

## ANALYTICAL REPORT

Eurofins Canton  
180 S. Van Buren Avenue  
Barberton, OH 44203  
Tel: (330)497-9396

Laboratory Job ID: 240-163023-1  
Client Project/Site: Ford LTP - On Site  
Revision: 1

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

Attn: Kristoffer Hinskey



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Authorized for release by:  
3/7/2022 9:03:09 AM

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



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# Definitions/Glossary

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

Job ID: 240-163023-1

## 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: 240-163023-1

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**Job ID: 240-163023-1**

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**Laboratory: Eurofins Canton**

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**Narrative**

**Job Narrative  
240-163023-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 2/24/2022 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 0.2° C and 0.3° C.

**GC/MS VOA**

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

**VOA Prep**

No additional 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: 240-163023-1

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

**Protocol References:**

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

**Laboratory References:**

TAL CAN = Eurofins 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: 240-163023-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-163023-1	TRIP BLANK_58	Water	02/18/22 00:00	02/24/22 08:00
240-163023-2	MW-10_021722	Water	02/17/22 12:25	02/24/22 08:00
240-163023-3	MW-04_021722	Water	02/17/22 14:05	02/24/22 08:00
240-163023-4	DUP-02_021722	Water	02/17/22 00:00	02/24/22 08:00
240-163023-5	MW-02_021722	Water	02/17/22 16:15	02/24/22 08:00
240-163023-6	MW-03_021822	Water	02/18/22 13:38	02/24/22 08:00
240-163023-7	MW-05_021822	Water	02/18/22 12:00	02/24/22 08:00

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# Detection Summary

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

Job ID: 240-163023-1

## Client Sample ID: TRIP BLANK\_58

Lab Sample ID: 240-163023-1

No Detections.

## Client Sample ID: MW-10\_021722

Lab Sample ID: 240-163023-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	4.2		2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	5500		100	45	ug/L	100		8260B	Total/NA

## Client Sample ID: MW-04\_021722

Lab Sample ID: 240-163023-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	6000		330	150	ug/L	333.333		8260B	Total/NA
trans-1,2-Dichloroethene	210	J	330	170	ug/L	333.333		8260B	Total/NA
Trichloroethene	3300		330	150	ug/L	333.333		8260B	Total/NA
Vinyl chloride	1700		330	150	ug/L	333.333		8260B	Total/NA

## Client Sample ID: DUP-02\_021722

Lab Sample ID: 240-163023-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	5500		400	180	ug/L	400		8260B	Total/NA
Trichloroethene	2900		400	180	ug/L	400		8260B	Total/NA
Vinyl chloride	1500		400	180	ug/L	400		8260B	Total/NA

## Client Sample ID: MW-02\_021722

Lab Sample ID: 240-163023-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	4.9		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	4300		100	46	ug/L	100		8260B	Total/NA
trans-1,2-Dichloroethene	780		100	51	ug/L	100		8260B	Total/NA
Vinyl chloride	270		100	45	ug/L	100		8260B	Total/NA

## Client Sample ID: MW-03\_021822

Lab Sample ID: 240-163023-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.3		2.0	0.86	ug/L	1		8260B SIM	Total/NA

## Client Sample ID: MW-05\_021822

Lab Sample ID: 240-163023-7

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: 240-163023-1

**Client Sample ID: TRIP BLANK\_58**

**Lab Sample ID: 240-163023-1**

**Date Collected: 02/18/22 00:00**

**Matrix: Water**

**Date Received: 02/24/22 08:00**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			02/25/22 12:56	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/25/22 12:56	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/25/22 12:56	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/25/22 12:56	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/25/22 12:56	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/25/22 12:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		62 - 137		02/25/22 12:56	1
4-Bromofluorobenzene (Surr)	98		56 - 136		02/25/22 12:56	1
Toluene-d8 (Surr)	102		78 - 122		02/25/22 12:56	1
Dibromofluoromethane (Surr)	104		73 - 120		02/25/22 12:56	1



# Client Sample Results

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

Job ID: 240-163023-1

**Client Sample ID: MW-10\_021722**

**Lab Sample ID: 240-163023-2**

Date Collected: 02/17/22 12:25

Matrix: Water

Date Received: 02/24/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	4.2		2.0	0.86	ug/L			02/25/22 20:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	74		66 - 120		02/25/22 20:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	100	U	100	49	ug/L			02/25/22 19:12	100
cis-1,2-Dichloroethene	100	U	100	46	ug/L			02/25/22 19:12	100
Tetrachloroethene	100	U	100	44	ug/L			02/25/22 19:12	100
trans-1,2-Dichloroethene	100	U	100	51	ug/L			02/25/22 19:12	100
Trichloroethene	100	U	100	44	ug/L			02/25/22 19:12	100
Vinyl chloride	5500		100	45	ug/L			02/25/22 19:12	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		62 - 137		02/25/22 19:12	100
4-Bromofluorobenzene (Surr)	99		56 - 136		02/25/22 19:12	100
Toluene-d8 (Surr)	101		78 - 122		02/25/22 19:12	100
Dibromofluoromethane (Surr)	111		73 - 120		02/25/22 19:12	100

# Client Sample Results

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

Job ID: 240-163023-1

**Client Sample ID: MW-04\_021722**

**Lab Sample ID: 240-163023-3**

Date Collected: 02/17/22 14:05

Matrix: Water

Date Received: 02/24/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/25/22 20:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	73		66 - 120		02/25/22 20:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	330	U	330	160	ug/L			02/25/22 19:59	333.333
<b>cis-1,2-Dichloroethene</b>	<b>6000</b>		330	150	ug/L			02/25/22 19:59	333.333
Tetrachloroethene	330	U	330	150	ug/L			02/25/22 19:59	333.333
<b>trans-1,2-Dichloroethene</b>	<b>210</b>	<b>J</b>	330	170	ug/L			02/25/22 19:59	333.333
<b>Trichloroethene</b>	<b>3300</b>		330	150	ug/L			02/25/22 19:59	333.333
<b>Vinyl chloride</b>	<b>1700</b>		330	150	ug/L			02/25/22 19:59	333.333

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		62 - 137		02/25/22 19:59	333.333
4-Bromofluorobenzene (Surr)	102		56 - 136		02/25/22 19:59	333.333
Toluene-d8 (Surr)	111		78 - 122		02/25/22 19:59	333.333
Dibromofluoromethane (Surr)	114		73 - 120		02/25/22 19:59	333.333

# Client Sample Results

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

Job ID: 240-163023-1

**Client Sample ID: DUP-02\_021722**

**Lab Sample ID: 240-163023-4**

Date Collected: 02/17/22 00:00

Matrix: Water

Date Received: 02/24/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/25/22 20:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	74		66 - 120		02/25/22 20:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	400	U	400	200	ug/L			02/25/22 20:23	400
<b>cis-1,2-Dichloroethene</b>	<b>5500</b>		400	180	ug/L			02/25/22 20:23	400
Tetrachloroethene	400	U	400	180	ug/L			02/25/22 20:23	400
trans-1,2-Dichloroethene	400	U	400	200	ug/L			02/25/22 20:23	400
<b>Trichloroethene</b>	<b>2900</b>		400	180	ug/L			02/25/22 20:23	400
<b>Vinyl chloride</b>	<b>1500</b>		400	180	ug/L			02/25/22 20:23	400

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		62 - 137		02/25/22 20:23	400
4-Bromofluorobenzene (Surr)	107		56 - 136		02/25/22 20:23	400
Toluene-d8 (Surr)	112		78 - 122		02/25/22 20:23	400
Dibromofluoromethane (Surr)	115		73 - 120		02/25/22 20:23	400

# Client Sample Results

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

Job ID: 240-163023-1

**Client Sample ID: MW-02\_021722**

**Lab Sample ID: 240-163023-5**

Date Collected: 02/17/22 16:15

Matrix: Water

Date Received: 02/24/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	4.9		2.0	0.86	ug/L			02/25/22 21:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	76		66 - 120					02/25/22 21:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	100	U	100	49	ug/L			02/25/22 19:35	100
cis-1,2-Dichloroethene	4300		100	46	ug/L			02/25/22 19:35	100
Tetrachloroethene	100	U	100	44	ug/L			02/25/22 19:35	100
trans-1,2-Dichloroethene	780		100	51	ug/L			02/25/22 19:35	100
Trichloroethene	100	U	100	44	ug/L			02/25/22 19:35	100
Vinyl chloride	270		100	45	ug/L			02/25/22 19:35	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		62 - 137					02/25/22 19:35	100
4-Bromofluorobenzene (Surr)	100		56 - 136					02/25/22 19:35	100
Toluene-d8 (Surr)	105		78 - 122					02/25/22 19:35	100
Dibromofluoromethane (Surr)	115		73 - 120					02/25/22 19:35	100

# Client Sample Results

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

Job ID: 240-163023-1

**Client Sample ID: MW-03\_021822**

**Lab Sample ID: 240-163023-6**

Date Collected: 02/18/22 13:38

Matrix: Water

Date Received: 02/24/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.3		2.0	0.86	ug/L			02/25/22 21:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	76		66 - 120		02/25/22 21:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			02/25/22 14:54	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/25/22 14:54	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/25/22 14:54	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/25/22 14:54	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/25/22 14:54	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/25/22 14:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		62 - 137		02/25/22 14:54	1
4-Bromofluorobenzene (Surr)	92		56 - 136		02/25/22 14:54	1
Toluene-d8 (Surr)	95		78 - 122		02/25/22 14:54	1
Dibromofluoromethane (Surr)	104		73 - 120		02/25/22 14:54	1

# Client Sample Results

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

Job ID: 240-163023-1

**Client Sample ID: MW-05\_021822**

**Lab Sample ID: 240-163023-7**

**Date Collected: 02/18/22 12:00**

**Matrix: Water**

**Date Received: 02/24/22 08:00**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/25/22 22:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	76		66 - 120		02/25/22 22:18	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			02/25/22 15:17	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/25/22 15:17	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/25/22 15:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/25/22 15:17	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/25/22 15:17	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/25/22 15:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		62 - 137		02/25/22 15:17	1
4-Bromofluorobenzene (Surr)	88		56 - 136		02/25/22 15:17	1
Toluene-d8 (Surr)	91		78 - 122		02/25/22 15:17	1
Dibromofluoromethane (Surr)	105		73 - 120		02/25/22 15:17	1

# Surrogate Summary

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

Job ID: 240-163023-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (62-137)	BFB (56-136)	TOL (78-122)	DBFM (73-120)
240-162970-E-3 MS	Matrix Spike	99	111	110	108
240-162970-F-3 MSD	Matrix Spike Duplicate	104	111	114	112
240-163023-1	TRIP BLANK_58	93	98	102	104
240-163023-2	MW-10_021722	96	99	101	111
240-163023-3	MW-04_021722	102	102	111	114
240-163023-4	DUP-02_021722	105	107	112	115
240-163023-5	MW-02_021722	104	100	105	115
240-163023-6	MW-03_021822	96	92	95	104
240-163023-7	MW-05_021822	93	88	91	105
LCS 240-518745/5	Lab Control Sample	98	108	113	111
MB 240-518745/7	Method Blank	100	104	109	111

**Surrogate Legend**

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (66-120)
240-162971-H-3 MS	Matrix Spike	74
240-162971-N-3 MSD	Matrix Spike Duplicate	75
240-163023-2	MW-10_021722	74
240-163023-3	MW-04_021722	73
240-163023-4	DUP-02_021722	74
240-163023-5	MW-02_021722	76
240-163023-6	MW-03_021822	76
240-163023-7	MW-05_021822	76
LCS 240-518807/4	Lab Control Sample	73
MB 240-518807/5	Method Blank	72

**Surrogate Legend**

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

# QC Sample Results

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

Job ID: 240-163023-1

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

**Lab Sample ID: MB 240-518745/7**  
**Matrix: Water**  
**Analysis Batch: 518745**

**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			02/25/22 12:33	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/25/22 12:33	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/25/22 12:33	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/25/22 12:33	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/25/22 12:33	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/25/22 12:33	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	100		62 - 137		02/25/22 12:33	1
4-Bromofluorobenzene (Surr)	104		56 - 136		02/25/22 12:33	1
Toluene-d8 (Surr)	109		78 - 122		02/25/22 12:33	1
Dibromofluoromethane (Surr)	111		73 - 120		02/25/22 12:33	1

**Lab Sample ID: LCS 240-518745/5**  
**Matrix: Water**  
**Analysis Batch: 518745**

**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	24.8		ug/L		99	63 - 134
cis-1,2-Dichloroethene	25.0	23.6		ug/L		95	77 - 123
Tetrachloroethene	25.0	26.0		ug/L		104	76 - 123
trans-1,2-Dichloroethene	25.0	24.7		ug/L		99	75 - 124
Trichloroethene	25.0	24.4		ug/L		98	70 - 122
Vinyl chloride	25.0	22.8		ug/L		91	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	98		62 - 137
4-Bromofluorobenzene (Surr)	108		56 - 136
Toluene-d8 (Surr)	113		78 - 122
Dibromofluoromethane (Surr)	111		73 - 120

**Lab Sample ID: 240-162970-E-3 MS**  
**Matrix: Water**  
**Analysis Batch: 518745**

**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	25.0	23.0		ug/L		92	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	23.2		ug/L		93	66 - 128
Tetrachloroethene	1.0	U	25.0	23.2		ug/L		93	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	22.3		ug/L		89	56 - 136
Trichloroethene	1.0	U	25.0	22.7		ug/L		91	61 - 124
Vinyl chloride	1.0	U	25.0	21.2		ug/L		85	43 - 157

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	99		62 - 137
4-Bromofluorobenzene (Surr)	111		56 - 136
Toluene-d8 (Surr)	110		78 - 122

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# QC Sample Results

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

Job ID: 240-163023-1

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

**Lab Sample ID: 240-162970-E-3 MS**  
**Matrix: Water**  
**Analysis Batch: 518745**

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

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	108		73 - 120

**Lab Sample ID: 240-162970-F-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 518745**

**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	22.7		ug/L		91	56 - 135	1	26
cis-1,2-Dichloroethene	1.0	U	25.0	23.0		ug/L		92	66 - 128	1	14
Tetrachloroethene	1.0	U	25.0	23.5		ug/L		94	62 - 131	2	20
trans-1,2-Dichloroethene	1.0	U	25.0	22.4		ug/L		90	56 - 136	1	15
Trichloroethene	1.0	U	25.0	22.5		ug/L		90	61 - 124	1	15
Vinyl chloride	1.0	U	25.0	22.4		ug/L		90	43 - 157	5	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		62 - 137
4-Bromofluorobenzene (Surr)	111		56 - 136
Toluene-d8 (Surr)	114		78 - 122
Dibromofluoromethane (Surr)	112		73 - 120

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

**Lab Sample ID: MB 240-518807/5**  
**Matrix: Water**  
**Analysis Batch: 518807**

**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			02/25/22 16:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	72		66 - 120		02/25/22 16:31	1

**Lab Sample ID: LCS 240-518807/4**  
**Matrix: Water**  
**Analysis Batch: 518807**

**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	10.2		ug/L		102	80 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	73		66 - 120

**Lab Sample ID: 240-162971-H-3 MS**  
**Matrix: Water**  
**Analysis Batch: 518807**

**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	2.2		10.0	13.0		ug/L		108	51 - 153

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# QC Sample Results

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

Job ID: 240-163023-1

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

<i>Surrogate</i>	<i>MS</i> <i>%Recovery</i>	<i>MS</i> <i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	74		66 - 120

**Lab Sample ID: 240-162971-N-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 518807**

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

<i>Analyte</i>	<i>Sample</i> <i>Result</i>	<i>Sample</i> <i>Qualifier</i>	<i>Spike</i> <i>Added</i>	<i>MSD</i> <i>Result</i>	<i>MSD</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec.</i> <i>Limits</i>	<i>RPD</i>	<i>RPD</i> <i>Limit</i>
1,4-Dioxane	2.2		10.0	12.4		ug/L		102	51 - 153	4	16

<i>Surrogate</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	75		66 - 120

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# QC Association Summary

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

Job ID: 240-163023-1

## GC/MS VOA

### Analysis Batch: 518745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-163023-1	TRIP BLANK_58	Total/NA	Water	8260B	
240-163023-2	MW-10_021722	Total/NA	Water	8260B	
240-163023-3	MW-04_021722	Total/NA	Water	8260B	
240-163023-4	DUP-02_021722	Total/NA	Water	8260B	
240-163023-5	MW-02_021722	Total/NA	Water	8260B	
240-163023-6	MW-03_021822	Total/NA	Water	8260B	
240-163023-7	MW-05_021822	Total/NA	Water	8260B	
MB 240-518745/7	Method Blank	Total/NA	Water	8260B	
LCS 240-518745/5	Lab Control Sample	Total/NA	Water	8260B	
240-162970-E-3 MS	Matrix Spike	Total/NA	Water	8260B	
240-162970-F-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

### Analysis Batch: 518807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-163023-2	MW-10_021722	Total/NA	Water	8260B SIM	
240-163023-3	MW-04_021722	Total/NA	Water	8260B SIM	
240-163023-4	DUP-02_021722	Total/NA	Water	8260B SIM	
240-163023-5	MW-02_021722	Total/NA	Water	8260B SIM	
240-163023-6	MW-03_021822	Total/NA	Water	8260B SIM	
240-163023-7	MW-05_021822	Total/NA	Water	8260B SIM	
MB 240-518807/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-518807/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-162971-H-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-162971-N-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

# Lab Chronicle

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

Job ID: 240-163023-1

**Client Sample ID: TRIP BLANK\_58**  
Date Collected: 02/18/22 00:00  
Date Received: 02/24/22 08:00

**Lab Sample ID: 240-163023-1**  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	518745	02/25/22 12:56	LEE	TAL CAN

**Client Sample ID: MW-10\_021722**  
Date Collected: 02/17/22 12:25  
Date Received: 02/24/22 08:00

**Lab Sample ID: 240-163023-2**  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	518745	02/25/22 19:12	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	518807	02/25/22 20:05	CS	TAL CAN

**Client Sample ID: MW-04\_021722**  
Date Collected: 02/17/22 14:05  
Date Received: 02/24/22 08:00

**Lab Sample ID: 240-163023-3**  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		333.333	518745	02/25/22 19:59	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	518807	02/25/22 20:31	CS	TAL CAN

**Client Sample ID: DUP-02\_021722**  
Date Collected: 02/17/22 00:00  
Date Received: 02/24/22 08:00

**Lab Sample ID: 240-163023-4**  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		400	518745	02/25/22 20:23	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	518807	02/25/22 20:58	CS	TAL CAN

**Client Sample ID: MW-02\_021722**  
Date Collected: 02/17/22 16:15  
Date Received: 02/24/22 08:00

**Lab Sample ID: 240-163023-5**  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	518745	02/25/22 19:35	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	518807	02/25/22 21:25	CS	TAL CAN

**Client Sample ID: MW-03\_021822**  
Date Collected: 02/18/22 13:38  
Date Received: 02/24/22 08:00

**Lab Sample ID: 240-163023-6**  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	518745	02/25/22 14:54	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	518807	02/25/22 21:51	CS	TAL CAN

# Lab Chronicle

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

Job ID: 240-163023-1

**Client Sample ID: MW-05\_021822**

**Lab Sample ID: 240-163023-7**

**Date Collected: 02/18/22 12:00**

**Matrix: Water**

**Date Received: 02/24/22 08:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	518745	02/25/22 15:17	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	518807	02/25/22 22:18	CS	TAL CAN

**Laboratory References:**

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

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# Accreditation/Certification Summary

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

Job ID: 240-163023-1

## 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	02-23-22 *
Connecticut	State	PH-0590	12-31-21 *
Florida	NELAP	E87225	06-30-22
Georgia	State	4062	02-23-22 *
Illinois	NELAP	200004	07-31-22
Iowa	State	421	06-01-23
Kansas	NELAP	E-10336	04-30-22
Kentucky (UST)	State	112225	02-23-22 *
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	11-06-22
New York	NELAP	10975	03-31-22
Ohio	State	8303	02-23-23
Ohio VAP	State	CL0024	12-21-23
Pennsylvania	NELAP	68-00340	08-31-22
Texas	NELAP	T104704517-21-14	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

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

Regulatory program:  DW  NPDES  RCRA  Other

Client Contact  
Company Name: Arcadis  
Address: 26550 Cabot Drive, Suite 500  
City/State/Zip: Novi, MI, 48377  
Phone: 248-994-2240

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

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

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

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

Sample Identification	Sample Date	Sample Time	Matrix			Containers & Preservatives						Filtered Sample (Y/N)	Composite=C / Grab=G	Analyses						Sample Specific Notes / Special Instructions:					
			Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl	NaOH			ZnAc	NaOH	Other:	1,1-DCE 8260B	cis-1,2-DCE 8260B	Trans-1,2-DCE 8260B		PCE 8260B	TCE 8260B	Vinyl Chloride 8260B	1,4-Dioxane 8260B SIM	
TRIP BLANK_58	2/18/22	---	X																						1 Trip Blank
MW-10-021722	2/17/22	12:25	X																						3 VOAs for 8260B 3 VOAs for 8260B SIM
MW-04-021722	2/17/22	14:05	X																						"
DUP-02-021722	2/17/22	---	X																						"
MW-02-021722	2/17/22	16:15	X																						"
MW-03-021822	2/18/22	13:38	X																						"
MW-05-021822	2/18/22	12:00	X																						"



Possible Hazard Identification  
 Non-Hazard  Irritant  Poison B  Unknown

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

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Jayanna Kindle	ARCADIS	2/18/22 15:10	NOVI COLD STORAGE	ARCADIS	2/18/22 15:10
NOVI COLD STORAGE	ARCADIS	2/23/22 10:10	EEEA	EEEA	2-23-22 10:10
Jayanna Kindle	Eurofins	2-23-22 13:00	EEEA	EEEA	2-24-22 08:00






Client Arcadis Site Name \_\_\_\_\_ Cooler unpacked by: [Signature]  
 Cooler Received on 2-24-22 Opened on 2-24-22  
 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 \_\_\_\_\_

1. Cooler temperature upon receipt  See Multiple Cooler Form  
 IR GUN# IR-14 (CF -0.2 °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 1 ea Yes No  
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA  
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No  
 -Were tamper/custody seals intact and uncompromised? Yes No NA
  3. Shippers' packing slip attached to the cooler(s)? Yes No
  4. Did custody papers accompany the sample(s)? Yes No
  5. Were the custody papers relinquished & signed in the appropriate place? Yes No
  6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
  7. Did all bottles arrive in good condition (Unbroken)? Yes No
  8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No
  9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?
  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 # 01042019 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: \_\_\_\_\_



