

ANALYTICAL REPORT

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

Laboratory Job ID: 240-162971-1
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:
3/9/2022 4:09:58 PM

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



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Definitions/Glossary

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

Job ID: 240-162971-1

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: 240-162971-1

Job ID: 240-162971-1

Laboratory: Eurofins Canton

Narrative

**Job Narrative
240-162971-1**

Comments

No additional comments.

Receipt

The samples were received on 2/23/2022 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 0.1° C, 0.2° C and 1.1° C.

GC/MS VOA

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

VOA Prep

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

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Method Summary

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

Job ID: 240-162971-1

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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- 12
- 13
- 14

Sample Summary

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

Job ID: 240-162971-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-162971-1	TRIP BLANK_46	Water	02/19/22 00:00	02/23/22 08:00
240-162971-2	MW-213S_021922	Water	02/19/22 09:40	02/23/22 08:00
240-162971-3	MW-43_021922	Water	02/19/22 11:05	02/23/22 08:00
240-162971-4	MW-52_021922	Water	02/19/22 12:20	02/23/22 08:00

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

Detection Summary

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

Job ID: 240-162971-1

Client Sample ID: TRIP BLANK_46

Lab Sample ID: 240-162971-1

No Detections.

Client Sample ID: MW-213S_021922

Lab Sample ID: 240-162971-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.48	J	1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: MW-43_021922

Lab Sample ID: 240-162971-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.2		2.0	0.86	ug/L	1		8260B SIM	Total/NA

Client Sample ID: MW-52_021922

Lab Sample ID: 240-162971-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	1.5		1.0	0.45	ug/L	1		8260B	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: 240-162971-1

Client Sample ID: TRIP BLANK_46

Lab Sample ID: 240-162971-1

Date Collected: 02/19/22 00:00

Matrix: Water

Date Received: 02/23/22 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 14:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/25/22 14:07	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/25/22 14:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/25/22 14:07	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/25/22 14:07	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/25/22 14:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		62 - 137		02/25/22 14:07	1
4-Bromofluorobenzene (Surr)	91		56 - 136		02/25/22 14:07	1
Toluene-d8 (Surr)	96		78 - 122		02/25/22 14:07	1
Dibromofluoromethane (Surr)	103		73 - 120		02/25/22 14:07	1

Client Sample Results

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

Job ID: 240-162971-1

Client Sample ID: MW-213S_021922

Lab Sample ID: 240-162971-2

Date Collected: 02/19/22 09:40

Matrix: Water

Date Received: 02/23/22 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 17:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	74		66 - 120		02/25/22 17:51	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 18:02	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/25/22 18:02	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/25/22 18:02	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/25/22 18:02	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/25/22 18:02	1
Vinyl chloride	0.48	J	1.0	0.45	ug/L			02/25/22 18:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		62 - 137		02/25/22 18:02	1
4-Bromofluorobenzene (Surr)	101		56 - 136		02/25/22 18:02	1
Toluene-d8 (Surr)	108		78 - 122		02/25/22 18:02	1
Dibromofluoromethane (Surr)	117		73 - 120		02/25/22 18:02	1

Client Sample Results

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

Job ID: 240-162971-1

Client Sample ID: MW-43_021922

Lab Sample ID: 240-162971-3

Date Collected: 02/19/22 11:05

Matrix: Water

Date Received: 02/23/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.2		2.0	0.86	ug/L			02/25/22 18:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	74		66 - 120					02/25/22 18:18	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			03/01/22 14:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/01/22 14:10	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/01/22 14:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/01/22 14:10	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/01/22 14:10	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/01/22 14:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		62 - 137					03/01/22 14:10	1
4-Bromofluorobenzene (Surr)	96		56 - 136					03/01/22 14:10	1
Toluene-d8 (Surr)	100		78 - 122					03/01/22 14:10	1
Dibromofluoromethane (Surr)	109		73 - 120					03/01/22 14:10	1

Client Sample Results

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

Job ID: 240-162971-1

Client Sample ID: MW-52_021922

Lab Sample ID: 240-162971-4

Date Collected: 02/19/22 12:20

Matrix: Water

Date Received: 02/23/22 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 19:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	74		66 - 120		02/25/22 19:38	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 18:25	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/25/22 18:25	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/25/22 18:25	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/25/22 18:25	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/25/22 18:25	1
Vinyl chloride	1.5		1.0	0.45	ug/L			02/25/22 18:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		62 - 137		02/25/22 18:25	1
4-Bromofluorobenzene (Surr)	104		56 - 136		02/25/22 18:25	1
Toluene-d8 (Surr)	109		78 - 122		02/25/22 18:25	1
Dibromofluoromethane (Surr)	116		73 - 120		02/25/22 18:25	1

Surrogate Summary

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

Job ID: 240-162971-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA	BFB	TOL	DBFM
		(62-137)	(56-136)	(78-122)	(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
240-162971-1	TRIP BLANK_46	91	91	96	103
240-162971-2	MW-213S_021922	104	101	108	117
240-162971-3	MW-43_021922	94	96	100	109
240-162971-3 MS	MW-43-MS_021922	92	104	107	107
240-162971-3 MSD	MW-43-MSD_021922	98	109	110	111
240-162971-4	MW-52_021922	102	104	109	116
LCS 240-518745/5	Lab Control Sample	98	108	113	111
LCS 240-518935/5	Lab Control Sample	88	98	103	102
MB 240-518745/7	Method Blank	100	104	109	111
MB 240-518935/7	Method Blank	93	100	103	107

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

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(66-120)
240-162971-2	MW-213S_021922	74
240-162971-3	MW-43_021922	74
240-162971-3 MS	MW-43-MS_021922	74
240-162971-3 MSD	MW-43-MSD_021922	75
240-162971-4	MW-52_021922	74
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: 240-162971-1

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 Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			02/25/22 12:33	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 %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
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 Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
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 %Recovery	LCS Qualifier	Limits
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 Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
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 %Recovery	MS Qualifier	Limits
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: 240-162971-1

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	%Recovery	MS 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	%Recovery	MSD 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

Lab Sample ID: MB 240-518935/7
Matrix: Water
Analysis Batch: 518935

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			03/01/22 12:11	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/01/22 12:11	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/01/22 12:11	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/01/22 12:11	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/01/22 12:11	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/01/22 12:11	1

Surrogate	%Recovery	MB MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		62 - 137		03/01/22 12:11	1
4-Bromofluorobenzene (Surr)	100		56 - 136		03/01/22 12:11	1
Toluene-d8 (Surr)	103		78 - 122		03/01/22 12:11	1
Dibromofluoromethane (Surr)	107		73 - 120		03/01/22 12:11	1

Lab Sample ID: LCS 240-518935/5
Matrix: Water
Analysis Batch: 518935

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25.0	26.6		ug/L		106	63 - 134
cis-1,2-Dichloroethene	25.0	24.6		ug/L		99	77 - 123
Tetrachloroethene	25.0	24.9		ug/L		100	76 - 123
trans-1,2-Dichloroethene	25.0	24.9		ug/L		100	75 - 124
Trichloroethene	25.0	24.7		ug/L		99	70 - 122

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QC Sample Results

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

Job ID: 240-162971-1

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

Lab Sample ID: LCS 240-518935/5

Matrix: Water

Analysis Batch: 518935

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	25.0	23.1		ug/L		92	60 - 144
Surrogate							
	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	88		62 - 137				
4-Bromofluorobenzene (Surr)	98		56 - 136				
Toluene-d8 (Surr)	103		78 - 122				
Dibromofluoromethane (Surr)	102		73 - 120				

Lab Sample ID: 240-162971-3 MS

Matrix: Water

Analysis Batch: 518935

Client Sample ID: MW-43-MS_021922

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	25.0	24.1		ug/L		96	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	22.4		ug/L		89	66 - 128
Tetrachloroethene	1.0	U	25.0	23.0		ug/L		92	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	23.0		ug/L		92	56 - 136
Trichloroethene	1.0	U	25.0	22.6		ug/L		90	61 - 124
Vinyl chloride	1.0	U	25.0	20.1		ug/L		80	43 - 157
Surrogate									
	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	92		62 - 137						
4-Bromofluorobenzene (Surr)	104		56 - 136						
Toluene-d8 (Surr)	107		78 - 122						
Dibromofluoromethane (Surr)	107		73 - 120						

Lab Sample ID: 240-162971-3 MSD

Matrix: Water

Analysis Batch: 518935

Client Sample ID: MW-43-MSD_021922

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	25.4		ug/L		102	56 - 135	6	26
cis-1,2-Dichloroethene	1.0	U	25.0	23.0		ug/L		92	66 - 128	3	14
Tetrachloroethene	1.0	U	25.0	24.5		ug/L		98	62 - 131	6	20
trans-1,2-Dichloroethene	1.0	U	25.0	22.6		ug/L		91	56 - 136	2	15
Trichloroethene	1.0	U	25.0	23.1		ug/L		92	61 - 124	2	15
Vinyl chloride	1.0	U	25.0	21.8		ug/L		87	43 - 157	9	24
Surrogate											
	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	98		62 - 137								
4-Bromofluorobenzene (Surr)	109		56 - 136								
Toluene-d8 (Surr)	110		78 - 122								
Dibromofluoromethane (Surr)	111		73 - 120								

QC Sample Results

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

Job ID: 240-162971-1

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: 240-162971-3 MS
Matrix: Water
Analysis Batch: 518807

Client Sample ID: MW-43-MS_021922
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
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	74		66 - 120						

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

Client Sample ID: MW-43-MSD_021922
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	2.2		10.0	12.4		ug/L		102	51 - 153	4	16
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	75		66 - 120								

QC Association Summary

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

Job ID: 240-162971-1

GC/MS VOA

Analysis Batch: 518745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-162971-1	TRIP BLANK_46	Total/NA	Water	8260B	
240-162971-2	MW-213S_021922	Total/NA	Water	8260B	
240-162971-4	MW-52_021922	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
240-162971-2	MW-213S_021922	Total/NA	Water	8260B SIM	
240-162971-3	MW-43_021922	Total/NA	Water	8260B SIM	
240-162971-4	MW-52_021922	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	
240-162971-3 MS	MW-43-MS_021922	Total/NA	Water	8260B SIM	
240-162971-3 MSD	MW-43-MSD_021922	Total/NA	Water	8260B SIM	

Analysis Batch: 518935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-162971-3	MW-43_021922	Total/NA	Water	8260B	
MB 240-518935/7	Method Blank	Total/NA	Water	8260B	
LCS 240-518935/5	Lab Control Sample	Total/NA	Water	8260B	
240-162971-3 MS	MW-43-MS_021922	Total/NA	Water	8260B	
240-162971-3 MSD	MW-43-MSD_021922	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-162971-1

Client Sample ID: TRIP BLANK_46

Lab Sample ID: 240-162971-1

Date Collected: 02/19/22 00:00

Matrix: Water

Date Received: 02/23/22 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 14:07	LEE	TAL CAN

Client Sample ID: MW-213S_021922

Lab Sample ID: 240-162971-2

Date Collected: 02/19/22 09:40

Matrix: Water

Date Received: 02/23/22 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 18:02	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	518807	02/25/22 17:51	CS	TAL CAN

Client Sample ID: MW-43_021922

Lab Sample ID: 240-162971-3

Date Collected: 02/19/22 11:05

Matrix: Water

Date Received: 02/23/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	518935	03/01/22 14:10	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	518807	02/25/22 18:18	CS	TAL CAN

Client Sample ID: MW-52_021922

Lab Sample ID: 240-162971-4

Date Collected: 02/19/22 12:20

Matrix: Water

Date Received: 02/23/22 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 18:25	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	518807	02/25/22 19:38	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: 240-162971-1

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.



Chain of Custody Record

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

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Client Contact Company Name: Arcadis Address: 28550 Cabot Drive, Suite 500 City/State/Zip: Novi, MI, 48377 Phone: 248-994-2240		Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other	
Client Project Manager: Kris Hinskey Telephone: 248-994-2240 Email: kristoffer.hinskey@arcadis.com		Lab Contact: Mike DeMontico Telephone: 310-497-9196	
Sampler Name: Christian Garibola		Analyses Walk-in client Lab sampling Job/SDG No:	
Project Name: Ford I,TP On-Site Project Number: 30080642.401.03 PO # 30080642.401.03		TAT if different from below 10 day <input type="checkbox"/> 3 weeks <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day	
Shipping/Tracking No:		Filtered Sample (Y/N) Composite=C / Grab=C	
Sample Identification		Containers & Preservatives	
Sample Date Sample Time	Matrix Air Aqueous Sediment Solid Other:	H2SO4 HNO3 HCl NaOH ZnAc Upters Other:	1-1-DCE 8260B CS-1-2-DCE 8260B Trans-1,2-DCE 8260B PCE 8260B TCE 8260B Vinyl Chloride 8260B 1,4-Dioxane 8260B SIM
TRIP BLANK - 46			1 Trip Blank
MW-215-021972	2/19/22 9:40		3 VOAs for 8260B 3 VOAs for 8260B SIM
MW-43-021972	1105		non NUSIM 50
MW-47-MS-021972	1105		
MW-43-MSD-021972	1105		
MW-SA-021972	1220		
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Corrosive <input type="checkbox"/> Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown		Sample Disposal (A fee may be assessed) <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal (see label) Months	
Special Instructions/QC Requirements & Comments: Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203728 Level IV Reporting requested			
Relinquished by: Christian Garibola	Date/Time: 2/19/22	Company: Arcadis	Date/Time: 2/19/22 1330
Relinquished by: NOV1 COLD STORAGE	Date/Time: 2/22/22 1000	Company: Arcadis	Date/Time: 2-22-22 1000
Relinquished by: [Signature]	Date/Time: 2-22-22 NOV	Company: EETA	Date/Time: 2-22-22 500



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Eurofins TestAmerica Canton Sample Receipt Form/Narrative Login # : 162971
Canton Facility

Client Arcadis Site Name _____ Cooler unpacked by: Rachelle Horvath
Cooler Received on 2-23-22 Opened on 2-23-22
FedEx: 1st 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 _____ 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 # _____ Yes No
17. Was a LL Hg or Me Hg trip blank present? Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
Concerning _____

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

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: _____

Login #: 116297

Eurofins TestAmerica Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)				IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)		
TA	Client	Box	Other	IR-14 IR-15	0.3	0.1	Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15	0.4	0.2	Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15	1.3	1.1	Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-14 IR-15			Wet Ice	Blue Ice	Dry Ice

See Temperature Excursion Form