

ANALYTICAL REPORT

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

Laboratory Job ID: 240-167068-1
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:
6/6/2022 11:47:20 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: 240-167068-1

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: 240-167068-1

Job ID: 240-167068-1

Laboratory: Eurofins Canton

Narrative

Job Narrative 240-167068-1

Comments

No additional comments.

Receipt

The samples were received on 5/21/2022 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 0.9° C and 1.2° C.

GC/MS VOA

Method 8260D SIM: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: MW-197S_051922 (240-167068-3). Elevated reporting limits (RLs) are provided.

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

VOA Prep

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



Method Summary

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

Job ID: 240-167068-1

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

Protocol References:

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

Laboratory References:

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

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- 9
- 10
- 11
- 12
- 13
- 14

Sample Summary

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

Job ID: 240-167068-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-167068-1	TRIP BLANK_38	Water	05/19/22 00:00	05/21/22 08:00
240-167068-2	MW-124_051922	Water	05/19/22 08:47	05/21/22 08:00
240-167068-3	MW-197S_051922	Water	05/19/22 10:00	05/21/22 08:00
240-167068-4	MW-09_051922	Water	05/19/22 11:03	05/21/22 08:00
240-167068-5	MW-53_051922	Water	05/19/22 12:12	05/21/22 08:00
240-167068-6	MW-58_051922	Water	05/19/22 14:00	05/21/22 08:00

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- 2
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- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

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

Job ID: 240-167068-1

Client Sample ID: TRIP BLANK_38

Lab Sample ID: 240-167068-1

No Detections.

Client Sample ID: MW-124_051922

Lab Sample ID: 240-167068-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.5		1.0	0.46	ug/L	1		8260D	Total/NA

Client Sample ID: MW-197S_051922

Lab Sample ID: 240-167068-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	21		1.0	0.46	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	1.4		1.0	0.51	ug/L	1		8260D	Total/NA
Trichloroethene	64		1.0	0.44	ug/L	1		8260D	Total/NA
Vinyl chloride	1.2		1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: MW-09_051922

Lab Sample ID: 240-167068-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	5.5		2.0	0.86	ug/L	1		8260D SIM	Total/NA
Vinyl chloride	0.99	J	1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: MW-53_051922

Lab Sample ID: 240-167068-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.4	J	2.0	0.86	ug/L	1		8260D SIM	Total/NA

Client Sample ID: MW-58_051922

Lab Sample ID: 240-167068-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	4.3		2.0	0.86	ug/L	1		8260D SIM	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 240-167068-1

Client Sample ID: TRIP BLANK_38

Lab Sample ID: 240-167068-1

Date Collected: 05/19/22 00:00

Matrix: Water

Date Received: 05/21/22 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			06/02/22 15:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			06/02/22 15:07	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/02/22 15:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/02/22 15:07	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/02/22 15:07	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			06/02/22 15:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		62 - 137		06/02/22 15:07	1
4-Bromofluorobenzene (Surr)	85		56 - 136		06/02/22 15:07	1
Toluene-d8 (Surr)	80		78 - 122		06/02/22 15:07	1
Dibromofluoromethane (Surr)	88		73 - 120		06/02/22 15:07	1

Client Sample Results

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

Job ID: 240-167068-1

Client Sample ID: MW-124_051922

Lab Sample ID: 240-167068-2

Date Collected: 05/19/22 08:47

Matrix: Water

Date Received: 05/21/22 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			06/01/22 03:08	1
Surrogate									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		66 - 120					06/01/22 03:08	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			06/02/22 15:32	1
cis-1,2-Dichloroethene	2.5		1.0	0.46	ug/L			06/02/22 15:32	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/02/22 15:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/02/22 15:32	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/02/22 15:32	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			06/02/22 15:32	1
Surrogate									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		62 - 137					06/02/22 15:32	1
4-Bromofluorobenzene (Surr)	86		56 - 136					06/02/22 15:32	1
Toluene-d8 (Surr)	81		78 - 122					06/02/22 15:32	1
Dibromofluoromethane (Surr)	91		73 - 120					06/02/22 15:32	1

Client Sample Results

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

Job ID: 240-167068-1

Client Sample ID: MW-197S_051922

Lab Sample ID: 240-167068-3

Date Collected: 05/19/22 10:00

Matrix: Water

Date Received: 05/21/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	4.0	U	4.0	1.7	ug/L			06/01/22 03:32	2
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		66 - 120					06/01/22 03:32	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			06/02/22 22:40	1
cis-1,2-Dichloroethene	21		1.0	0.46	ug/L			06/02/22 22:40	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/02/22 22:40	1
trans-1,2-Dichloroethene	1.4		1.0	0.51	ug/L			06/02/22 22:40	1
Trichloroethene	64		1.0	0.44	ug/L			06/02/22 22:40	1
Vinyl chloride	1.2		1.0	0.45	ug/L			06/02/22 22:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		62 - 137					06/02/22 22:40	1
4-Bromofluorobenzene (Surr)	83		56 - 136					06/02/22 22:40	1
Toluene-d8 (Surr)	81		78 - 122					06/02/22 22:40	1
Dibromofluoromethane (Surr)	93		73 - 120					06/02/22 22:40	1

Client Sample Results

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

Job ID: 240-167068-1

Client Sample ID: MW-09_051922

Lab Sample ID: 240-167068-4

Date Collected: 05/19/22 11:03

Matrix: Water

Date Received: 05/21/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	5.5		2.0	0.86	ug/L			06/01/22 03:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		66 - 120					06/01/22 03:56	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			06/02/22 16:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			06/02/22 16:23	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/02/22 16:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/02/22 16:23	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/02/22 16:23	1
Vinyl chloride	0.99	J	1.0	0.45	ug/L			06/02/22 16:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		62 - 137					06/02/22 16:23	1
4-Bromofluorobenzene (Surr)	83		56 - 136					06/02/22 16:23	1
Toluene-d8 (Surr)	80		78 - 122					06/02/22 16:23	1
Dibromofluoromethane (Surr)	90		73 - 120					06/02/22 16:23	1

Client Sample Results

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

Job ID: 240-167068-1

Client Sample ID: MW-53_051922
Date Collected: 05/19/22 12:12
Date Received: 05/21/22 08:00

Lab Sample ID: 240-167068-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.4	J	2.0	0.86	ug/L			06/01/22 04:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		66 - 120					06/01/22 04:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			06/02/22 16:49	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			06/02/22 16:49	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/02/22 16:49	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/02/22 16:49	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/02/22 16:49	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			06/02/22 16:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		62 - 137					06/02/22 16:49	1
4-Bromofluorobenzene (Surr)	83		56 - 136					06/02/22 16:49	1
Toluene-d8 (Surr)	80		78 - 122					06/02/22 16:49	1
Dibromofluoromethane (Surr)	91		73 - 120					06/02/22 16:49	1

Client Sample Results

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

Job ID: 240-167068-1

Client Sample ID: MW-58_051922

Lab Sample ID: 240-167068-6

Date Collected: 05/19/22 14:00

Matrix: Water

Date Received: 05/21/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	4.3		2.0	0.86	ug/L			06/01/22 04:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		66 - 120		06/01/22 04:43	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			06/02/22 17:14	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			06/02/22 17:14	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/02/22 17:14	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/02/22 17:14	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/02/22 17:14	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			06/02/22 17:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		62 - 137		06/02/22 17:14	1
4-Bromofluorobenzene (Surr)	84		56 - 136		06/02/22 17:14	1
Toluene-d8 (Surr)	78		78 - 122		06/02/22 17:14	1
Dibromofluoromethane (Surr)	92		73 - 120		06/02/22 17:14	1

Surrogate Summary

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

Job ID: 240-167068-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (62-137)	BFB (56-136)	TOL (78-122)	DBFM (73-120)
240-166988-A-25 MS	Matrix Spike	80	90	81	91
240-167068-1	TRIP BLANK_38	85	85	80	88
240-167068-2	MW-124_051922	85	86	81	91
240-167068-3	MW-197S_051922	85	83	81	93
240-167068-4	MW-09_051922	82	83	80	90
240-167068-5	MW-53_051922	84	83	80	91
240-167068-6	MW-58_051922	84	84	78	92
LCS 240-528896/5	Lab Control Sample	77	91	81	90
MB 240-528896/8	Method Blank	83	85	81	93

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(66-120)
240-167067-G-2 MS	Matrix Spike	88
240-167067-M-2 MSD	Matrix Spike Duplicate	89
240-167068-2	MW-124_051922	87
240-167068-3	MW-197S_051922	84
240-167068-4	MW-09_051922	85
240-167068-5	MW-53_051922	83
240-167068-6	MW-58_051922	88
LCS 240-528626/3	Lab Control Sample	86
MB 240-528626/4	Method Blank	87

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-167068-1

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

Lab Sample ID: MB 240-528896/8
Matrix: Water
Analysis Batch: 528896

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			06/02/22 13:52	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			06/02/22 13:52	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			06/02/22 13:52	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			06/02/22 13:52	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			06/02/22 13:52	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			06/02/22 13:52	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	83		62 - 137		06/02/22 13:52	1
4-Bromofluorobenzene (Surr)	85		56 - 136		06/02/22 13:52	1
Toluene-d8 (Surr)	81		78 - 122		06/02/22 13:52	1
Dibromofluoromethane (Surr)	93		73 - 120		06/02/22 13:52	1

Lab Sample ID: LCS 240-528896/5
Matrix: Water
Analysis Batch: 528896

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
1,1-Dichloroethene	20.0	18.7		ug/L		93	63 - 134
cis-1,2-Dichloroethene	20.0	19.9		ug/L		99	77 - 123
Tetrachloroethene	20.0	20.6		ug/L		103	76 - 123
trans-1,2-Dichloroethene	20.0	20.1		ug/L		100	75 - 124
Trichloroethene	20.0	21.3		ug/L		107	70 - 122
Vinyl chloride	20.0	17.7		ug/L		88	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	77		62 - 137
4-Bromofluorobenzene (Surr)	91		56 - 136
Toluene-d8 (Surr)	81		78 - 122
Dibromofluoromethane (Surr)	90		73 - 120

Lab Sample ID: 240-166988-A-25 MS
Matrix: Water
Analysis Batch: 528896

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				
cis-1,2-Dichloroethene	320		250	504		ug/L		73	66 - 128
Tetrachloroethene	13	U	250	219		ug/L		87	62 - 131
trans-1,2-Dichloroethene	13	U	250	229		ug/L		92	56 - 136
Trichloroethene	13	U	250	233		ug/L		93	61 - 124
Vinyl chloride	340		250	467		ug/L		50	43 - 157

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	80		62 - 137
4-Bromofluorobenzene (Surr)	90		56 - 136
Toluene-d8 (Surr)	81		78 - 122
Dibromofluoromethane (Surr)	91		73 - 120

Eurofins Canton

QC Sample Results

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

Job ID: 240-167068-1

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

Lab Sample ID: MB 240-528626/4
Matrix: Water
Analysis Batch: 528626

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			05/31/22 20:47	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		66 - 120					05/31/22 20:47	1

Lab Sample ID: LCS 240-528626/3
Matrix: Water
Analysis Batch: 528626

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	10.0	11.7		ug/L		117	80 - 122
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	86		66 - 120				

Lab Sample ID: 240-167067-G-2 MS
Matrix: Water
Analysis Batch: 528626

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	10.9		ug/L		109	51 - 153
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	88		66 - 120						

Lab Sample ID: 240-167067-M-2 MSD
Matrix: Water
Analysis Batch: 528626

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
1,4-Dioxane	2.0	U	10.0	11.9		ug/L		119	51 - 153	9	16
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	89		66 - 120								

QC Association Summary

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

Job ID: 240-167068-1

GC/MS VOA

Analysis Batch: 528626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-167068-2	MW-124_051922	Total/NA	Water	8260D SIM	
240-167068-3	MW-197S_051922	Total/NA	Water	8260D SIM	
240-167068-4	MW-09_051922	Total/NA	Water	8260D SIM	
240-167068-5	MW-53_051922	Total/NA	Water	8260D SIM	
240-167068-6	MW-58_051922	Total/NA	Water	8260D SIM	
MB 240-528626/4	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-528626/3	Lab Control Sample	Total/NA	Water	8260D SIM	
240-167067-G-2 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-167067-M-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

Analysis Batch: 528896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-167068-1	TRIP BLANK_38	Total/NA	Water	8260D	
240-167068-2	MW-124_051922	Total/NA	Water	8260D	
240-167068-3	MW-197S_051922	Total/NA	Water	8260D	
240-167068-4	MW-09_051922	Total/NA	Water	8260D	
240-167068-5	MW-53_051922	Total/NA	Water	8260D	
240-167068-6	MW-58_051922	Total/NA	Water	8260D	
MB 240-528896/8	Method Blank	Total/NA	Water	8260D	
LCS 240-528896/5	Lab Control Sample	Total/NA	Water	8260D	
240-166988-A-25 MS	Matrix Spike	Total/NA	Water	8260D	

Lab Chronicle

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

Job ID: 240-167068-1

Client Sample ID: TRIP BLANK_38
Date Collected: 05/19/22 00:00
Date Received: 05/21/22 08:00

Lab Sample ID: 240-167068-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	528896	06/02/22 15:07	TJL1	TAL CAN

Client Sample ID: MW-124_051922
Date Collected: 05/19/22 08:47
Date Received: 05/21/22 08:00

Lab Sample ID: 240-167068-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	528896	06/02/22 15:32	TJL1	TAL CAN
Total/NA	Analysis	8260D SIM		1	528626	06/01/22 03:08	CS	TAL CAN

Client Sample ID: MW-197S_051922
Date Collected: 05/19/22 10:00
Date Received: 05/21/22 08:00

Lab Sample ID: 240-167068-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	528896	06/02/22 22:40	TJL1	TAL CAN
Total/NA	Analysis	8260D SIM		2	528626	06/01/22 03:32	CS	TAL CAN

Client Sample ID: MW-09_051922
Date Collected: 05/19/22 11:03
Date Received: 05/21/22 08:00

Lab Sample ID: 240-167068-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	528896	06/02/22 16:23	TJL1	TAL CAN
Total/NA	Analysis	8260D SIM		1	528626	06/01/22 03:56	CS	TAL CAN

Client Sample ID: MW-53_051922
Date Collected: 05/19/22 12:12
Date Received: 05/21/22 08:00

Lab Sample ID: 240-167068-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	528896	06/02/22 16:49	TJL1	TAL CAN
Total/NA	Analysis	8260D SIM		1	528626	06/01/22 04:20	CS	TAL CAN

Client Sample ID: MW-58_051922
Date Collected: 05/19/22 14:00
Date Received: 05/21/22 08:00

Lab Sample ID: 240-167068-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	528896	06/02/22 17:14	TJL1	TAL CAN
Total/NA	Analysis	8260D SIM		1	528626	06/01/22 04:43	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: 240-167068-1

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

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



Eurofins - Canton Sample Receipt Form/Narrative Login #: 167068
Barberton Facility

Client Arcadis Site Name Ford LTP Cooler unpacked by: ome
 Cooler Received on 5-21-22 Opened on 5-23-22

FedEx: 1st Grd Exp UPS FAS (Clippe) Client Drop Off Eurofins Courier Other _____

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

Eurofins 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-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 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 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)?
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? Yes No NA **● ← Larger than this.**
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: _____

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