

## ANALYTICAL REPORT

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

Laboratory Job ID: 240-166892-1  
Client Project/Site: Ford LTP - On Site

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

Attn: Kristoffer Hinskey



Authorized for release by:  
5/31/2022 4:04:41 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: 240-166892-1

## 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: 240-166892-1

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**Job ID: 240-166892-1**

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**Laboratory: Eurofins Canton**

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**Narrative**

**Job Narrative  
240-166892-1**

**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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# Method Summary

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

Job ID: 240-166892-1

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



# Sample Summary

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

Job ID: 240-166892-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-166892-1	TRIP BLANK_163	Water	05/17/22 00:00	05/19/22 08:00
240-166892-2	MW-113_051722	Water	05/17/22 09:45	05/19/22 08:00
240-166892-3	MW-199S_051722	Water	05/17/22 10:53	05/19/22 08:00
240-166892-4	MW-19_051722	Water	05/17/22 12:20	05/19/22 08:00
240-166892-5	MW-55D_051722	Water	05/17/22 14:05	05/19/22 08:00
240-166892-6	MW-55_051722	Water	05/17/22 15:30	05/19/22 08:00

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

# Detection Summary

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

Job ID: 240-166892-1

## Client Sample ID: TRIP BLANK\_163

Lab Sample ID: 240-166892-1

No Detections.

## Client Sample ID: MW-113\_051722

Lab Sample ID: 240-166892-2

No Detections.

## Client Sample ID: MW-199S\_051722

Lab Sample ID: 240-166892-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.8		2.0	0.86	ug/L	1		8260D SIM	Total/NA
Vinyl chloride	1.0		1.0	0.45	ug/L	1		8260D	Total/NA

## Client Sample ID: MW-19\_051722

Lab Sample ID: 240-166892-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	300		4.0	1.7	ug/L	2		8260D SIM	Total/NA
Trichloroethene	0.83	J	1.0	0.44	ug/L	1		8260D	Total/NA
Vinyl chloride	0.94	J	1.0	0.45	ug/L	1		8260D	Total/NA

## Client Sample ID: MW-55D\_051722

Lab Sample ID: 240-166892-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.5	J	2.0	0.86	ug/L	1		8260D SIM	Total/NA

## Client Sample ID: MW-55\_051722

Lab Sample ID: 240-166892-6

No Detections.

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: 240-166892-1

**Client Sample ID: TRIP BLANK\_163**

**Lab Sample ID: 240-166892-1**

**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 14:21	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/26/22 14:21	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 14:21	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/26/22 14:21	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 14:21	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/26/22 14:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		62 - 137		05/26/22 14:21	1
4-Bromofluorobenzene (Surr)	85		56 - 136		05/26/22 14:21	1
Toluene-d8 (Surr)	98		78 - 122		05/26/22 14:21	1
Dibromofluoromethane (Surr)	105		73 - 120		05/26/22 14:21	1



# Client Sample Results

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

Job ID: 240-166892-1

**Client Sample ID: MW-113\_051722**

**Lab Sample ID: 240-166892-2**

**Date Collected: 05/17/22 09:45**

**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 23:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		66 - 120		05/25/22 23:10	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 18:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/26/22 18:07	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 18:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/26/22 18:07	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 18:07	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/26/22 18:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		62 - 137		05/26/22 18:07	1
4-Bromofluorobenzene (Surr)	82		56 - 136		05/26/22 18:07	1
Toluene-d8 (Surr)	98		78 - 122		05/26/22 18:07	1
Dibromofluoromethane (Surr)	107		73 - 120		05/26/22 18:07	1

# Client Sample Results

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

Job ID: 240-166892-1

**Client Sample ID: MW-199S\_051722**

**Lab Sample ID: 240-166892-3**

Date Collected: 05/17/22 10:53

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	2.8		2.0	0.86	ug/L			05/25/22 23:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		66 - 120					05/25/22 23:35	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 18:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/26/22 18:32	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 18:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/26/22 18:32	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 18:32	1
Vinyl chloride	1.0		1.0	0.45	ug/L			05/26/22 18:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		62 - 137					05/26/22 18:32	1
4-Bromofluorobenzene (Surr)	84		56 - 136					05/26/22 18:32	1
Toluene-d8 (Surr)	99		78 - 122					05/26/22 18:32	1
Dibromofluoromethane (Surr)	107		73 - 120					05/26/22 18:32	1

# Client Sample Results

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

Job ID: 240-166892-1

**Client Sample ID: MW-19\_051722**

**Lab Sample ID: 240-166892-4**

Date Collected: 05/17/22 12:20

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	300		4.0	1.7	ug/L			05/26/22 21:15	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		66 - 120		05/26/22 21:15	2

**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 22:17	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/26/22 22:17	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 22:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/26/22 22:17	1
Trichloroethene	0.83	J	1.0	0.44	ug/L			05/26/22 22:17	1
Vinyl chloride	0.94	J	1.0	0.45	ug/L			05/26/22 22:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		62 - 137		05/26/22 22:17	1
4-Bromofluorobenzene (Surr)	84		56 - 136		05/26/22 22:17	1
Toluene-d8 (Surr)	96		78 - 122		05/26/22 22:17	1
Dibromofluoromethane (Surr)	110		73 - 120		05/26/22 22:17	1

# Client Sample Results

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

Job ID: 240-166892-1

**Client Sample ID: MW-55D\_051722**

**Lab Sample ID: 240-166892-5**

Date Collected: 05/17/22 14:05

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	1.5	J	2.0	0.86	ug/L			05/26/22 00:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		66 - 120		05/26/22 00:24	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 19:22	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/26/22 19:22	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 19:22	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/26/22 19:22	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 19:22	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/26/22 19:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		62 - 137		05/26/22 19:22	1
4-Bromofluorobenzene (Surr)	83		56 - 136		05/26/22 19:22	1
Toluene-d8 (Surr)	96		78 - 122		05/26/22 19:22	1
Dibromofluoromethane (Surr)	108		73 - 120		05/26/22 19:22	1

# Client Sample Results

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

Job ID: 240-166892-1

**Client Sample ID: MW-55\_051722**

**Lab Sample ID: 240-166892-6**

**Date Collected: 05/17/22 15:30**

**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			05/26/22 00:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		66 - 120					05/26/22 00:49	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 19:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/26/22 19:47	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 19:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/26/22 19:47	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/26/22 19:47	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/26/22 19:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		62 - 137					05/26/22 19:47	1
4-Bromofluorobenzene (Surr)	82		56 - 136					05/26/22 19:47	1
Toluene-d8 (Surr)	97		78 - 122					05/26/22 19:47	1
Dibromofluoromethane (Surr)	107		73 - 120					05/26/22 19:47	1

# Surrogate Summary

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

Job ID: 240-166892-1

## 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)
240-166892-1	TRIP BLANK_163	100	85	98	105
240-166892-2	MW-113_051722	103	82	98	107
240-166892-3	MW-199S_051722	105	84	99	107
240-166892-4	MW-19_051722	106	84	96	110
240-166892-5	MW-55D_051722	103	83	96	108
240-166892-6	MW-55_051722	101	82	97	107
240-166938-B-2 MSD	Matrix Spike Duplicate	99	98	101	104
240-166938-C-2 MS	Matrix Spike	98	95	99	108
LCS 240-528106/4	Lab Control Sample	97	96	100	106
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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (66-120)
240-166886-I-3 MS	Matrix Spike	109
240-166886-O-3 MSD	Matrix Spike Duplicate	110
240-166892-2	MW-113_051722	114
240-166892-3	MW-199S_051722	113
240-166892-4	MW-19_051722	83
240-166892-5	MW-55D_051722	112
240-166892-6	MW-55_051722	111
240-166949-F-15 MS	Matrix Spike	87
240-166949-I-15 MSD	Matrix Spike Duplicate	88
LCS 240-527981/3	Lab Control Sample	106
LCS 240-528189/3	Lab Control Sample	88
MB 240-527981/4	Method Blank	107
MB 240-528189/4	Method Blank	89

**Surrogate Legend**

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

# QC Sample Results

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

Job ID: 240-166892-1

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

**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
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

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# QC Sample Results

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

Job ID: 240-166892-1

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

**Lab Sample ID: 240-166938-B-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 528106**

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
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

## 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

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# QC Sample Results

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

Job ID: 240-166892-1

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

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

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
1,4-Dioxane	2.0	U	10.0	9.52		ug/L		95	51 - 153	2	16

	<i>MSD</i>	<i>MSD</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	110		66 - 120

**Lab Sample ID: MB 240-528189/4**  
**Matrix: Water**  
**Analysis Batch: 528189**

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

<i>Analyte</i>	<i>MB Result</i>	<i>MB Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/26/22 19:49	1

	<i>MB</i>	<i>MB</i>		<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			
1,2-Dichloroethane-d4 (Surr)	89		66 - 120		05/26/22 19:49	1

**Lab Sample ID: LCS 240-528189/3**  
**Matrix: Water**  
**Analysis Batch: 528189**

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

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
1,4-Dioxane	10.0	11.0		ug/L		110	80 - 122

	<i>LCS</i>	<i>LCS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	88		66 - 120

**Lab Sample ID: 240-166949-F-15 MS**  
**Matrix: Water**  
**Analysis Batch: 528189**

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

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
1,4-Dioxane	3.0		10.0	13.5		ug/L		105	51 - 153

	<i>MS</i>	<i>MS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	87		66 - 120

**Lab Sample ID: 240-166949-I-15 MSD**  
**Matrix: Water**  
**Analysis Batch: 528189**

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

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
1,4-Dioxane	3.0		10.0	13.1		ug/L		101	51 - 153	3	16

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# QC Sample Results

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

Job ID: 240-166892-1

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

Lab Sample ID: 240-166949-I-15 MSD  
Matrix: Water  
Analysis Batch: 528189

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

<i>Surrogate</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
1,2-Dichloroethane-d4 (Surr)	88		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: 240-166892-1

## GC/MS VOA

### Analysis Batch: 527981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-166892-2	MW-113_051722	Total/NA	Water	8260D SIM	
240-166892-3	MW-199S_051722	Total/NA	Water	8260D SIM	
240-166892-5	MW-55D_051722	Total/NA	Water	8260D SIM	
240-166892-6	MW-55_051722	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: 528106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-166892-1	TRIP BLANK_163	Total/NA	Water	8260D	
240-166892-2	MW-113_051722	Total/NA	Water	8260D	
240-166892-3	MW-199S_051722	Total/NA	Water	8260D	
240-166892-4	MW-19_051722	Total/NA	Water	8260D	
240-166892-5	MW-55D_051722	Total/NA	Water	8260D	
240-166892-6	MW-55_051722	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	

### Analysis Batch: 528189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-166892-4	MW-19_051722	Total/NA	Water	8260D SIM	
MB 240-528189/4	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-528189/3	Lab Control Sample	Total/NA	Water	8260D SIM	
240-166949-F-15 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-166949-I-15 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

# Lab Chronicle

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

Job ID: 240-166892-1

**Client Sample ID: TRIP BLANK\_163**

**Lab Sample ID: 240-166892-1**

**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	528106	05/26/22 14:21	SAM	TAL CAN

**Client Sample ID: MW-113\_051722**

**Lab Sample ID: 240-166892-2**

**Date Collected: 05/17/22 09:45**

**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 18:07	SAM	TAL CAN
Total/NA	Analysis	8260D SIM		1	527981	05/25/22 23:10	CS	TAL CAN

**Client Sample ID: MW-199S\_051722**

**Lab Sample ID: 240-166892-3**

**Date Collected: 05/17/22 10:53**

**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 18:32	SAM	TAL CAN
Total/NA	Analysis	8260D SIM		1	527981	05/25/22 23:35	CS	TAL CAN

**Client Sample ID: MW-19\_051722**

**Lab Sample ID: 240-166892-4**

**Date Collected: 05/17/22 12:20**

**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 22:17	SAM	TAL CAN
Total/NA	Analysis	8260D SIM		2	528189	05/26/22 21:15	CS	TAL CAN

**Client Sample ID: MW-55D\_051722**

**Lab Sample ID: 240-166892-5**

**Date Collected: 05/17/22 14:05**

**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 19:22	SAM	TAL CAN
Total/NA	Analysis	8260D SIM		1	527981	05/26/22 00:24	CS	TAL CAN

**Client Sample ID: MW-55\_051722**

**Lab Sample ID: 240-166892-6**

**Date Collected: 05/17/22 15:30**

**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 19:47	SAM	TAL CAN
Total/NA	Analysis	8260D SIM		1	527981	05/26/22 00:49	CS	TAL CAN

**Laboratory References:**

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

Eurofins Canton

# Accreditation/Certification Summary

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

Job ID: 240-166892-1

## 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.



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

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

Client Project Manager: Kris Hinskey  
 Telephone: 269-832-7478  
 Email: Kristoffer.Hinskey@arcadis.com  
 Sampler Name: SOMMER GUY  
 Method of Shipment/Carrier:  
 Shipping/Tracking No:

Site Contact: Christina Weaver  
 Telephone: 248-994-2329  
 Lab Contact: Mike DeMontico  
 Telephone: 330-966-9783

TestAmerica Laboratories, Inc.  
 COC No:  
 1 of 1 COCs  
 For lab use only

Sample Identification	Sample Date	Sample Time	Matrix				Containers & Preservatives				Filtered Sample (Y/N)	Composite=C/Grab-G	1,1-DCE 8260D	cis-1,2-DCE 8260D	Trans-1,2-DCE 8260D	PCE 8260D	TCE 8260D	Vinyl Chloride 8260D	1,4-Dioxane 8260D SIM	Sample Specific Notes / Special Instructions:
			Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl										
TRIP BLANK_163	5/17/22	---	1																	1 Trip Blank
MW-113-051722	5/17/22	945	6																	3 VOAs for 8260D 3 VOAs for 8260D SIM
MW-1995-051722	5/17/22	1053	6																	" "
MW-19-051722	5/17/22	1220	6																	" "
MW-55D-051722	5/17/22	1405	6																	" "
MW-55-051722	5/17/22	1530	6																	" "



Possible Hazard Identification  
 Non-Hazard  Flammable  Corrosive  Irritant

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

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Sommer Guy	Arcadis	5/17/22 1645	Novi Cold Storage	Arcadis	5/17/22 1645
Christina Weaver	ARCADIS	5/18/22 0950	Edley	EEMA	5/18/22 0950
Edley	EEMA	5/18/22	Janey Doyg	EETNC	5-19-22 900

TestAmerica Laboratories, Inc. is an Equal Opportunity Employer. All employees are encouraged to report any discrimination or harassment to the Human Resources Department. TestAmerica Laboratories, Inc. is an Equal Opportunity Employer.





Canton Facility \_\_\_\_\_  
 Client Arcadis Site Name \_\_\_\_\_ Cooler unpacked by: Danny Bue  
 Cooler Received on 5-19-22 Opened on 5-19-22  
 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 # 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: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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: \_\_\_\_\_

