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ANALYTICAL REPORT

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

Laboratory Job ID: 240-171954-1
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:
9/7/2022 11:30:10 AM

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Definitions/Glossary

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

Job ID: 240-171954-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
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

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Laboratory: Eurofins Canton

Narrative

Job Narrative
240-171954-1

Comments
No additional comments.

Receipt
The samples were received on 8/23/2022 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 2.7º C, 3.9º C, 3.9º C and 4.1º C.

GC/MS VOA
Method 8260D SIM: The following volatiles samples was diluted due to foaming at the time of purging during the original sample analysis: MW-58_081922 (240-171954-2). 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: 240-171954-1

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

Protocol References:

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

Laboratory References:

EET 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: 240-171954-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-171954-1	TRIP BLANK_134	Water	08/19/22 00:00	08/23/22 09:30
240-171954-2	MW-58_081922	Water	08/19/22 10:58	08/23/22 09:30
240-171954-3	MW-48R_081922	Water	08/19/22 11:40	08/23/22 09:30
240-171954-4	MW-67_081922	Water	08/19/22 13:55	08/23/22 09:30
240-171954-5	DUP-04	Water	08/19/22 00:00	08/23/22 09:30

Detection Summary

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

Job ID: 240-171954-1

Client Sample ID: TRIP BLANK_134 — Lab Sample ID: 240-171954-1

No Detections.

Client Sample ID: MW-58_081922 — Lab Sample ID: 240-171954-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	3.6		2.4	1.0	ug/L	1.2		8260D SIM	Total/NA

Client Sample ID: MW-48R_081922 — Lab Sample ID: 240-171954-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	12		2.0	0.86	ug/L	1		8260D SIM	Total/NA
Vinyl chloride	1.2		1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: MW-67_081922 — Lab Sample ID: 240-171954-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3.2		1.0	0.46	ug/L	1		8260D	Total/NA
Trichloroethene	67		1.0	0.44	ug/L	1		8260D	Total/NA

Client Sample ID: DUP-04 — Lab Sample ID: 240-171954-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3.2		1.0	0.46	ug/L	1		8260D	Total/NA
Trichloroethene	67		1.0	0.44	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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

Job ID: 240-171954-1

Client Sample ID: TRIP BLANK_134
Date Collected: 08/19/22 00:00
Date Received: 08/23/22 09:30

Lab Sample ID: 240-171954-1
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			08/26/22 16:49	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/26/22 16:49	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/26/22 16:49	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/26/22 16:49	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/26/22 16:49	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/26/22 16:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*62 - 137*		*08/26/22 16:49*	*1*
4-Bromofluorobenzene (Surr)	*91*		*56 - 136*		*08/26/22 16:49*	*1*
Toluene-d8 (Surr)	*95*		*78 - 122*		*08/26/22 16:49*	*1*
Dibromofluoromethane (Surr)	*92*		*73 - 120*		*08/26/22 16:49*	*1*

Client Sample Results

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

Job ID: 240-171954-1

Client Sample ID: MW-58_081922

Date Collected: 08/19/22 10:58
Date Received: 08/23/22 09:30

Lab Sample ID: 240-171954-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	3.6		2.4	1.0	ug/L			08/30/22 02:00	1.2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*80*		*66 - 120*		*08/30/22 02:00*	*1.2*

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			08/26/22 17:11	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/26/22 17:11	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/26/22 17:11	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/26/22 17:11	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/26/22 17:11	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/26/22 17:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*62 - 137*		*08/26/22 17:11*	*1*
4-Bromofluorobenzene (Surr)	*92*		*56 - 136*		*08/26/22 17:11*	*1*
Toluene-d8 (Surr)	*97*		*78 - 122*		*08/26/22 17:11*	*1*
Dibromofluoromethane (Surr)	*94*		*73 - 120*		*08/26/22 17:11*	*1*

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

Job ID: 240-171954-1

Client Sample ID: MW-48R_081922
Date Collected: 08/19/22 11:40
Date Received: 08/23/22 09:30

Lab Sample ID: 240-171954-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**12**		2.0	0.86	ug/L			08/27/22 05:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*74*		*66 - 120*		*08/27/22 05:07*	*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			08/26/22 17:33	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/26/22 17:33	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/26/22 17:33	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/26/22 17:33	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/26/22 17:33	1
Vinyl chloride	**1.2**		1.0	0.45	ug/L			08/26/22 17:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*62 - 137*		*08/26/22 17:33*	*1*
4-Bromofluorobenzene (Surr)	*95*		*56 - 136*		*08/26/22 17:33*	*1*
Toluene-d8 (Surr)	*97*		*78 - 122*		*08/26/22 17:33*	*1*
Dibromofluoromethane (Surr)	*94*		*73 - 120*		*08/26/22 17:33*	*1*

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

Job ID: 240-171954-1

Client Sample ID: MW-67_081922
Date Collected: 08/19/22 13:55
Date Received: 08/23/22 09:30

Lab Sample ID: 240-171954-4
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			08/27/22 05:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*74*		*66 - 120*		*08/27/22 05:31*	*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			08/26/22 17:55	1
cis-1,2-Dichloroethene	**3.2**		1.0	0.46	ug/L			08/26/22 17:55	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/26/22 17:55	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/26/22 17:55	1
Trichloroethene	**67**		1.0	0.44	ug/L			08/26/22 17:55	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/26/22 17:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*62 - 137*		*08/26/22 17:55*	*1*
4-Bromofluorobenzene (Surr)	*94*		*56 - 136*		*08/26/22 17:55*	*1*
Toluene-d8 (Surr)	*95*		*78 - 122*		*08/26/22 17:55*	*1*
Dibromofluoromethane (Surr)	*91*		*73 - 120*		*08/26/22 17:55*	*1*

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

Job ID: 240-171954-1

Client Sample ID: DUP-04
Date Collected: 08/19/22 00:00
Date Received: 08/23/22 09:30

Lab Sample ID: 240-171954-5
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			08/27/22 05:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*73*		*66 - 120*		*08/27/22 05:55*	*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			08/26/22 18:17	1
cis-1,2-Dichloroethene	**3.2**		1.0	0.46	ug/L			08/26/22 18:17	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/26/22 18:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/26/22 18:17	1
Trichloroethene	**67**		1.0	0.44	ug/L			08/26/22 18:17	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/26/22 18:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*62 - 137*		*08/26/22 18:17*	*1*
4-Bromofluorobenzene (Surr)	*91*		*56 - 136*		*08/26/22 18:17*	*1*
Toluene-d8 (Surr)	*95*		*78 - 122*		*08/26/22 18:17*	*1*
Dibromofluoromethane (Surr)	*91*		*73 - 120*		*08/26/22 18:17*	*1*

Surrogate Summary

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

Job ID: 240-171954-1

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)
240-171925-F-3 MS	Matrix Spike	102	98	97	93
240-171925-F-3 MSD	Matrix Spike Duplicate	101	96	97	94
240-171954-1	TRIP BLANK_134	102	91	95	92
240-171954-2	MW-58_081922	105	92	97	94
240-171954-3	MW-48R_081922	108	95	97	94
240-171954-4	MW-67_081922	100	94	95	91
240-171954-5	DUP-04	102	91	95	91
LCS 240-540306/5	Lab Control Sample	96	88	88	88
MB 240-540306/8	Method Blank	96	83	89	89

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)
240-171954-2	MW-58_081922	80
240-171954-3	MW-48R_081922	74
240-171954-4	MW-67_081922	74
240-171954-5	DUP-04	73
240-171965-G-5 MS	Matrix Spike	83
240-171965-M-5 MSD	Matrix Spike Duplicate	77
240-171967-G-4 MS	Matrix Spike	76
240-171967-M-4 MSD	Matrix Spike Duplicate	77
LCS 240-540396/3	Lab Control Sample	70
LCS 240-540607/4	Lab Control Sample	77
MB 240-540396/4	Method Blank	71
MB 240-540607/5	Method Blank	69

Surrogate Legend

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

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

Lab Sample ID: MB 240-540306/8
Matrix: Water
Analysis Batch: 540306

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			08/26/22 11:29	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/26/22 11:29	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/26/22 11:29	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/26/22 11:29	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/26/22 11:29	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/26/22 11:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*62 - 137*		*08/26/22 11:29*	*1*
4-Bromofluorobenzene (Surr)	*83*		*56 - 136*		*08/26/22 11:29*	*1*
Toluene-d8 (Surr)	*89*		*78 - 122*		*08/26/22 11:29*	*1*
Dibromofluoromethane (Surr)	*89*		*73 - 120*		*08/26/22 11:29*	*1*

Lab Sample ID: LCS 240-540306/5
Matrix: Water
Analysis Batch: 540306

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	20.0	21.9		ug/L		110	63 - 134
cis-1,2-Dichloroethene	20.0	21.1		ug/L		105	77 - 123
Tetrachloroethene	20.0	18.9		ug/L		94	76 - 123
trans-1,2-Dichloroethene	20.0	21.8		ug/L		109	75 - 124
Trichloroethene	20.0	19.6		ug/L		98	70 - 122
Vinyl chloride	20.0	17.3		ug/L		86	60 - 144

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*62 - 137*
4-Bromofluorobenzene (Surr)	*88*		*56 - 136*
Toluene-d8 (Surr)	*88*		*78 - 122*
Dibromofluoromethane (Surr)	*88*		*73 - 120*

Lab Sample ID: 240-171925-F-3 MS
Matrix: Water
Analysis Batch: 540306

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	20	U	400	430		ug/L		108	56 - 135
cis-1,2-Dichloroethene	77		400	485		ug/L		102	66 - 128
Tetrachloroethene	10	J	400	378		ug/L		92	62 - 131
trans-1,2-Dichloroethene	20	U	400	430		ug/L		108	56 - 136
Trichloroethene	22		400	394		ug/L		93	61 - 124
Vinyl chloride	20	U	400	354		ug/L		88	43 - 157

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*62 - 137*
4-Bromofluorobenzene (Surr)	*98*		*56 - 136*
Toluene-d8 (Surr)	*97*		*78 - 122*

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

Lab Sample ID: 240-171925-F-3 MS
Matrix: Water
Analysis Batch: 540306

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

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	*93*		*73 - 120*

Lab Sample ID: 240-171925-F-3 MSD
Matrix: Water
Analysis Batch: 540306

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	20	U	400	443		ug/L		111	56 - 135	3	26
cis-1,2-Dichloroethene	77		400	499		ug/L		105	66 - 128	3	14
Tetrachloroethene	10	J	400	378		ug/L		92	62 - 131	0	20
trans-1,2-Dichloroethene	20	U	400	440		ug/L		110	56 - 136	2	15
Trichloroethene	22		400	402		ug/L		95	61 - 124	2	15
Vinyl chloride	20	U	400	360		ug/L		90	43 - 157	2	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*101*		*62 - 137*
4-Bromofluorobenzene (Surr)	*96*		*56 - 136*
Toluene-d8 (Surr)	*97*		*78 - 122*
Dibromofluoromethane (Surr)	*94*		*73 - 120*

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

Lab Sample ID: MB 240-540396/4
Matrix: Water
Analysis Batch: 540396

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			08/26/22 21:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*71*		*66 - 120*		*08/26/22 21:41*	*1*

Lab Sample ID: LCS 240-540396/3
Matrix: Water
Analysis Batch: 540396

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	9.61		ug/L		96	80 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*70*		*66 - 120*

Lab Sample ID: 240-171965-G-5 MS
Matrix: Water
Analysis Batch: 540396

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	11.0		ug/L		110	51 - 153

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

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*83*		*66 - 120*

Lab Sample ID: 240-171965-M-5 MSD
Matrix: Water
Analysis Batch: 540396

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	4	16

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

Lab Sample ID: MB 240-540607/5
Matrix: Water
Analysis Batch: 540607

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			08/29/22 23:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*69*		*66 - 120*		*08/29/22 23:13*	*1*

Lab Sample ID: LCS 240-540607/4
Matrix: Water
Analysis Batch: 540607

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	9.94		ug/L		99	80 - 122		

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

Lab Sample ID: 240-171967-G-4 MS
Matrix: Water
Analysis Batch: 540607

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	6.2		10.0	16.5		ug/L		102	51 - 153		

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*76*		*66 - 120*

Lab Sample ID: 240-171967-M-4 MSD
Matrix: Water
Analysis Batch: 540607

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	6.2		10.0	16.3		ug/L		101	51 - 153	1	16

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

Lab Sample ID: 240-171967-M-4 MSD
Matrix: Water
Analysis Batch: 540607

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

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

QC Association Summary

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

Job ID: 240-171954-1

GC/MS VOA

Analysis Batch: 540306

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-171954-1	TRIP BLANK_134	Total/NA	Water	8260D	
240-171954-2	MW-58_081922	Total/NA	Water	8260D	
240-171954-3	MW-48R_081922	Total/NA	Water	8260D	
240-171954-4	MW-67_081922	Total/NA	Water	8260D	
240-171954-5	DUP-04	Total/NA	Water	8260D	
MB 240-540306/8	Method Blank	Total/NA	Water	8260D	
LCS 240-540306/5	Lab Control Sample	Total/NA	Water	8260D	
240-171925-F-3 MS	Matrix Spike	Total/NA	Water	8260D	
240-171925-F-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 540396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-171954-3	MW-48R_081922	Total/NA	Water	8260D SIM	
240-171954-4	MW-67_081922	Total/NA	Water	8260D SIM	
240-171954-5	DUP-04	Total/NA	Water	8260D SIM	
MB 240-540396/4	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-540396/3	Lab Control Sample	Total/NA	Water	8260D SIM	
240-171965-G-5 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-171965-M-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

Analysis Batch: 540607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-171954-2	MW-58_081922	Total/NA	Water	8260D SIM	
MB 240-540607/5	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-540607/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-171967-G-4 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-171967-M-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

Lab Chronicle

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

Job ID: 240-171954-1

Client Sample ID: TRIP BLANK_134
Date Collected: 08/19/22 00:00
Date Received: 08/23/22 09:30

Lab Sample ID: 240-171954-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	540306	TJL1	EET CAN	08/26/22 16:49

Client Sample ID: MW-58_081922
Date Collected: 08/19/22 10:58
Date Received: 08/23/22 09:30

Lab Sample ID: 240-171954-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	540306	TJL1	EET CAN	08/26/22 17:11
Total/NA	Analysis	8260D SIM		1.2	540607	CS	EET CAN	08/30/22 02:00

Client Sample ID: MW-48R_081922
Date Collected: 08/19/22 11:40
Date Received: 08/23/22 09:30

Lab Sample ID: 240-171954-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	540306	TJL1	EET CAN	08/26/22 17:33
Total/NA	Analysis	8260D SIM		1	540396	CS	EET CAN	08/27/22 05:07

Client Sample ID: MW-67_081922
Date Collected: 08/19/22 13:55
Date Received: 08/23/22 09:30

Lab Sample ID: 240-171954-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	540306	TJL1	EET CAN	08/26/22 17:55
Total/NA	Analysis	8260D SIM		1	540396	CS	EET CAN	08/27/22 05:31

Client Sample ID: DUP-04
Date Collected: 08/19/22 00:00
Date Received: 08/23/22 09:30

Lab Sample ID: 240-171954-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	540306	TJL1	EET CAN	08/26/22 18:17
Total/NA	Analysis	8260D SIM		1	540396	CS	EET CAN	08/27/22 05:55

Laboratory References:
EET 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: 240-171954-1

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	06-30-23
Georgia	State	4062	02-27-23
Illinois	NELAP	200004	07-31-23
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	06-30-23
New York	NELAP	10975	04-01-23
Ohio	State	8303	02-23-23
Ohio VAP	State	CL0024	02-27-23
Oregon	NELAP	4062	08-31-22
Pennsylvania	NELAP	68-00340	08-31-23
Texas	NELAP	T104704517-22-17	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-23
West Virginia DEP	State	210	12-31-22

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
Address: 28550 Cabot Drive, Suite 500
City/State/Zip: Novi, MI, 48377
Phone: 248-994-2240
Project Name: Ford LTP On-Site
Project Number: 30080642.401.03
PO # 30080642.401.03

Client Project Manager: Kris Hinskey
Telephone: 248-994-2240
Email: kristoffer.hinskey@arcadis.com
Sampler Name: SAMANTHA HINDLE
Method of Shipment/Carrier:
Shipping/Tracking No:

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

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

COC No:
of COCs
For lab use only
Walk-in client
Lab sampling
Job/SDG No:

Analysis Turnaround Time
TAT if different from below: 10 day
☐ 3 weeks
☑ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

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 8260B	cis-1,2-DCE 8260B	Trans-1,2-DCE 8260B	PCE 8260B	TCE 8260B	Vinyl Chloride 8260B	1,4-Dioxane 8260B SIM	Sample Specific Notes / Special Instructions:
TRIP BLANK_ 134	8/19/22	—		X						1					N	G	X	X	X	X	X	X		1 Trip Blank
MW-58_081922	8/19/22	1058		X						6					N	G	X	X	X	X	X	X	X	3 VOAs for 8260B 3 VOAs for 8260B SIM
MW-48R_081922	8/19/22	1140		X						6					N	G	X	X	X	X	X	X	X	↓
MW-67_081922	8/19/22	1355		X						6					N	G	X	X	X	X	X	X	X	↓
DUP-04	8/19/22	—		X						6					N	G	X	X	X	X	X	X	X	↓

240-171954 Chain of Custody

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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal By Lab ☐ Archive For ___ Months

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:
[signature]	ARCADIS	8/19/22 1505	NOVI COLD STORAGE	ARCADIS	8/19/22 1505
[signature]	ARCADIS	8/22/22 1120	[signature]	Eurofins	8/22/22 1120
[signature]	Eurofins	8/22/22	Received in Laboratory by: [signature]	EETNC	8-23-22 9:30

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

Client Arcadis Site Name _____ Cooler unpacked by: Rachelle Haidet

Cooler Received on 8-23-22 Opened on 8-23-22

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

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

Eurofins Cooler # 1A 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 (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? JH 8-30-22 (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# HC[illegible] 286797
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)

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 # : ______________

Eurofins - 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-13 IR-15	3.9	3.9	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15	4.1	4.1	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15	3.9	3.9	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15	2.7	2.7	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