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ANALYTICAL REPORT

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

Laboratory Job ID: 240-166505-1
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:
5/26/2022 2:15:02 PM
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Table of Contents

Definitions/Glossary

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

Job ID: 240-166505-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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.
¤	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: 240-166505-1

Job ID: 240-166505-1

Laboratory: Eurofins Canton

Narrative

Job Narrative
240-166505-1

Comments
No additional comments.

Receipt
The samples were received on 5/12/2022 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 4.0º C and 4.0º 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.

Method Summary

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

Job ID: 240-166505-1

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

Protocol References:

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

Laboratory References:

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

Sample Summary

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

Job ID: 240-166505-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-166505-1	TRIP BLANK_76	Water	05/10/22 00:00	05/12/22 08:00
240-166505-2	MW-14_051022	Water	05/10/22 10:45	05/12/22 08:00
240-166505-3	MW-37_051022	Water	05/10/22 12:30	05/12/22 08:00
240-166505-4	MW-38_051022	Water	05/10/22 14:00	05/12/22 08:00
240-166505-5	MW-219S_051022	Water	05/10/22 15:30	05/12/22 08:00
240-166505-6	MW-33_051022	Water	05/10/22 17:00	05/12/22 08:00

Detection Summary

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

Job ID: 240-166505-1

Client Sample ID: TRIP BLANK_76 — Lab Sample ID: 240-166505-1

No Detections.

Client Sample ID: MW-14_051022 — Lab Sample ID: 240-166505-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.86	J	1.0	0.44	ug/L	1		8260D	Total/NA

Client Sample ID: MW-37_051022 — Lab Sample ID: 240-166505-3

No Detections.

Client Sample ID: MW-38_051022 — Lab Sample ID: 240-166505-4

No Detections.

Client Sample ID: MW-219S_051022 — Lab Sample ID: 240-166505-5

No Detections.

Client Sample ID: MW-33_051022 — Lab Sample ID: 240-166505-6

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 240-166505-1

Client Sample ID: TRIP BLANK_76
Date Collected: 05/10/22 00:00
Date Received: 05/12/22 08:00

Lab Sample ID: 240-166505-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/20/22 13:36	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/20/22 13:36	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 13:36	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/20/22 13:36	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 13:36	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/20/22 13:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*62 - 137*		*05/20/22 13:36*	*1*
4-Bromofluorobenzene (Surr)	*86*		*56 - 136*		*05/20/22 13:36*	*1*
Toluene-d8 (Surr)	*97*		*78 - 122*		*05/20/22 13:36*	*1*
Dibromofluoromethane (Surr)	*103*		*73 - 120*		*05/20/22 13:36*	*1*

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

Job ID: 240-166505-1

Client Sample ID: MW-14_051022
Date Collected: 05/10/22 10:45
Date Received: 05/12/22 08:00

Lab Sample ID: 240-166505-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/17/22 03:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*66 - 120*		*05/17/22 03:42*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/20/22 17:22	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/20/22 17:22	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 17:22	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/20/22 17:22	1
Trichloroethene	**0.86**	**J**	1.0	0.44	ug/L			05/20/22 17:22	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/20/22 17:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*62 - 137*		*05/20/22 17:22*	*1*
4-Bromofluorobenzene (Surr)	*85*		*56 - 136*		*05/20/22 17:22*	*1*
Toluene-d8 (Surr)	*98*		*78 - 122*		*05/20/22 17:22*	*1*
Dibromofluoromethane (Surr)	*106*		*73 - 120*		*05/20/22 17:22*	*1*

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

Job ID: 240-166505-1

Client Sample ID: MW-37_051022

Date Collected: 05/10/22 12:30
Date Received: 05/12/22 08:00

Lab Sample ID: 240-166505-3

Matrix: Water

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 F1	2.0	0.86	ug/L			05/17/22 20:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*66 - 120*		*05/17/22 20:51*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/20/22 17:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/20/22 17:47	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 17:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/20/22 17:47	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 17:47	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/20/22 17:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*62 - 137*		*05/20/22 17:47*	*1*
4-Bromofluorobenzene (Surr)	*83*		*56 - 136*		*05/20/22 17:47*	*1*
Toluene-d8 (Surr)	*97*		*78 - 122*		*05/20/22 17:47*	*1*
Dibromofluoromethane (Surr)	*105*		*73 - 120*		*05/20/22 17:47*	*1*

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

Job ID: 240-166505-1

Client Sample ID: MW-38_051022

Date Collected: 05/10/22 14:00
Date Received: 05/12/22 08:00

Lab Sample ID: 240-166505-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/17/22 04:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*66 - 120*		*05/17/22 04:06*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/20/22 18:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/20/22 18:12	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 18:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/20/22 18:12	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 18:12	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/20/22 18:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*62 - 137*		*05/20/22 18:12*	*1*
4-Bromofluorobenzene (Surr)	*86*		*56 - 136*		*05/20/22 18:12*	*1*
Toluene-d8 (Surr)	*99*		*78 - 122*		*05/20/22 18:12*	*1*
Dibromofluoromethane (Surr)	*104*		*73 - 120*		*05/20/22 18:12*	*1*

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

Job ID: 240-166505-1

Client Sample ID: MW-219S_051022
Date Collected: 05/10/22 15:30
Date Received: 05/12/22 08:00

Lab Sample ID: 240-166505-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/17/22 04:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*66 - 120*		*05/17/22 04:30*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/20/22 18:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/20/22 18:37	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 18:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/20/22 18:37	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 18:37	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/20/22 18:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*62 - 137*		*05/20/22 18:37*	*1*
4-Bromofluorobenzene (Surr)	*85*		*56 - 136*		*05/20/22 18:37*	*1*
Toluene-d8 (Surr)	*97*		*78 - 122*		*05/20/22 18:37*	*1*
Dibromofluoromethane (Surr)	*107*		*73 - 120*		*05/20/22 18:37*	*1*

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

Job ID: 240-166505-1

Client Sample ID: MW-33_051022
Date Collected: 05/10/22 17:00
Date Received: 05/12/22 08:00

Lab Sample ID: 240-166505-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/17/22 04:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*66 - 120*		*05/17/22 04:54*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/20/22 19:02	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/20/22 19:02	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 19:02	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/20/22 19:02	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 19:02	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/20/22 19:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*62 - 137*		*05/20/22 19:02*	*1*
4-Bromofluorobenzene (Surr)	*86*		*56 - 136*		*05/20/22 19:02*	*1*
Toluene-d8 (Surr)	*98*		*78 - 122*		*05/20/22 19:02*	*1*
Dibromofluoromethane (Surr)	*107*		*73 - 120*		*05/20/22 19:02*	*1*

Surrogate Summary

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

Job ID: 240-166505-1

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(62-137)	(56-136)	(78-122)	(73-120)
240-166505-1	TRIP BLANK_76	101	86	97	103
240-166505-2	MW-14_051022	105	85	98	106
240-166505-3	MW-37_051022	101	83	97	105
240-166505-3 MS	MW-37-MS_051022	102	96	99	107
240-166505-3 MSD	MW-37-MSD_051022	100	96	98	107
240-166505-4	MW-38_051022	101	86	99	104
240-166505-5	MW-219S_051022	104	85	97	107
240-166505-6	MW-33_051022	104	86	98	107
LCS 240-527337/4	Lab Control Sample	98	98	98	106
MB 240-527337/6	Method Blank	102	87	98	104

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)
		DCA
Lab Sample ID	Client Sample ID	(66-120)
240-166502-I-5 MS	Matrix Spike	86
240-166502-O-5 MSD	Matrix Spike Duplicate	89
240-166505-2	MW-14_051022	84
240-166505-3	MW-37_051022	105
240-166505-3 MS	MW-37-MS_051022	105
240-166505-3 MSD	MW-37-MSD_051022	105
240-166505-4	MW-38_051022	84
240-166505-5	MW-219S_051022	88
240-166505-6	MW-33_051022	84
LCS 240-526644/3	Lab Control Sample	84
LCS 240-526826/3	Lab Control Sample	106
MB 240-526644/4	Method Blank	83
MB 240-526826/4	Method Blank	105

Surrogate Legend

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

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

Lab Sample ID: MB 240-527337/6
Matrix: Water
Analysis Batch: 527337

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/20/22 11:56	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/20/22 11:56	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 11:56	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/20/22 11:56	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 11:56	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/20/22 11:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*62 - 137*		*05/20/22 11:56*	*1*
4-Bromofluorobenzene (Surr)	*87*		*56 - 136*		*05/20/22 11:56*	*1*
Toluene-d8 (Surr)	*98*		*78 - 122*		*05/20/22 11:56*	*1*
Dibromofluoromethane (Surr)	*104*		*73 - 120*		*05/20/22 11:56*	*1*

Lab Sample ID: LCS 240-527337/4
Matrix: Water
Analysis Batch: 527337

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	27.9		ug/L		111	63 - 134
cis-1,2-Dichloroethene	25.0	26.7		ug/L		107	77 - 123
Tetrachloroethene	25.0	26.0		ug/L		104	76 - 123
trans-1,2-Dichloroethene	25.0	27.0		ug/L		108	75 - 124
Trichloroethene	25.0	26.7		ug/L		107	70 - 122
Vinyl chloride	12.5	11.4		ug/L		91	60 - 144

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*62 - 137*
4-Bromofluorobenzene (Surr)	*98*		*56 - 136*
Toluene-d8 (Surr)	*98*		*78 - 122*
Dibromofluoromethane (Surr)	*106*		*73 - 120*

Lab Sample ID: 240-166505-3 MS
Matrix: Water
Analysis Batch: 527337

Client Sample ID: MW-37-MS_051022
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	26.5		ug/L		106	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	27.0		ug/L		108	66 - 128
Tetrachloroethene	1.0	U	25.0	25.8		ug/L		103	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	27.4		ug/L		110	56 - 136
Trichloroethene	1.0	U	25.0	26.1		ug/L		104	61 - 124
Vinyl chloride	1.0	U	25.0	22.4		ug/L		90	43 - 157

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*62 - 137*
4-Bromofluorobenzene (Surr)	*96*		*56 - 136*
Toluene-d8 (Surr)	*99*		*78 - 122*

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

Lab Sample ID: 240-166505-3 MS
Matrix: Water
Analysis Batch: 527337

Client Sample ID: MW-37-MS_051022
Prep Type: Total/NA

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*107*		*73 - 120*

Lab Sample ID: 240-166505-3 MSD
Matrix: Water
Analysis Batch: 527337

Client Sample ID: MW-37-MSD_051022
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	25.0	29.2		ug/L		117	56 - 135	10	26
cis-1,2-Dichloroethene	1.0	U	25.0	26.6		ug/L		106	66 - 128	2	14
Tetrachloroethene	1.0	U	25.0	24.6		ug/L		98	62 - 131	5	20
trans-1,2-Dichloroethene	1.0	U	25.0	26.6		ug/L		107	56 - 136	3	15
Trichloroethene	1.0	U	25.0	25.9		ug/L		104	61 - 124	1	15
Vinyl chloride	1.0	U	25.0	22.7		ug/L		91	43 - 157	1	24

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*62 - 137*
4-Bromofluorobenzene (Surr)	*96*		*56 - 136*
Toluene-d8 (Surr)	*98*		*78 - 122*
Dibromofluoromethane (Surr)	*107*		*73 - 120*

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

Lab Sample ID: MB 240-526644/4
Matrix: Water
Analysis Batch: 526644

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			05/16/22 20:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*66 - 120*		*05/16/22 20:34*	*1*

Lab Sample ID: LCS 240-526644/3
Matrix: Water
Analysis Batch: 526644

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	10.6		ug/L		106	80 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*84*		*66 - 120*

Lab Sample ID: 240-166502-I-5 MS
Matrix: Water
Analysis Batch: 526644

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	10.8		ug/L		108	51 - 153

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

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*86*		*66 - 120*

Lab Sample ID: 240-166502-O-5 MSD
Matrix: Water
Analysis Batch: 526644

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	10.6		ug/L		106	51 - 153	2	16

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*89*		*66 - 120*

Lab Sample ID: MB 240-526826/4
Matrix: Water
Analysis Batch: 526826

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			05/17/22 20:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*105*		*66 - 120*		*05/17/22 20:01*	*1*

Lab Sample ID: LCS 240-526826/3
Matrix: Water
Analysis Batch: 526826

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	9.73		ug/L		97	80 - 122		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*106*		*66 - 120*

Lab Sample ID: 240-166505-3 MS
Matrix: Water
Analysis Batch: 526826

Client Sample ID: MW-37-MS_051022
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 F1	10.0	9.65		ug/L		97	51 - 153		

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*105*		*66 - 120*

Lab Sample ID: 240-166505-3 MSD
Matrix: Water
Analysis Batch: 526826

Client Sample ID: MW-37-MSD_051022
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 F1	10.0	10.2		ug/L		102	51 - 153	6	16

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

Lab Sample ID: 240-166505-3 MSD
Matrix: Water
Analysis Batch: 526826

Client Sample ID: MW-37-MSD_051022
Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*105*		*66 - 120*

GC/MS VOA

Analysis Batch: 526644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-166505-2	MW-14_051022	Total/NA	Water	8260D SIM	
240-166505-4	MW-38_051022	Total/NA	Water	8260D SIM	
240-166505-5	MW-219S_051022	Total/NA	Water	8260D SIM	
240-166505-6	MW-33_051022	Total/NA	Water	8260D SIM	
MB 240-526644/4	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-526644/3	Lab Control Sample	Total/NA	Water	8260D SIM	
240-166502-I-5 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-166502-O-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

Analysis Batch: 526826

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-166505-3	MW-37_051022	Total/NA	Water	8260D SIM	
MB 240-526826/4	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-526826/3	Lab Control Sample	Total/NA	Water	8260D SIM	
240-166505-3 MS	MW-37-MS_051022	Total/NA	Water	8260D SIM	
240-166505-3 MSD	MW-37-MSD_051022	Total/NA	Water	8260D SIM	

Analysis Batch: 527337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-166505-1	TRIP BLANK_76	Total/NA	Water	8260D	
240-166505-2	MW-14_051022	Total/NA	Water	8260D	
240-166505-3	MW-37_051022	Total/NA	Water	8260D	
240-166505-4	MW-38_051022	Total/NA	Water	8260D	
240-166505-5	MW-219S_051022	Total/NA	Water	8260D	
240-166505-6	MW-33_051022	Total/NA	Water	8260D	
MB 240-527337/6	Method Blank	Total/NA	Water	8260D	
LCS 240-527337/4	Lab Control Sample	Total/NA	Water	8260D	
240-166505-3 MS	MW-37-MS_051022	Total/NA	Water	8260D	
240-166505-3 MSD	MW-37-MSD_051022	Total/NA	Water	8260D	

Lab Chronicle

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

Job ID: 240-166505-1

Client Sample ID: TRIP BLANK_76
Date Collected: 05/10/22 00:00
Date Received: 05/12/22 08:00

Lab Sample ID: 240-166505-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	527337	05/20/22 13:36	SAM	TAL CAN

Client Sample ID: MW-14_051022
Date Collected: 05/10/22 10:45
Date Received: 05/12/22 08:00

Lab Sample ID: 240-166505-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	527337	05/20/22 17:22	SAM	TAL CAN
Total/NA	Analysis	8260D SIM		1	526644	05/17/22 03:42	CS	TAL CAN

Client Sample ID: MW-37_051022
Date Collected: 05/10/22 12:30
Date Received: 05/12/22 08:00

Lab Sample ID: 240-166505-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	527337	05/20/22 17:47	SAM	TAL CAN
Total/NA	Analysis	8260D SIM		1	526826	05/17/22 20:51	CS	TAL CAN

Client Sample ID: MW-38_051022
Date Collected: 05/10/22 14:00
Date Received: 05/12/22 08:00

Lab Sample ID: 240-166505-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	527337	05/20/22 18:12	SAM	TAL CAN
Total/NA	Analysis	8260D SIM		1	526644	05/17/22 04:06	CS	TAL CAN

Client Sample ID: MW-219S_051022
Date Collected: 05/10/22 15:30
Date Received: 05/12/22 08:00

Lab Sample ID: 240-166505-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	527337	05/20/22 18:37	SAM	TAL CAN
Total/NA	Analysis	8260D SIM		1	526644	05/17/22 04:30	CS	TAL CAN

Client Sample ID: MW-33_051022
Date Collected: 05/10/22 17:00
Date Received: 05/12/22 08:00

Lab Sample ID: 240-166505-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	527337	05/20/22 19:02	SAM	TAL CAN
Total/NA	Analysis	8260D SIM		1	526644	05/17/22 04:54	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: 240-166505-1

Laboratory: Eurofins Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-27-23
Connecticut	State	PH-0590	12-31-23
Florida	NELAP	E87225	06-30-22
Georgia	State	4062	02-23-22 *
Illinois	NELAP	200004	07-31-22
Iowa	State	421	06-01-23
Kentucky (UST)	State	112225	02-27-23
Kentucky (WW)	State	KY98016	12-31-22
Minnesota	NELAP	039-999-348	12-31-22
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-22
New York	NELAP	10975	04-01-23
Ohio	State	8303	02-23-23
Ohio VAP	State	CL0024	05-24-22
Oregon	NELAP	4062	05-24-22
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.

MICHIGAN 190

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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

Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc.

Client Contact				
Company Name: Arcadis	Client Project Manager: Kris Hinskey	Site Contact: Christina Weaver	Lab Contact: Mike DelMonico	COC No:
Address: 28550 Cabot Drive, Suite 500	Telephone: 269-832-7478	Telephone: 248-994-2329	Telephone: 330-966-9783	1 of 1 COCs
City/State/Zip: Novi, MI, 48377	Email: Kristoffer.Hinskey@arcadis.com	Analysis Turnaround Time		For lab use only
Phone: 248-994-2240	Sampler Name: Ellen Redner	TAT if different from below: 10 day; ☐ 3 weeks ☑ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Walk-in client
Project Name: Ford LTP On-Site	Method of Shipment/Carrier:			Lab sampling
Project Number: 30080642.401.03	Shipping/Tracking No:			Job/SDG No:
PO # 30080642.401.03				

Matrix: Air, Aqueous, Sediment, Solid, Other. Containers & Preservatives: H2SO4, HNO3, HCl, NaOH, ZnAc/NaOH, Unpres, Other.

Sample Identification	Sample Date	Sample Time	Air	Aqueous	Sediment	Solid	Other	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other	Filtered Sample (Y / N)	Composite=C / Grab=G	1,1-DCE 8260D	cis-1,2-DCE 8260D	Trans-1,2-DCE 8260D	PCE 8260D	TCE 8260D	Vinyl Chloride 8260D	1,4-Dioxane 8260D SIM	Sample Specific Notes / Special Instructions
TRIP BLANK_76	5/10/22	—		1						1					N	G	X	X	X	X	X	X	~~X~~ (initialed 5/11/22)	1 Trip Blank
MW-14_051022	5/10/22	1045		6						6					N	G	X	X	X	X	X	X	X	3 VOAs for 8260D 3 VOAs for 8260D SIM
MW-37_051022	5/10/22	1230		6						6					N	G	X	X	X	X	X	X	X	~~RUN MS/MSD~~ ER
MW-37-MS_051022	5/10/22	1230		6						6					N	G	X	X	X	X	X	X	X	RUN MS/MSD
MW-37-MSD_051022	5/10/22	1230		6						6					N	G	X	X	X	X	X	X	X	Run MS/MSD
MW-38_051022	5/10/22	1400		6						6					N	G	X	X	X	X	X	X	X	
MW-2195_051022	5/10/22	1530		6						6					N	G	X	X	X	X	X	X	X	
MW-33_051022	5/10/22	1700		6						6					N	G	X	X	X	X	X	X	X	

(initials) 5/10/22

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if ...): ☐ Return to Client ☑ Disposal By ...

240-166505 Chain of Custody

Special Instructions/QC Requirements & Comments:

Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203728
Level IV Reporting requested.

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Ellen Redner / (signature)	Arcadis	5/10/22 @ 1830	Novi Cold Storage	Arcadis	5/10/22 @ 1830
(signature)	ARCADIS	5/11/22 0930	(signature)	CETP	5/11/21 01M
(signature)	CETP	5/11/25 1011	Received in Laboratory by: (signature)	EETNC	5-12-22 0800

Eurofins TestAmerica Canton Sample Receipt Form/Narrative Login # : 166505
Canton Facility

Client Arcadis Site Name Ford - LTP
Cooler Received on 5-12-22 Opened on 5-12-22
FedEx: 1st Grd Exp UPS FAS (Clipper) Client Drop Off TestAmerica Courier Other

Cooler unpacked by: (MC)

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-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)
-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 # 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: _____

WI-NC-099

Login # : 166505

Eurofins - Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
TA (circled) Client Box Other	IR-13 (circled) IR-15	4.0	4.0	Wet Ice (circled) Blue Ice Dry Ice Water None
TA (circled) Client Box Other	IR-13 (circled) IR-15	4.0	4.0	Wet Ice (circled) Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

WI-NC-099 Cooler Receipt Form Page 2 – Multiple Coolers