

## ANALYTICAL REPORT

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

Laboratory Job ID: 240-166781-1  
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:  
5/31/2022 2:15:45 PM

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



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# Definitions/Glossary

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

Job ID: 240-166781-1

## Qualifiers

### GC/MS VOA

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

## Glossary

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

# Case Narrative

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

Job ID: 240-166781-1

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## Job ID: 240-166781-1

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### Laboratory: Eurofins Canton

#### Narrative

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#### Job Narrative 240-166781-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 5/18/2022 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 0.2° C.

#### GC/MS VOA

Method 8260D: An MS/MSD was prepared in 240-527909 however due to an auto-sampler error it was able to be analyzed within the tune time. The effected samples are TRIP BLANK\_110 (240-166781-1), MW-68\_051622 (240-166781-2) and MW-47\_051622 (240-166781-3).

Method 8260D SIM: The method requirement for no headspace was not met. The following volatile sample were analyzed with headspace in the sample container: MW-68\_051622 (240-166781-2).

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: 240-166781-1

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 - On Site

Job ID: 240-166781-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-166781-1	TRIP BLANK_110	Water	05/16/22 00:00	05/18/22 08:00
240-166781-2	MW-68_051622	Water	05/16/22 12:05	05/18/22 08:00
240-166781-3	MW-47_051622	Water	05/16/22 14:00	05/18/22 08:00
240-166781-4	MW-46_051622	Water	05/16/22 15:40	05/18/22 08:00
240-166781-5	DUP-03	Water	05/16/22 00:00	05/18/22 08:00

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- 14

# Detection Summary

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

Job ID: 240-166781-1

## Client Sample ID: TRIP BLANK\_110

Lab Sample ID: 240-166781-1

No Detections.

## Client Sample ID: MW-68\_051622

Lab Sample ID: 240-166781-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	24		1.0	0.46	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	3.8		1.0	0.51	ug/L	1		8260D	Total/NA
Vinyl chloride	1.4		1.0	0.45	ug/L	1		8260D	Total/NA

## Client Sample ID: MW-47\_051622

Lab Sample ID: 240-166781-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.6	J	2.0	0.86	ug/L	1		8260D SIM	Total/NA
cis-1,2-Dichloroethene	5.8		1.0	0.46	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	1.6		1.0	0.51	ug/L	1		8260D	Total/NA
Vinyl chloride	17		1.0	0.45	ug/L	1		8260D	Total/NA

## Client Sample ID: MW-46\_051622

Lab Sample ID: 240-166781-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.1		1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	7.5		1.0	0.45	ug/L	1		8260D	Total/NA

## Client Sample ID: DUP-03

Lab Sample ID: 240-166781-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.9	J	2.0	0.86	ug/L	1		8260D SIM	Total/NA
cis-1,2-Dichloroethene	5.8		1.0	0.46	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	1.3		1.0	0.51	ug/L	1		8260D	Total/NA
Vinyl chloride	19		1.0	0.45	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

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

Job ID: 240-166781-1

**Client Sample ID: TRIP BLANK\_110**

**Lab Sample ID: 240-166781-1**

**Date Collected: 05/16/22 00:00**

**Matrix: Water**

**Date Received: 05/18/22 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			05/25/22 14:27	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/25/22 14:27	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/25/22 14:27	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/25/22 14:27	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/25/22 14:27	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/25/22 14:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		62 - 137		05/25/22 14:27	1
4-Bromofluorobenzene (Surr)	85		56 - 136		05/25/22 14:27	1
Toluene-d8 (Surr)	98		78 - 122		05/25/22 14:27	1
Dibromofluoromethane (Surr)	106		73 - 120		05/25/22 14:27	1



# Client Sample Results

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

Job ID: 240-166781-1

**Client Sample ID: MW-68\_051622**

**Lab Sample ID: 240-166781-2**

Date Collected: 05/16/22 12:05

Matrix: Water

Date Received: 05/18/22 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			05/24/22 04:19	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)	85		66 - 120					05/24/22 04:19	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			05/25/22 18:13	1
<b>cis-1,2-Dichloroethene</b>	<b>24</b>		1.0	0.46	ug/L			05/25/22 18:13	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/25/22 18:13	1
<b>trans-1,2-Dichloroethene</b>	<b>3.8</b>		1.0	0.51	ug/L			05/25/22 18:13	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/25/22 18:13	1
<b>Vinyl chloride</b>	<b>1.4</b>		1.0	0.45	ug/L			05/25/22 18:13	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)	100		62 - 137					05/25/22 18:13	1
4-Bromofluorobenzene (Surr)	85		56 - 136					05/25/22 18:13	1
Toluene-d8 (Surr)	98		78 - 122					05/25/22 18:13	1
Dibromofluoromethane (Surr)	105		73 - 120					05/25/22 18:13	1

# Client Sample Results

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

Job ID: 240-166781-1

**Client Sample ID: MW-47\_051622**

**Lab Sample ID: 240-166781-3**

Date Collected: 05/16/22 14:00

Matrix: Water

Date Received: 05/18/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.6	J	2.0	0.86	ug/L			05/24/22 04:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		66 - 120					05/24/22 04:42	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			05/25/22 19:28	1
cis-1,2-Dichloroethene	5.8		1.0	0.46	ug/L			05/25/22 19:28	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/25/22 19:28	1
trans-1,2-Dichloroethene	1.6		1.0	0.51	ug/L			05/25/22 19:28	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/25/22 19:28	1
Vinyl chloride	17		1.0	0.45	ug/L			05/25/22 19:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		62 - 137					05/25/22 19:28	1
4-Bromofluorobenzene (Surr)	82		56 - 136					05/25/22 19:28	1
Toluene-d8 (Surr)	99		78 - 122					05/25/22 19:28	1
Dibromofluoromethane (Surr)	105		73 - 120					05/25/22 19:28	1

# Client Sample Results

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

Job ID: 240-166781-1

**Client Sample ID: MW-46\_051622**

**Lab Sample ID: 240-166781-4**

Date Collected: 05/16/22 15:40

Matrix: Water

Date Received: 05/18/22 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			05/24/22 05:05	1
<b>Surrogate</b>									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		66 - 120					05/24/22 05:05	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 19:09	1
<b>cis-1,2-Dichloroethene</b>	<b>1.1</b>		1.0	0.46	ug/L			05/26/22 19:09	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 19:09	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/26/22 19:09	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 19:09	1
<b>Vinyl chloride</b>	<b>7.5</b>		1.0	0.45	ug/L			05/26/22 19:09	1
<b>Surrogate</b>									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		62 - 137					05/26/22 19:09	1
4-Bromofluorobenzene (Surr)	93		56 - 136					05/26/22 19:09	1
Toluene-d8 (Surr)	99		78 - 122					05/26/22 19:09	1
Dibromofluoromethane (Surr)	99		73 - 120					05/26/22 19:09	1

# Client Sample Results

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

Job ID: 240-166781-1

**Client Sample ID: DUP-03**

**Lab Sample ID: 240-166781-5**

**Date Collected: 05/16/22 00:00**

**Matrix: Water**

**Date Received: 05/18/22 08:00**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,4-Dioxane</b>	<b>1.9</b>	<b>J</b>	2.0	0.86	ug/L			05/24/22 05:29	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)	85		66 - 120					05/24/22 05:29	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 19:33	1
<b>cis-1,2-Dichloroethene</b>	<b>5.8</b>		1.0	0.46	ug/L			05/26/22 19:33	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 19:33	1
<b>trans-1,2-Dichloroethene</b>	<b>1.3</b>		1.0	0.51	ug/L			05/26/22 19:33	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 19:33	1
<b>Vinyl chloride</b>	<b>19</b>		1.0	0.45	ug/L			05/26/22 19:33	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)	94		62 - 137					05/26/22 19:33	1
4-Bromofluorobenzene (Surr)	92		56 - 136					05/26/22 19:33	1
Toluene-d8 (Surr)	96		78 - 122					05/26/22 19:33	1
Dibromofluoromethane (Surr)	98		73 - 120					05/26/22 19:33	1

# Surrogate Summary

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

Job ID: 240-166781-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (62-137)	BFB (56-136)	TOL (78-122)	DBFM (73-120)
240-166781-1	TRIP BLANK_110	103	85	98	106
240-166781-2	MW-68_051622	100	85	98	105
240-166781-3	MW-47_051622	102	82	99	105
240-166781-4	MW-46_051622	92	93	99	99
240-166781-5	DUP-03	94	92	96	98
240-166933-D-2 MS	Matrix Spike	92	101	102	98
240-166933-G-2 MSD	Matrix Spike Duplicate	90	102	103	98
LCS 240-527909/4	Lab Control Sample	98	99	99	107
LCS 240-528104/5	Lab Control Sample	87	98	101	94
MB 240-527909/6	Method Blank	101	87	98	103
MB 240-528104/7	Method Blank	93	94	100	100

**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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (66-120)
240-166740-B-2 MS	Matrix Spike	83
240-166740-B-2 MSD	Matrix Spike Duplicate	81
240-166781-2	MW-68_051622	85
240-166781-3	MW-47_051622	84
240-166781-4	MW-46_051622	81
240-166781-5	DUP-03	85
LCS 240-527590/3	Lab Control Sample	82
MB 240-527590/4	Method Blank	82

**Surrogate Legend**

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

# QC Sample Results

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

Job ID: 240-166781-1

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

**Lab Sample ID: MB 240-527909/6**  
**Matrix: Water**  
**Analysis Batch: 527909**

**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			05/25/22 12:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/25/22 12:47	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/25/22 12:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/25/22 12:47	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/25/22 12:47	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/25/22 12:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		62 - 137		05/25/22 12:47	1
4-Bromofluorobenzene (Surr)	87		56 - 136		05/25/22 12:47	1
Toluene-d8 (Surr)	98		78 - 122		05/25/22 12:47	1
Dibromofluoromethane (Surr)	103		73 - 120		05/25/22 12:47	1

**Lab Sample ID: LCS 240-527909/4**  
**Matrix: Water**  
**Analysis Batch: 527909**

**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	25.5		ug/L		102	63 - 134
cis-1,2-Dichloroethene	25.0	27.2		ug/L		109	77 - 123
Tetrachloroethene	25.0	26.2		ug/L		105	76 - 123
trans-1,2-Dichloroethene	25.0	28.1		ug/L		113	75 - 124
Trichloroethene	25.0	26.4		ug/L		106	70 - 122
Vinyl chloride	12.5	11.1		ug/L		89	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		62 - 137
4-Bromofluorobenzene (Surr)	99		56 - 136
Toluene-d8 (Surr)	99		78 - 122
Dibromofluoromethane (Surr)	107		73 - 120

**Lab Sample ID: MB 240-528104/7**  
**Matrix: Water**  
**Analysis Batch: 528104**

**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 14:00	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/26/22 14:00	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 14:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/26/22 14:00	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 14:00	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/26/22 14:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		62 - 137		05/26/22 14:00	1
4-Bromofluorobenzene (Surr)	94		56 - 136		05/26/22 14:00	1
Toluene-d8 (Surr)	100		78 - 122		05/26/22 14:00	1

Eurofins Canton

# QC Sample Results

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

Job ID: 240-166781-1

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

**Lab Sample ID: MB 240-528104/7**  
**Matrix: Water**  
**Analysis Batch: 528104**

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

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Dibromofluoromethane (Surr)	100		73 - 120		05/26/22 14:00	1

**Lab Sample ID: LCS 240-528104/5**  
**Matrix: Water**  
**Analysis Batch: 528104**

**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	25.0	25.0		ug/L		100	63 - 134
cis-1,2-Dichloroethene	25.0	23.7		ug/L		95	77 - 123
Tetrachloroethene	25.0	25.8		ug/L		103	76 - 123
trans-1,2-Dichloroethene	25.0	23.8		ug/L		95	75 - 124
Trichloroethene	25.0	25.3		ug/L		101	70 - 122
Vinyl chloride	25.0	22.9		ug/L		91	60 - 144

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	87		62 - 137
4-Bromofluorobenzene (Surr)	98		56 - 136
Toluene-d8 (Surr)	101		78 - 122
Dibromofluoromethane (Surr)	94		73 - 120

**Lab Sample ID: 240-166933-D-2 MS**  
**Matrix: Water**  
**Analysis Batch: 528104**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec Limits
				Result	Qualifier				
1,1-Dichloroethene	1.0	U	25.0	24.7		ug/L		99	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	23.3		ug/L		93	66 - 128
Tetrachloroethene	1.0	U	25.0	24.1		ug/L		96	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	23.3		ug/L		93	56 - 136
Trichloroethene	1.0	U	25.0	24.2		ug/L		97	61 - 124
Vinyl chloride	1.0	U	25.0	22.4		ug/L		90	43 - 157

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	92		62 - 137
4-Bromofluorobenzene (Surr)	101		56 - 136
Toluene-d8 (Surr)	102		78 - 122
Dibromofluoromethane (Surr)	98		73 - 120

**Lab Sample ID: 240-166933-G-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 528104**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
				Result	Qualifier						
1,1-Dichloroethene	1.0	U	25.0	23.8		ug/L		95	56 - 135	4	26
cis-1,2-Dichloroethene	1.0	U	25.0	23.2		ug/L		93	66 - 128	0	14
Tetrachloroethene	1.0	U	25.0	23.2		ug/L		93	62 - 131	4	20
trans-1,2-Dichloroethene	1.0	U	25.0	22.8		ug/L		91	56 - 136	2	15
Trichloroethene	1.0	U	25.0	23.6		ug/L		94	61 - 124	3	15

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# QC Sample Results

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

Job ID: 240-166781-1

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

**Lab Sample ID: 240-166933-G-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 528104**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Vinyl chloride	1.0	U	25.0	22.2		ug/L		89	43 - 157	1	24
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>MSD Limits</b>								
1,2-Dichloroethane-d4 (Surr)	90		62 - 137								
4-Bromofluorobenzene (Surr)	102		56 - 136								
Toluene-d8 (Surr)	103		78 - 122								
Dibromofluoromethane (Surr)	98		73 - 120								

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

**Lab Sample ID: MB 240-527590/4**  
**Matrix: Water**  
**Analysis Batch: 527590**

**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			05/23/22 20:08	1	
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>MB Limits</b>							
1,2-Dichloroethane-d4 (Surr)	82		66 - 120							
				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>				
					05/23/22 20:08	1				

**Lab Sample ID: LCS 240-527590/3**  
**Matrix: Water**  
**Analysis Batch: 527590**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	10.0	11.6		ug/L		116	80 - 122
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCS Qualifier</b>	<b>LCS Limits</b>				
1,2-Dichloroethane-d4 (Surr)	82		66 - 120				

**Lab Sample ID: 240-166740-B-2 MS**  
**Matrix: Water**  
**Analysis Batch: 527590**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	2.0	U	10.0	11.3		ug/L		113	51 - 153
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>MS Limits</b>						
1,2-Dichloroethane-d4 (Surr)	83		66 - 120						

**Lab Sample ID: 240-166740-B-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 527590**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	11.2		ug/L		112	51 - 153	1	16

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# QC Sample Results

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

Job ID: 240-166781-1

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

Lab Sample ID: 240-166740-B-2 MSD  
Matrix: Water  
Analysis Batch: 527590

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

<i>Surrogate</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	81		66 - 120

- 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: 240-166781-1

## GC/MS VOA

### Analysis Batch: 527590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-166781-2	MW-68_051622	Total/NA	Water	8260D SIM	
240-166781-3	MW-47_051622	Total/NA	Water	8260D SIM	
240-166781-4	MW-46_051622	Total/NA	Water	8260D SIM	
240-166781-5	DUP-03	Total/NA	Water	8260D SIM	
MB 240-527590/4	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-527590/3	Lab Control Sample	Total/NA	Water	8260D SIM	
240-166740-B-2 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-166740-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

### Analysis Batch: 527909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-166781-1	TRIP BLANK_110	Total/NA	Water	8260D	
240-166781-2	MW-68_051622	Total/NA	Water	8260D	
240-166781-3	MW-47_051622	Total/NA	Water	8260D	
MB 240-527909/6	Method Blank	Total/NA	Water	8260D	
LCS 240-527909/4	Lab Control Sample	Total/NA	Water	8260D	

### Analysis Batch: 528104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-166781-4	MW-46_051622	Total/NA	Water	8260D	
240-166781-5	DUP-03	Total/NA	Water	8260D	
MB 240-528104/7	Method Blank	Total/NA	Water	8260D	
LCS 240-528104/5	Lab Control Sample	Total/NA	Water	8260D	
240-166933-D-2 MS	Matrix Spike	Total/NA	Water	8260D	
240-166933-G-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

# Lab Chronicle

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

Job ID: 240-166781-1

**Client Sample ID: TRIP BLANK\_110**

**Lab Sample ID: 240-166781-1**

Date Collected: 05/16/22 00:00

Matrix: Water

Date Received: 05/18/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	527909	05/25/22 14:27	SAM	TAL CAN

**Client Sample ID: MW-68\_051622**

**Lab Sample ID: 240-166781-2**

Date Collected: 05/16/22 12:05

Matrix: Water

Date Received: 05/18/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	527909	05/25/22 18:13	SAM	TAL CAN
Total/NA	Analysis	8260D SIM		1	527590	05/24/22 04:19	CS	TAL CAN

**Client Sample ID: MW-47\_051622**

**Lab Sample ID: 240-166781-3**

Date Collected: 05/16/22 14:00

Matrix: Water

Date Received: 05/18/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	527909	05/25/22 19:28	SAM	TAL CAN
Total/NA	Analysis	8260D SIM		1	527590	05/24/22 04:42	CS	TAL CAN

**Client Sample ID: MW-46\_051622**

**Lab Sample ID: 240-166781-4**

Date Collected: 05/16/22 15:40

Matrix: Water

Date Received: 05/18/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	528104	05/26/22 19:09	SAM	TAL CAN
Total/NA	Analysis	8260D SIM		1	527590	05/24/22 05:05	CS	TAL CAN

**Client Sample ID: DUP-03**

**Lab Sample ID: 240-166781-5**

Date Collected: 05/16/22 00:00

Matrix: Water

Date Received: 05/18/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	528104	05/26/22 19:33	SAM	TAL CAN
Total/NA	Analysis	8260D SIM		1	527590	05/24/22 05:29	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 - On Site

Job ID: 240-166781-1

## 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.



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 Project Name: Ford LTP On-Site Project Number: 30080642.401.03 PO # 30080642.401.03		<b>Regulatory program:</b> <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other	
<b>Client Project Manager: Kris Hinskey</b> Telephone: 269-832-7478 Email: Kristoffer.Hinskey@arcadis.com		<b>Lab Contact: Mike DelMonico</b> Telephone: 330-966-9783	
<b>Sampler Name:</b> Samantha Hindu		<b>Analysis Turnaround Time</b> FAT if different from below: 3 weeks <input type="checkbox"/> 2 weeks <input checked="" type="checkbox"/> 10 day 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day <input type="checkbox"/>	
<b>Method of Shipment/Carrier:</b> Shipping/Tracking No:		<b>Analyses</b> 1-DCE 8260D cis-1,2-DCE 8260D Trans-1,2-DCE 8260D PCE 8260D TCE 8260D Vinyl Chloride 8260D 1,4-Dioxane 8260D SIM	
<b>Matrix</b> Air <input type="checkbox"/> Aqueous <input type="checkbox"/> Sediment <input type="checkbox"/> Solid <input type="checkbox"/> Other:		<b>Containers &amp; Preservatives</b> HCl <input type="checkbox"/> NaOH <input type="checkbox"/> ZnAc <input type="checkbox"/> Napres <input type="checkbox"/> Other:	
<b>Sample Identification</b> Sample Date Sample Time TRIP BLANK - 110 MW-108-051622 MW-47-051622 MW-46-051622 DUP-03		<b>Filtered Sample (Y/N)</b> Composite=C/Grab=G 1-DCE 8260D cis-1,2-DCE 8260D Trans-1,2-DCE 8260D PCE 8260D TCE 8260D Vinyl Chloride 8260D 1,4-Dioxane 8260D SIM	
<b>Sample Specific Notes / Special Instructions:</b> 1 Trip Blank 3 VOAs for 8260D 3 VOAs for 8260D SIM		Date/Time: 5/16/22 17:10 Date/Time: 5/17/22 1100 Date/Time: 5/17/22 1130	



240-166781 Chain of Custody

Sample Disposal (A fee may be assessed. Samples are retained longer than 1 month)  
 Return to Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Relinquished by: *Samantha Hindu* Date/Time: 5/16/22 17:10  
 Relinquished by: *[Signature]* Date/Time: 5/17/22 1100  
 Relinquished by: *[Signature]* Date/Time: 5/17/22 1130

Company: Arcadis  
 Company: ARCADIS  
 Company: FEA

Received by: *[Signature]* Date/Time: 5/16/22 17:10  
 Received by: *[Signature]* Date/Time: 5/17/22 1100  
 Received in Laboratory by: *[Signature]* Date/Time: 5/17/22 1130

Special Instructions/QC Requirements & Comments:  
 Submit all results through Cadena at jtomalia@cadensaco.com. Cadena #E203728  
 Level IV Reporting requested.

**Eurofins TestAmerica Canton Sample Receipt Form/Narrative** Login # : 166781  
**Canton Facility**

Client Arcadis Site Name Ford LTP Cooler unpacked by: [Signature]  
Cooler Received on 5-18-22 Opened on 5-18-22  
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

- 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
- Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1  Yes  No  
-Were the seals on the outside of the cooler(s) signed & dated?  Yes  No  NA  
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?  Yes  No  NA  
-Were tamper/custody seals intact and uncompromised?  Yes  No  NA
- Shippers' packing slip attached to the cooler(s)?  Yes  No
- Did custody papers accompany the sample(s)?  Yes  No
- Were the custody papers relinquished & signed in the appropriate place?  Yes  No
- Was/were the person(s) who collected the samples clearly identified on the COC?  Yes  No
- Did all bottles arrive in good condition (Unbroken)?  Yes  No
- Could all bottle labels (ID/Date/Time) be reconciled with the COC?  Yes  No
- For each sample, does the COC specify preservatives  (Y/N), # of containers  (Y/N), and sample type of grab/comp  (Y/N)?
- Were correct bottle(s) used for the test(s) indicated?  Yes  No
- Sufficient quantity received to perform indicated analyses?  Yes  No
- 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.
- Were all preserved sample(s) at the correct pH upon receipt?  Yes  No  NA pH Strip Lot# HC157842
- Were VOAs on the COC?  Yes  No  NA 5-18-22
- Were air bubbles >6 mm in any VOA vials?  Yes  No  NA ● Larger than this.
- Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 21042016  Yes  No
- 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) 1x40 MW68 and 2x40 DUP03 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: \_\_\_\_\_



