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ANALYTICAL REPORT

Eurofins Canton
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Laboratory Job ID: 240-163164-1
Client Project/Site: Ford LTP - Off-Site

For:
ARCADIS U.S., Inc.
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Attn: Kristoffer Hinskey

Authorized for release by:
3/16/2022 2:59:10 PM

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

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Method Summary 5
Sample Summary 6
Detection Summary 7
Client Sample Results 8
Surrogate Summary 13
QC Sample Results 14
QC Association Summary 18
Lab Chronicle 19
Certification Summary 20
Chain of Custody 21

Definitions/Glossary

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

Job ID: 240-163164-1

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.
S1+	Surrogate recovery exceeds control limits, high biased.
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

Job ID: 240-163164-1

Laboratory: Eurofins Canton

Narrative

Job Narrative
240-163164-1

Comments
No additional comments.

Receipt
The samples were received on 3/2/2022 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 3.2º C and 3.7º C.

GC/MS VOA
Method 8260B: The continuing calibration verification (CCV) associated with batch recovered above the upper control limit for Vinyl Chloride and 1,1-Dichloroethene. The samples associated with this CCV were non-detect for the affected analytes; therefore, the data have been reported. The associated samples are impacted: TRIP BLANK_131 (240-163164-1), MW-99S_022422 (240-163164-2) and MW-75SR_022422 (240-163164-4).

Method 8260B: No MS/MSD in batch 519115 due to an instrument failure.

TRIP BLANK_131 (240-163164-1), MW-99S_022422 (240-163164-2) and MW-75SR_022422 (240-163164-4)

Method 8260B: Surrogate recovery for the following sample was outside the upper control limit: DUP-10 (240-163164-5). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or 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 - Off-Site

Job ID: 240-163164-1

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

Sample Summary

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

Job ID: 240-163164-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-163164-1	TRIP BLANK_131	Water	02/24/22 00:00	03/02/22 08:00
240-163164-2	MW-99S_022422	Water	02/24/22 14:21	03/02/22 08:00
240-163164-3	MW-75D_022422	Water	02/24/22 15:26	03/02/22 08:00
240-163164-4	MW-75SR_022422	Water	02/24/22 16:51	03/02/22 08:00
240-163164-5	DUP-10	Water	02/24/22 00:00	03/02/22 08:00

Detection Summary

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

Job ID: 240-163164-1

Client Sample ID: TRIP BLANK_131 — Lab Sample ID: 240-163164-1

No Detections.

Client Sample ID: MW-99S_022422 — Lab Sample ID: 240-163164-2

No Detections.

Client Sample ID: MW-75D_022422 — Lab Sample ID: 240-163164-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.5	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	1.0		1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: MW-75SR_022422 — Lab Sample ID: 240-163164-4

No Detections.

Client Sample ID: DUP-10 — Lab Sample ID: 240-163164-5

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 240-163164-1

Client Sample ID: TRIP BLANK_131

Date Collected: 02/24/22 00:00
Date Received: 03/02/22 08:00

Lab Sample ID: 240-163164-1

Matrix: Water

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			03/03/22 14:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/03/22 14:47	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/03/22 14:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/03/22 14:47	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/03/22 14:47	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/03/22 14:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*75*		*62 - 137*		*03/03/22 14:47*	*1*
4-Bromofluorobenzene (Surr)	*107*		*56 - 136*		*03/03/22 14:47*	*1*
Toluene-d8 (Surr)	*82*		*78 - 122*		*03/03/22 14:47*	*1*
Dibromofluoromethane (Surr)	*89*		*73 - 120*		*03/03/22 14:47*	*1*

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

Job ID: 240-163164-1

Client Sample ID: MW-99S_022422
Date Collected: 02/24/22 14:21
Date Received: 03/02/22 08:00

Lab Sample ID: 240-163164-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/04/22 17:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*80*		*66 - 120*		*03/04/22 17:44*	*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			03/03/22 15:11	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/03/22 15:11	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/03/22 15:11	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/03/22 15:11	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/03/22 15:11	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/03/22 15:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*74*		*62 - 137*		*03/03/22 15:11*	*1*
4-Bromofluorobenzene (Surr)	*112*		*56 - 136*		*03/03/22 15:11*	*1*
Toluene-d8 (Surr)	*83*		*78 - 122*		*03/03/22 15:11*	*1*
Dibromofluoromethane (Surr)	*88*		*73 - 120*		*03/03/22 15:11*	*1*

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

Job ID: 240-163164-1

Client Sample ID: MW-75D_022422
Date Collected: 02/24/22 15:26
Date Received: 03/02/22 08:00

Lab Sample ID: 240-163164-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**1.5**	**J**	2.0	0.86	ug/L			03/04/22 18:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*79*		*66 - 120*		*03/04/22 18:09*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			03/07/22 13:30	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/07/22 13:30	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/07/22 13:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/07/22 13:30	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/07/22 13:30	1
Vinyl chloride	**1.0**		1.0	0.45	ug/L			03/07/22 13:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*62 - 137*		*03/07/22 13:30*	*1*
4-Bromofluorobenzene (Surr)	*109*		*56 - 136*		*03/07/22 13:30*	*1*
Toluene-d8 (Surr)	*115*		*78 - 122*		*03/07/22 13:30*	*1*
Dibromofluoromethane (Surr)	*117*		*73 - 120*		*03/07/22 13:30*	*1*

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

Job ID: 240-163164-1

Client Sample ID: MW-75SR_022422
Date Collected: 02/24/22 16:51
Date Received: 03/02/22 08:00

Lab Sample ID: 240-163164-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/04/22 18:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*79*		*66 - 120*		*03/04/22 18:34*	*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			03/03/22 15:59	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/03/22 15:59	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/03/22 15:59	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/03/22 15:59	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/03/22 15:59	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/03/22 15:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*69*		*62 - 137*		*03/03/22 15:59*	*1*
4-Bromofluorobenzene (Surr)	*107*		*56 - 136*		*03/03/22 15:59*	*1*
Toluene-d8 (Surr)	*83*		*78 - 122*		*03/03/22 15:59*	*1*
Dibromofluoromethane (Surr)	*85*		*73 - 120*		*03/03/22 15:59*	*1*

Client Sample ID: DUP-10
Date Collected: 02/24/22 00:00
Date Received: 03/02/22 08:00

Lab Sample ID: 240-163164-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/04/22 18:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*80*		*66 - 120*		*03/04/22 18:59*	*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			03/07/22 13:54	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/07/22 13:54	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/07/22 13:54	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/07/22 13:54	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/07/22 13:54	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/07/22 13:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*62 - 137*		*03/07/22 13:54*	*1*
4-Bromofluorobenzene (Surr)	*109*		*56 - 136*		*03/07/22 13:54*	*1*
Toluene-d8 (Surr)	*115*		*78 - 122*		*03/07/22 13:54*	*1*
Dibromofluoromethane (Surr)	*121*	*S1+*	*73 - 120*		*03/07/22 13:54*	*1*

Surrogate Summary

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

Job ID: 240-163164-1

Method: 8260B - Volatile Organic Compounds (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)
240-163164-1	TRIP BLANK_131	75	107	82	89
240-163164-2	MW-99S_022422	74	112	83	88
240-163164-3	MW-75D_022422	101	109	115	117
240-163164-3 MS	MW-75D_022422	87	101	103	100
240-163164-3 MSD	MW-75D_022422	86	98	100	101
240-163164-4	MW-75SR_022422	69	107	83	85
240-163164-5	DUP-10	102	109	115	121 S1+
LCS 240-519115/5	Lab Control Sample	75	118	83	88
LCS 240-519272/5	Lab Control Sample	97	107	111	111
MB 240-519115/8	Method Blank	76	114	87	90
MB 240-519272/8	Method Blank	98	109	113	119

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)
		DCA
Lab Sample ID	Client Sample ID	(66-120)
240-163164-2	MW-99S_022422	80
240-163164-3	MW-75D_022422	79
240-163164-4	MW-75SR_022422	79
240-163164-5	DUP-10	80
240-163172-A-9 MSD	Matrix Spike Duplicate	79
240-163172-C-9 MS	Matrix Spike	80
LCS 240-519224/5	Lab Control Sample	79
MB 240-519224/6	Method Blank	79

Surrogate Legend

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

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

Lab Sample ID: MB 240-519115/8
Matrix: Water
Analysis Batch: 519115

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			03/03/22 13:35	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/03/22 13:35	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/03/22 13:35	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/03/22 13:35	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/03/22 13:35	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/03/22 13:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*76*		*62 - 137*		*03/03/22 13:35*	*1*
4-Bromofluorobenzene (Surr)	*114*		*56 - 136*		*03/03/22 13:35*	*1*
Toluene-d8 (Surr)	*87*		*78 - 122*		*03/03/22 13:35*	*1*
Dibromofluoromethane (Surr)	*90*		*73 - 120*		*03/03/22 13:35*	*1*

Lab Sample ID: LCS 240-519115/5
Matrix: Water
Analysis Batch: 519115

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	22.8		ug/L		114	63 - 134
cis-1,2-Dichloroethene	20.0	22.3		ug/L		112	77 - 123
Tetrachloroethene	20.0	18.4		ug/L		92	76 - 123
trans-1,2-Dichloroethene	20.0	22.1		ug/L		110	75 - 124
Trichloroethene	20.0	22.9		ug/L		115	70 - 122
Vinyl chloride	20.0	27.3		ug/L		136	60 - 144

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*75*		*62 - 137*
4-Bromofluorobenzene (Surr)	*118*		*56 - 136*
Toluene-d8 (Surr)	*83*		*78 - 122*
Dibromofluoromethane (Surr)	*88*		*73 - 120*

Lab Sample ID: MB 240-519272/8
Matrix: Water
Analysis Batch: 519272

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			03/07/22 13:06	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/07/22 13:06	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/07/22 13:06	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/07/22 13:06	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/07/22 13:06	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/07/22 13:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*62 - 137*		*03/07/22 13:06*	*1*
4-Bromofluorobenzene (Surr)	*109*		*56 - 136*		*03/07/22 13:06*	*1*
Toluene-d8 (Surr)	*113*		*78 - 122*		*03/07/22 13:06*	*1*

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

Lab Sample ID: MB 240-519272/8
Matrix: Water
Analysis Batch: 519272

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	119		73 - 120		03/07/22 13:06	1

Lab Sample ID: LCS 240-519272/5
Matrix: Water
Analysis Batch: 519272

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	26.5		ug/L		106	63 - 134		
cis-1,2-Dichloroethene			25.0	24.2		ug/L		97	77 - 123		
Tetrachloroethene			25.0	26.3		ug/L		105	76 - 123		
trans-1,2-Dichloroethene			25.0	24.9		ug/L		100	75 - 124		
Trichloroethene			25.0	25.2		ug/L		101	70 - 122		
Vinyl chloride			25.0	23.7		ug/L		95	60 - 144		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		62 - 137
4-Bromofluorobenzene (Surr)	107		56 - 136
Toluene-d8 (Surr)	111		78 - 122
Dibromofluoromethane (Surr)	111		73 - 120

Lab Sample ID: 240-163164-3 MS
Matrix: Water
Analysis Batch: 519272

Client Sample ID: MW-75D_022422
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	25.4		ug/L		102	56 - 135		
cis-1,2-Dichloroethene	1.0	U	25.0	24.0		ug/L		96	66 - 128		
Tetrachloroethene	1.0	U	25.0	23.3		ug/L		93	62 - 131		
trans-1,2-Dichloroethene	1.0	U	25.0	23.9		ug/L		96	56 - 136		
Trichloroethene	1.0	U	25.0	23.3		ug/L		93	61 - 124		
Vinyl chloride	1.0		25.0	22.7		ug/L		87	43 - 157		

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	87		62 - 137
4-Bromofluorobenzene (Surr)	101		56 - 136
Toluene-d8 (Surr)	103		78 - 122
Dibromofluoromethane (Surr)	100		73 - 120

Lab Sample ID: 240-163164-3 MSD
Matrix: Water
Analysis Batch: 519272

Client Sample ID: MW-75D_022422
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	24.6		ug/L		98	56 - 135	4	26
cis-1,2-Dichloroethene	1.0	U	25.0	23.7		ug/L		95	66 - 128	1	14
Tetrachloroethene	1.0	U	25.0	24.3		ug/L		97	62 - 131	4	20
trans-1,2-Dichloroethene	1.0	U	25.0	23.3		ug/L		93	56 - 136	3	15
Trichloroethene	1.0	U	25.0	23.1		ug/L		92	61 - 124	1	15

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

Lab Sample ID: 240-163164-3 MSD
Matrix: Water
Analysis Batch: 519272

Client Sample ID: MW-75D_022422
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl chloride	1.0		25.0	23.4		ug/L		89	43 - 157	3	24

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*86*		*62 - 137*
4-Bromofluorobenzene (Surr)	*98*		*56 - 136*
Toluene-d8 (Surr)	*100*		*78 - 122*
Dibromofluoromethane (Surr)	*101*		*73 - 120*

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

Lab Sample ID: MB 240-519224/6
Matrix: Water
Analysis Batch: 519224

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/04/22 16:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*79*		*66 - 120*		*03/04/22 16:28*	*1*

Lab Sample ID: LCS 240-519224/5
Matrix: Water
Analysis Batch: 519224

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	9.43		ug/L		94	80 - 122		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*79*		*66 - 120*

Lab Sample ID: 240-163172-A-9 MSD
Matrix: Water
Analysis Batch: 519224

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	1	16

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*79*		*66 - 120*

Lab Sample ID: 240-163172-C-9 MS
Matrix: Water
Analysis Batch: 519224

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	10.5		ug/L		105	51 - 153		

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

Lab Sample ID: 240-163172-C-9 MS
Matrix: Water
Analysis Batch: 519224

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

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

GC/MS VOA

Analysis Batch: 519115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-163164-1	TRIP BLANK_131	Total/NA	Water	8260B	
240-163164-2	MW-99S_022422	Total/NA	Water	8260B	
240-163164-4	MW-75SR_022422	Total/NA	Water	8260B	
MB 240-519115/8	Method Blank	Total/NA	Water	8260B	
LCS 240-519115/5	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 519224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-163164-2	MW-99S_022422	Total/NA	Water	8260B SIM	
240-163164-3	MW-75D_022422	Total/NA	Water	8260B SIM	
240-163164-4	MW-75SR_022422	Total/NA	Water	8260B SIM	
240-163164-5	DUP-10	Total/NA	Water	8260B SIM	
MB 240-519224/6	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-519224/5	Lab Control Sample	Total/NA	Water	8260B SIM	
240-163172-A-9 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	
240-163172-C-9 MS	Matrix Spike	Total/NA	Water	8260B SIM	

Analysis Batch: 519272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-163164-3	MW-75D_022422	Total/NA	Water	8260B	
240-163164-5	DUP-10	Total/NA	Water	8260B	
MB 240-519272/8	Method Blank	Total/NA	Water	8260B	
LCS 240-519272/5	Lab Control Sample	Total/NA	Water	8260B	
240-163164-3 MS	MW-75D_022422	Total/NA	Water	8260B	
240-163164-3 MSD	MW-75D_022422	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-163164-1

Client Sample ID: TRIP BLANK_131
Lab Sample ID: 240-163164-1
Date Collected: 02/24/22 00:00
Matrix: Water
Date Received: 03/02/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	519115	03/03/22 14:47	LEE	TAL CAN

Client Sample ID: MW-99S_022422
Lab Sample ID: 240-163164-2
Date Collected: 02/24/22 14:21
Matrix: Water
Date Received: 03/02/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	519115	03/03/22 15:11	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	519224	03/04/22 17:44	CS	TAL CAN

Client Sample ID: MW-75D_022422
Lab Sample ID: 240-163164-3
Date Collected: 02/24/22 15:26
Matrix: Water
Date Received: 03/02/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	519272	03/07/22 13:30	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	519224	03/04/22 18:09	CS	TAL CAN

Client Sample ID: MW-75SR_022422
Lab Sample ID: 240-163164-4
Date Collected: 02/24/22 16:51
Matrix: Water
Date Received: 03/02/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	519115	03/03/22 15:59	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	519224	03/04/22 18:34	CS	TAL CAN

Client Sample ID: DUP-10
Lab Sample ID: 240-163164-5
Date Collected: 02/24/22 00:00
Matrix: Water
Date Received: 03/02/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	519272	03/07/22 13:54	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	519224	03/04/22 18:59	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 - Off-Site

Job ID: 240-163164-1

Laboratory: Eurofins Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22 *
Connecticut	State	PH-0590	12-31-21 *
Florida	NELAP	E87225	06-30-22
Georgia	State	4062	02-23-22 *
Illinois	NELAP	200004	07-31-22
Iowa	State	421	06-01-23
Kansas	NELAP	E-10336	04-30-22
Kentucky (UST)	State	112225	02-23-22 *
Kentucky (WW)	State	KY98016	12-31-22
Minnesota	NELAP	039-999-348	12-31-22
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	11-06-22
New York	NELAP	10975	03-31-22
Ohio	State	8303	02-23-23
Ohio VAP	State	CL0024	02-27-23
Oregon	NELAP	4062	02-27-23
Pennsylvania	NELAP	68-00340	08-31-22
Texas	NELAP	T104704517-21-14	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-23
West Virginia DEP	State	210	12-31-22

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

3.9|3.7
3.4|3.2

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

TestAmerica Laboratories, Inc.

Client Contact	Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other			
Company Name: Arcadis	Client Project Manager: Kris Hinskey	Site Contact: Julia McClafferty	Lab Contact: Mike DelMonico	COC No:
Address: 28550 Cabot Drive, Suite 500	Telephone: 248-994-2240	Telephone: 734-644-5131	Telephone: 330-497-9396	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: Gary Schafer	TAT if different from below: ☐ 3 weeks ☑ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day — 10 day		Walk-in client
Project Name: Ford LTP Off-Site	Method of Shipment/Carrier:			Lab sampling
Project Number: 30080642.402.04	Shipping/Tracking No:			Job/SDG No:
PO # 30080642.402.04				

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other:	Containers & Preservatives: 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_131	—	—		X						1					N	G	X	X	X	X	X	X		1 Trip Blank
MW-99S-022422	02/24/22	14:21		X						6					N	G	X	X	X	X	X	X	X	3 VOAs for 8260B 3 VOAs for 8260B SIM
MW-75D-022422	02/24/22	15:26		X						6					N	G	X	X	X	X	X	X	X	
MW-75SR-022422	02/24/22	16:51		X						6					N	G	X	X	X	X	X	X	X	
DUP-10	02/24/22	—		X						6					N	G	X	X	X	X	X	X	X	

240-163164 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): ☐ Return to Client ☑ Disposal By Lab ☐ Archive for ... months

Special Instructions/QC Requirements & Comments:

Sample Address: Commercial Row - Belden

Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203631

Level IV Reporting requested.

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Gary Schafer	Arcadis	02/25/22 09:10	Novi cold storage	Arcadis	02/25/22 09:10
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	Arcadis	3/1/22 1540		FEDEX	3/1/22
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
	FEDEX	3/1/22		TESTNC	3-2-22 800

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

Client Arcadis Site Name _____ Cooler unpacked by: Tammy Royce

Cooler Received on 3-2-22 Opened on 3-2-22

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

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

TestAmerica Cooler # 7A Foam Box Client Cooler Box Other _____

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☒ See Multiple Cooler Form
   IR GUN# IR-14 (CF **-0.2** °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C
   IR GUN #IR-15 (CF **-0.7**°C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	(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 # 60358	(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 # : 163164

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	3.9	3.7	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15	3.4	3.2	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15	