluoromethane (Surr)	108		73 - 120

# QC Sample Results

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

Job ID: 240-166891-1

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

**Lab Sample ID: MB 240-527981/4**  
**Matrix: Water**  
**Analysis Batch: 527981**

**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			05/25/22 19:50	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		66 - 120					05/25/22 19:50	1

**Lab Sample ID: LCS 240-527981/3**  
**Matrix: Water**  
**Analysis Batch: 527981**

**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	9.76		ug/L		98	80 - 122
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	106		66 - 120				

**Lab Sample ID: 240-166886-I-3 MS**  
**Matrix: Water**  
**Analysis Batch: 527981**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	2.0	U	10.0	9.35		ug/L		93	51 - 153
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	109		66 - 120						

**Lab Sample ID: 240-166886-O-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 527981**

**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	Limit
1,4-Dioxane	2.0	U	10.0	9.52		ug/L		95	51 - 153	2	16
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	110		66 - 120								



# QC Association Summary

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

Job ID: 240-166891-1

## GC/MS VOA

### Analysis Batch: 527981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-166891-2	MW-140S_051722	Total/NA	Water	8260D SIM	
240-166891-3	MW-139S_051722	Total/NA	Water	8260D SIM	
240-166891-4	DUP-15	Total/NA	Water	8260D SIM	
MB 240-527981/4	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-527981/3	Lab Control Sample	Total/NA	Water	8260D SIM	
240-166886-I-3 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-166886-O-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

### Analysis Batch: 528054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-166891-1	TRIP BLANK_131	Total/NA	Water	8260D	
MB 240-528054/8	Method Blank	Total/NA	Water	8260D	
LCS 240-528054/5	Lab Control Sample	Total/NA	Water	8260D	
240-166883-H-3 MS	Matrix Spike	Total/NA	Water	8260D	
240-166883-N-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

### Analysis Batch: 528106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-166891-2	MW-140S_051722	Total/NA	Water	8260D	
240-166891-3	MW-139S_051722	Total/NA	Water	8260D	
240-166891-4	DUP-15	Total/NA	Water	8260D	
MB 240-528106/6	Method Blank	Total/NA	Water	8260D	
LCS 240-528106/4	Lab Control Sample	Total/NA	Water	8260D	
240-166938-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	
240-166938-C-2 MS	Matrix Spike	Total/NA	Water	8260D	

# Lab Chronicle

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

Job ID: 240-166891-1

**Client Sample ID: TRIP BLANK\_131**

**Lab Sample ID: 240-166891-1**

**Date Collected: 05/17/22 00:00**

**Matrix: Water**

**Date Received: 05/19/22 08:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	528054	05/26/22 20:37	HMB	TAL CAN

**Client Sample ID: MW-140S\_051722**

**Lab Sample ID: 240-166891-2**

**Date Collected: 05/17/22 11:10**

**Matrix: Water**

**Date Received: 05/19/22 08:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	528106	05/26/22 18:57	SAM	TAL CAN
Total/NA	Analysis	8260D SIM		1	527981	05/25/22 21:55	CS	TAL CAN

**Client Sample ID: MW-139S\_051722**

**Lab Sample ID: 240-166891-3**

**Date Collected: 05/17/22 12:05**

**Matrix: Water**

**Date Received: 05/19/22 08:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	528106	05/26/22 17:17	SAM	TAL CAN
Total/NA	Analysis	8260D SIM		1	527981	05/25/22 22:20	CS	TAL CAN

**Client Sample ID: DUP-15**

**Lab Sample ID: 240-166891-4**

**Date Collected: 05/17/22 00:00**

**Matrix: Water**

**Date Received: 05/19/22 08:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	528106	05/26/22 17:42	SAM	TAL CAN
Total/NA	Analysis	8260D SIM		1	527981	05/25/22 22:45	CS	TAL CAN

**Laboratory References:**

TAL CAN = Eurofins Canton, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

# Accreditation/Certification Summary

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

Job ID: 240-166891-1

## Laboratory: Eurofins 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	02-27-23
Connecticut	State	PH-0590	12-31-23
Florida	NELAP	E87225	06-30-22
Georgia	State	4062	02-23-22 *
Illinois	NELAP	200004	07-31-22
Iowa	State	421	06-01-23
Kentucky (UST)	State	112225	02-27-23
Kentucky (WW)	State	KY98016	12-31-22
Minnesota	NELAP	039-999-348	12-31-22
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-22
New York	NELAP	10975	04-01-23
Ohio	State	8303	02-23-23
Ohio VAP	State	CL0024	02-27-23
Oregon	NELAP	4062	02-27-23
Pennsylvania	NELAP	68-00340	08-31-22
Texas	NELAP	T104704517-22-16	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-23
West Virginia DEP	State	210	12-31-22

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

Eurofins Canton



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

Login # : 166891

Canton Facility

Client Arcadis

Site Name \_\_\_\_\_

Cooler unpacked by:

Cooler Received on 5-19-22

Opened on 5-19-22

Danny Burt

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 # LA 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-13 (CF 0.0 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C  
 IR GUN #IR-15 (CF -0.7°C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 10 each 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# HC157842
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 # Covered 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: \_\_\_\_\_

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**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: \_\_\_\_\_

