

ANALYTICAL REPORT

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

Laboratory Job ID: 240-163307-1
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:
3/18/2022 10:19:48 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: 240-163307-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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: 240-163307-1

Job ID: 240-163307-1

Laboratory: Eurofins Canton

Narrative

**Job Narrative
240-163307-1**

Comments

No additional comments.

Receipt

The samples were received on 3/4/2022 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 3 coolers at receipt time were 1.6° C, 2.2° C and 2.8° 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: 240-163307-1

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

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- 14

Sample Summary

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

Job ID: 240-163307-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-163307-1	TRIP BLANK-116	Water	03/01/22 00:00	03/04/22 08:00
240-163307-2	MW-32_030122	Water	03/01/22 10:15	03/04/22 08:00
240-163307-3	MW-218S_030122	Water	03/01/22 11:10	03/04/22 08:00
240-163307-4	MW-39_030122	Water	03/01/22 13:00	03/04/22 08:00
240-163307-5	MW-33_030122	Water	03/01/22 14:10	03/04/22 08:00

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- 10
- 11
- 12
- 13
- 14

Detection Summary

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

Job ID: 240-163307-1

Client Sample ID: TRIP BLANK-116

Lab Sample ID: 240-163307-1

No Detections.

Client Sample ID: MW-32_030122

Lab Sample ID: 240-163307-2

No Detections.

Client Sample ID: MW-218S_030122

Lab Sample ID: 240-163307-3

No Detections.

Client Sample ID: MW-39_030122

Lab Sample ID: 240-163307-4

No Detections.

Client Sample ID: MW-33_030122

Lab Sample ID: 240-163307-5

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: 240-163307-1

Client Sample ID: TRIP BLANK-116

Lab Sample ID: 240-163307-1

Date Collected: 03/01/22 00:00

Matrix: Water

Date Received: 03/04/22 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			03/08/22 19:22	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/08/22 19:22	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/08/22 19:22	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/08/22 19:22	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/08/22 19:22	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/08/22 19:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		62 - 137		03/08/22 19:22	1
4-Bromofluorobenzene (Surr)	82		56 - 136		03/08/22 19:22	1
Toluene-d8 (Surr)	80		78 - 122		03/08/22 19:22	1
Dibromofluoromethane (Surr)	83		73 - 120		03/08/22 19:22	1

Client Sample Results

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

Job ID: 240-163307-1

Client Sample ID: MW-32_030122

Lab Sample ID: 240-163307-2

Date Collected: 03/01/22 10:15

Matrix: Water

Date Received: 03/04/22 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			03/08/22 03:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	77		66 - 120		03/08/22 03:03	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			03/08/22 19:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/08/22 19:47	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/08/22 19:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/08/22 19:47	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/08/22 19:47	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/08/22 19:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		62 - 137		03/08/22 19:47	1
4-Bromofluorobenzene (Surr)	80		56 - 136		03/08/22 19:47	1
Toluene-d8 (Surr)	80		78 - 122		03/08/22 19:47	1
Dibromofluoromethane (Surr)	82		73 - 120		03/08/22 19:47	1

Client Sample Results

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

Job ID: 240-163307-1

Client Sample ID: MW-218S_030122

Lab Sample ID: 240-163307-3

Date Collected: 03/01/22 11:10

Matrix: Water

Date Received: 03/04/22 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			03/09/22 01:09	1
Surrogate									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	79		66 - 120					03/09/22 01:09	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			03/08/22 20:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/08/22 20:12	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/08/22 20:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/08/22 20:12	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/08/22 20:12	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/08/22 20:12	1
Surrogate									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		62 - 137					03/08/22 20:12	1
4-Bromofluorobenzene (Surr)	79		56 - 136					03/08/22 20:12	1
Toluene-d8 (Surr)	80		78 - 122					03/08/22 20:12	1
Dibromofluoromethane (Surr)	80		73 - 120					03/08/22 20:12	1

Client Sample Results

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

Job ID: 240-163307-1

Client Sample ID: MW-39_030122

Lab Sample ID: 240-163307-4

Date Collected: 03/01/22 13:00

Matrix: Water

Date Received: 03/04/22 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			03/08/22 03:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		66 - 120		03/08/22 03:28	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			03/08/22 21:27	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/08/22 21:27	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/08/22 21:27	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/08/22 21:27	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/08/22 21:27	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/08/22 21:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		62 - 137		03/08/22 21:27	1
4-Bromofluorobenzene (Surr)	80		56 - 136		03/08/22 21:27	1
Toluene-d8 (Surr)	79		78 - 122		03/08/22 21:27	1
Dibromofluoromethane (Surr)	80		73 - 120		03/08/22 21:27	1

Client Sample Results

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

Job ID: 240-163307-1

Client Sample ID: MW-33_030122

Lab Sample ID: 240-163307-5

Date Collected: 03/01/22 14:10

Matrix: Water

Date Received: 03/04/22 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			03/08/22 03:52	1
Surrogate									
	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	78		66 - 120					03/08/22 03:52	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			03/09/22 13:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/09/22 13:37	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/09/22 13:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/09/22 13:37	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/09/22 13:37	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/09/22 13:37	1
Surrogate									
	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		62 - 137					03/09/22 13:37	1
4-Bromofluorobenzene (Surr)	79		56 - 136					03/09/22 13:37	1
Toluene-d8 (Surr)	80		78 - 122					03/09/22 13:37	1
Dibromofluoromethane (Surr)	80		73 - 120					03/09/22 13:37	1

Surrogate Summary

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

Job ID: 240-163307-1

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)
240-163296-E-16 MSD	Matrix Spike Duplicate	81	81	80	81
240-163296-H-16 MS	Matrix Spike	80	81	78	79
240-163307-1	TRIP BLANK-116	87	82	80	83
240-163307-2	MW-32_030122	87	80	80	82
240-163307-3	MW-218S_030122	83	79	80	80
240-163307-3 MS	MW-218S-MS_030122	83	86	80	81
240-163307-3 MSD	MW-218S-MSD_030122	82	83	80	83
240-163307-4	MW-39_030122	84	80	79	80
240-163307-5	MW-33_030122	87	79	80	80
LCS 240-519397/5	Lab Control Sample	87	85	80	83
LCS 240-519500/5	Lab Control Sample	82	78	80	82
MB 240-519397/10	Method Blank	86	81	81	84
MB 240-519397/8	Method Blank	91	81	79	83
MB 240-519500/8	Method Blank	84	78	81	80

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)
240-163304-G-4 MS	Matrix Spike	77
240-163304-M-4 MSD	Matrix Spike Duplicate	81
240-163307-2	MW-32_030122	77
240-163307-3	MW-218S_030122	79
240-163307-3 MS	MW-218S-MS_030122	82
240-163307-3 MSD	MW-218S-MSD_030122	82
240-163307-4	MW-39_030122	81
240-163307-5	MW-33_030122	78
LCS 240-519341/4	Lab Control Sample	80
LCS 240-519472/4	Lab Control Sample	80
MB 240-519341/5	Method Blank	80
MB 240-519472/5	Method Blank	80

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-163307-1

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

Lab Sample ID: MB 240-519397/10
Matrix: Water
Analysis Batch: 519397

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			03/08/22 14:22	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/08/22 14:22	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/08/22 14:22	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/08/22 14:22	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/08/22 14:22	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/08/22 14:22	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	86		62 - 137		03/08/22 14:22	1
4-Bromofluorobenzene (Surr)	81		56 - 136		03/08/22 14:22	1
Toluene-d8 (Surr)	81		78 - 122		03/08/22 14:22	1
Dibromofluoromethane (Surr)	84		73 - 120		03/08/22 14:22	1

Lab Sample ID: MB 240-519397/8
Matrix: Water
Analysis Batch: 519397

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			03/08/22 13:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/08/22 13:32	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/08/22 13:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/08/22 13:32	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/08/22 13:32	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/08/22 13:32	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	91		62 - 137		03/08/22 13:32	1
4-Bromofluorobenzene (Surr)	81		56 - 136		03/08/22 13:32	1
Toluene-d8 (Surr)	79		78 - 122		03/08/22 13:32	1
Dibromofluoromethane (Surr)	83		73 - 120		03/08/22 13:32	1

Lab Sample ID: LCS 240-519397/5
Matrix: Water
Analysis Batch: 519397

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	20.0	18.6		ug/L		93	77 - 123
Tetrachloroethene	20.0	18.6		ug/L		93	76 - 123
trans-1,2-Dichloroethene	20.0	18.1		ug/L		90	75 - 124
Trichloroethene	20.0	18.7		ug/L		93	70 - 122
Vinyl chloride	20.0	20.8		ug/L		104	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	87		62 - 137
4-Bromofluorobenzene (Surr)	85		56 - 136
Toluene-d8 (Surr)	80		78 - 122

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QC Sample Results

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

Job ID: 240-163307-1

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

Lab Sample ID: LCS 240-519397/5
Matrix: Water
Analysis Batch: 519397

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

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	83		73 - 120

Lab Sample ID: 240-163307-3 MS
Matrix: Water
Analysis Batch: 519397

Client Sample ID: MW-218S-MS_030122
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
1,1-Dichloroethene	1.0	U	20.0	19.5		ug/L		98	56 - 135	
cis-1,2-Dichloroethene	1.0	U	20.0	18.3		ug/L		92	66 - 128	
Tetrachloroethene	1.0	U	20.0	17.7		ug/L		88	62 - 131	
trans-1,2-Dichloroethene	1.0	U	20.0	17.9		ug/L		89	56 - 136	
Trichloroethene	1.0	U	20.0	18.6		ug/L		93	61 - 124	
Vinyl chloride	1.0	U	20.0	20.3		ug/L		102	43 - 157	

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	83		62 - 137
4-Bromofluorobenzene (Surr)	86		56 - 136
Toluene-d8 (Surr)	80		78 - 122
Dibromofluoromethane (Surr)	81		73 - 120

Lab Sample ID: 240-163307-3 MSD
Matrix: Water
Analysis Batch: 519397

Client Sample ID: MW-218S-MSD_030122
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier								
1,1-Dichloroethene	1.0	U	20.0	19.6		ug/L		98	56 - 135	0	26		
cis-1,2-Dichloroethene	1.0	U	20.0	19.6		ug/L		98	66 - 128	7	14		
Tetrachloroethene	1.0	U	20.0	18.0		ug/L		90	62 - 131	2	20		
trans-1,2-Dichloroethene	1.0	U	20.0	18.6		ug/L		93	56 - 136	4	15		
Trichloroethene	1.0	U	20.0	19.5		ug/L		97	61 - 124	4	15		
Vinyl chloride	1.0	U	20.0	20.3		ug/L		101	43 - 157	0	24		

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	82		62 - 137
4-Bromofluorobenzene (Surr)	83		56 - 136
Toluene-d8 (Surr)	80		78 - 122
Dibromofluoromethane (Surr)	83		73 - 120

Lab Sample ID: MB 240-519500/8
Matrix: Water
Analysis Batch: 519500

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			03/09/22 12:22	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/09/22 12:22	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/09/22 12:22	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/09/22 12:22	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/09/22 12:22	1

Eurofins Canton

QC Sample Results

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

Job ID: 240-163307-1

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

Lab Sample ID: MB 240-519500/8
Matrix: Water
Analysis Batch: 519500

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/09/22 12:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		62 - 137		03/09/22 12:22	1
4-Bromofluorobenzene (Surr)	78		56 - 136		03/09/22 12:22	1
Toluene-d8 (Surr)	81		78 - 122		03/09/22 12:22	1
Dibromofluoromethane (Surr)	80		73 - 120		03/09/22 12:22	1

Lab Sample ID: LCS 240-519500/5
Matrix: Water
Analysis Batch: 519500

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	20.0	20.1		ug/L		100	63 - 134
cis-1,2-Dichloroethene	20.0	19.1		ug/L		95	77 - 123
Tetrachloroethene	20.0	18.8		ug/L		94	76 - 123
trans-1,2-Dichloroethene	20.0	18.6		ug/L		93	75 - 124
Trichloroethene	20.0	19.8		ug/L		99	70 - 122
Vinyl chloride	20.0	19.7		ug/L		99	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	82		62 - 137
4-Bromofluorobenzene (Surr)	78		56 - 136
Toluene-d8 (Surr)	80		78 - 122
Dibromofluoromethane (Surr)	82		73 - 120

Lab Sample ID: 240-163296-E-16 MSD
Matrix: Water
Analysis Batch: 519500

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	3.3	U F1	66.6	32.2	F1	ug/L		48	56 - 135	6	26
cis-1,2-Dichloroethene	3.3	U F1	66.6	32.4	F1	ug/L		49	66 - 128	7	14
Tetrachloroethene	3.3	U F1	66.6	28.2	F1	ug/L		42	62 - 131	2	20
trans-1,2-Dichloroethene	3.3	U F1	66.6	28.1	F1	ug/L		42	56 - 136	3	15
Trichloroethene	97	F1	66.6	99.5	F1	ug/L		3	61 - 124	3	15
Vinyl chloride	3.3	U F1	66.6	32.3		ug/L		49	43 - 157	15	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	81		62 - 137
4-Bromofluorobenzene (Surr)	81		56 - 136
Toluene-d8 (Surr)	80		78 - 122
Dibromofluoromethane (Surr)	81		73 - 120

QC Sample Results

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

Job ID: 240-163307-1

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

Lab Sample ID: 240-163296-H-16 MS
Matrix: Water
Analysis Batch: 519500

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	3.3	U F1	66.6	30.2	F1	ug/L		45	56 - 135
cis-1,2-Dichloroethene	3.3	U F1	66.6	30.3	F1	ug/L		46	66 - 128
Tetrachloroethene	3.3	U F1	66.6	27.5	F1	ug/L		41	62 - 131
trans-1,2-Dichloroethene	3.3	U F1	66.6	27.3	F1	ug/L		41	56 - 136
Trichloroethene	97	F1	66.6	102	F1	ug/L		7	61 - 124
Vinyl chloride	3.3	U F1	66.6	27.7	F1	ug/L		42	43 - 157

Surrogate	MS %Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	80		62 - 137
4-Bromofluorobenzene (Surr)	81		56 - 136
Toluene-d8 (Surr)	78		78 - 122
Dibromofluoromethane (Surr)	79		73 - 120

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

Lab Sample ID: MB 240-519341/5
Matrix: Water
Analysis Batch: 519341

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			03/07/22 18:28	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		66 - 120		03/07/22 18:28	1

Lab Sample ID: LCS 240-519341/4
Matrix: Water
Analysis Batch: 519341

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	9.77		ug/L		98	80 - 122

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
1,2-Dichloroethane-d4 (Surr)	80		66 - 120

Lab Sample ID: 240-163304-G-4 MS
Matrix: Water
Analysis Batch: 519341

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	10.4		ug/L		104	51 - 153

Surrogate	MS %Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	77		66 - 120

QC Sample Results

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

Job ID: 240-163307-1

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

Lab Sample ID: 240-163304-M-4 MSD
Matrix: Water
Analysis Batch: 519341

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	10.3		ug/L		103	51 - 153	1	16
Surrogate	%Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	81		66 - 120								

Lab Sample ID: MB 240-519472/5
Matrix: Water
Analysis Batch: 519472

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			03/08/22 22:14	1	
Surrogate	%Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac				
1,2-Dichloroethane-d4 (Surr)	80		66 - 120		03/08/22 22:14	1				

Lab Sample ID: LCS 240-519472/4
Matrix: Water
Analysis Batch: 519472

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	9.05		ug/L		90	80 - 122
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	80		66 - 120				

Lab Sample ID: 240-163307-3 MS
Matrix: Water
Analysis Batch: 519472

Client Sample ID: MW-218S-MS_030122
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	10.1		ug/L		101	51 - 153
Surrogate	%Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	82		66 - 120						

Lab Sample ID: 240-163307-3 MSD
Matrix: Water
Analysis Batch: 519472

Client Sample ID: MW-218S-MSD_030122
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	10.5		ug/L		105	51 - 153	4	16
Surrogate	%Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	82		66 - 120								

QC Association Summary

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

Job ID: 240-163307-1

GC/MS VOA

Analysis Batch: 519341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-163307-2	MW-32_030122	Total/NA	Water	8260B SIM	
240-163307-4	MW-39_030122	Total/NA	Water	8260B SIM	
240-163307-5	MW-33_030122	Total/NA	Water	8260B SIM	
MB 240-519341/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-519341/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-163304-G-4 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-163304-M-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 519397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-163307-1	TRIP BLANK-116	Total/NA	Water	8260B	
240-163307-2	MW-32_030122	Total/NA	Water	8260B	
240-163307-3	MW-218S_030122	Total/NA	Water	8260B	
240-163307-4	MW-39_030122	Total/NA	Water	8260B	
MB 240-519397/10	Method Blank	Total/NA	Water	8260B	
MB 240-519397/8	Method Blank	Total/NA	Water	8260B	
LCS 240-519397/5	Lab Control Sample	Total/NA	Water	8260B	
240-163307-3 MS	MW-218S-MS_030122	Total/NA	Water	8260B	
240-163307-3 MSD	MW-218S-MSD_030122	Total/NA	Water	8260B	

Analysis Batch: 519472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-163307-3	MW-218S_030122	Total/NA	Water	8260B SIM	
MB 240-519472/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-519472/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-163307-3 MS	MW-218S-MS_030122	Total/NA	Water	8260B SIM	
240-163307-3 MSD	MW-218S-MSD_030122	Total/NA	Water	8260B SIM	

Analysis Batch: 519500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-163307-5	MW-33_030122	Total/NA	Water	8260B	
MB 240-519500/8	Method Blank	Total/NA	Water	8260B	
LCS 240-519500/5	Lab Control Sample	Total/NA	Water	8260B	
240-163296-E-16 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
240-163296-H-16 MS	Matrix Spike	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-163307-1

Client Sample ID: TRIP BLANK-116

Lab Sample ID: 240-163307-1

Date Collected: 03/01/22 00:00

Matrix: Water

Date Received: 03/04/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	519397	03/08/22 19:22	LEE	TAL CAN

Client Sample ID: MW-32_030122

Lab Sample ID: 240-163307-2

Date Collected: 03/01/22 10:15

Matrix: Water

Date Received: 03/04/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	519397	03/08/22 19:47	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	519341	03/08/22 03:03	CS	TAL CAN

Client Sample ID: MW-218S_030122

Lab Sample ID: 240-163307-3

Date Collected: 03/01/22 11:10

Matrix: Water

Date Received: 03/04/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	519397	03/08/22 20:12	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	519472	03/09/22 01:09	CS	TAL CAN

Client Sample ID: MW-39_030122

Lab Sample ID: 240-163307-4

Date Collected: 03/01/22 13:00

Matrix: Water

Date Received: 03/04/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	519397	03/08/22 21:27	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	519341	03/08/22 03:28	CS	TAL CAN

Client Sample ID: MW-33_030122

Lab Sample ID: 240-163307-5

Date Collected: 03/01/22 14:10

Matrix: Water

Date Received: 03/04/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	519500	03/09/22 13:37	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	519341	03/08/22 03:52	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: 240-163307-1

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	02-27-23
Oregon	NELAP	4062	02-27-23
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 TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 163307

Client ArCADIS Site Name _____ Cooler unpacked by Adam Jensen
 Cooler Received on 3-4-22 Opened on 3-4-22
 FedEx. 1st Grd Exp UPS FAS Chipper Client Drop Off TestAmerica Courier Other

Receipt After-hours Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 74 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)? 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 # 01042016 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 _____

