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ANALYTICAL REPORT

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

Laboratory Job ID: 240-162623-1
Client Project/Site: Ford LTP - Off-Site

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey

Authorized for release by:
2/24/2022 2:00:24 PM

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

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Definitions/Glossary

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

Job ID: 240-162623-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: 240-162623-1

Laboratory: Eurofins Canton

Narrative

Job Narrative
240-162623-1

Comments
No additional comments.

Receipt
The samples were received on 2/11/2022 11:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.2º C.

GC/MS VOA
Method 8260B SIM: The matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 240-518020 were not spiked during prep due to analyst error.

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: 240-162623-1

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: 240-162623-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-162623-1	TRIP BLANK_70	Water	02/09/22 00:00	02/11/22 11:30
240-162623-2	MW-142S_020922	Water	02/09/22 09:20	02/11/22 11:30
240-162623-3	MW-85SR_020922	Water	02/09/22 10:25	02/11/22 11:30
240-162623-4	MW-131S_020922	Water	02/09/22 11:40	02/11/22 11:30
240-162623-5	MW-105S_020922	Water	02/09/22 12:50	02/11/22 11:30
240-162623-6	DUP-12	Water	02/09/22 00:00	02/11/22 11:30

Detection Summary

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

Job ID: 240-162623-1

Client Sample ID: TRIP BLANK_70 — Lab Sample ID: 240-162623-1

No Detections.

Client Sample ID: MW-142S_020922 — Lab Sample ID: 240-162623-2

No Detections.

Client Sample ID: MW-85SR_020922 — Lab Sample ID: 240-162623-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	1.1		1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: MW-131S_020922 — Lab Sample ID: 240-162623-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.75	J	1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: MW-105S_020922 — Lab Sample ID: 240-162623-5

No Detections.

Client Sample ID: DUP-12 — Lab Sample ID: 240-162623-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.78	J	1.0	0.45	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

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

Job ID: 240-162623-1

Client Sample ID: TRIP BLANK_70

Date Collected: 02/09/22 00:00
Date Received: 02/11/22 11:30

Lab Sample ID: 240-162623-1

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			02/14/22 13:33	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/14/22 13:33	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/14/22 13:33	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/14/22 13:33	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/14/22 13:33	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/14/22 13:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*62 - 137*		*02/14/22 13:33*	*1*
4-Bromofluorobenzene (Surr)	*95*		*56 - 136*		*02/14/22 13:33*	*1*
Toluene-d8 (Surr)	*101*		*78 - 122*		*02/14/22 13:33*	*1*
Dibromofluoromethane (Surr)	*105*		*73 - 120*		*02/14/22 13:33*	*1*

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

Job ID: 240-162623-1

Client Sample ID: MW-142S_020922
Date Collected: 02/09/22 09:20
Date Received: 02/11/22 11:30

Lab Sample ID: 240-162623-2
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			02/14/22 19:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*66 - 120*		*02/14/22 19:28*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			02/14/22 15:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/14/22 15:08	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/14/22 15:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/14/22 15:08	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/14/22 15:08	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/14/22 15:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*62 - 137*		*02/14/22 15:08*	*1*
4-Bromofluorobenzene (Surr)	*99*		*56 - 136*		*02/14/22 15:08*	*1*
Toluene-d8 (Surr)	*101*		*78 - 122*		*02/14/22 15:08*	*1*
Dibromofluoromethane (Surr)	*103*		*73 - 120*		*02/14/22 15:08*	*1*

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

Job ID: 240-162623-1

Client Sample ID: MW-85SR_020922

Lab Sample ID: 240-162623-3

Date Collected: 02/09/22 10:25

Matrix: Water

Date Received: 02/11/22 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/14/22 19:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*66 - 120*		*02/14/22 19:53*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			02/14/22 15:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/14/22 15:32	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/14/22 15:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/14/22 15:32	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/14/22 15:32	1
Vinyl chloride	**1.1**		1.0	0.45	ug/L			02/14/22 15:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*62 - 137*		*02/14/22 15:32*	*1*
4-Bromofluorobenzene (Surr)	*97*		*56 - 136*		*02/14/22 15:32*	*1*
Toluene-d8 (Surr)	*102*		*78 - 122*		*02/14/22 15:32*	*1*
Dibromofluoromethane (Surr)	*105*		*73 - 120*		*02/14/22 15:32*	*1*

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

Job ID: 240-162623-1

Client Sample ID: MW-131S_020922
Date Collected: 02/09/22 11:40
Date Received: 02/11/22 11:30

Lab Sample ID: 240-162623-4
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			02/14/22 20:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*66 - 120*		*02/14/22 20:19*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			02/14/22 15:55	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/14/22 15:55	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/14/22 15:55	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/14/22 15:55	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/14/22 15:55	1
Vinyl chloride	**0.75**	**J**	1.0	0.45	ug/L			02/14/22 15:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*62 - 137*		*02/14/22 15:55*	*1*
4-Bromofluorobenzene (Surr)	*97*		*56 - 136*		*02/14/22 15:55*	*1*
Toluene-d8 (Surr)	*100*		*78 - 122*		*02/14/22 15:55*	*1*
Dibromofluoromethane (Surr)	*104*		*73 - 120*		*02/14/22 15:55*	*1*

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

Job ID: 240-162623-1

Client Sample ID: MW-105S_020922
Date Collected: 02/09/22 12:50
Date Received: 02/11/22 11:30

Lab Sample ID: 240-162623-5
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			02/14/22 20:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*66 - 120*		*02/14/22 20:44*	*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			02/14/22 16:19	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/14/22 16:19	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/14/22 16:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/14/22 16:19	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/14/22 16:19	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/14/22 16:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*62 - 137*		*02/14/22 16:19*	*1*
4-Bromofluorobenzene (Surr)	*98*		*56 - 136*		*02/14/22 16:19*	*1*
Toluene-d8 (Surr)	*100*		*78 - 122*		*02/14/22 16:19*	*1*
Dibromofluoromethane (Surr)	*102*		*73 - 120*		*02/14/22 16:19*	*1*

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

Job ID: 240-162623-1

Client Sample ID: DUP-12
Date Collected: 02/09/22 00:00
Date Received: 02/11/22 11:30

Lab Sample ID: 240-162623-6
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			02/14/22 21:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*66 - 120*		*02/14/22 21:09*	*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			02/14/22 16:43	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/14/22 16:43	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/14/22 16:43	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/14/22 16:43	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/14/22 16:43	1
Vinyl chloride	**0.78**	**J**	1.0	0.45	ug/L			02/14/22 16:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*62 - 137*		*02/14/22 16:43*	*1*
4-Bromofluorobenzene (Surr)	*97*		*56 - 136*		*02/14/22 16:43*	*1*
Toluene-d8 (Surr)	*102*		*78 - 122*		*02/14/22 16:43*	*1*
Dibromofluoromethane (Surr)	*102*		*73 - 120*		*02/14/22 16:43*	*1*

Surrogate Summary

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

Job ID: 240-162623-1

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)
240-162623-1	TRIP BLANK_70	92	95	101	105
240-162623-2	MW-142S_020922	93	99	101	103
240-162623-3	MW-85SR_020922	95	97	102	105
240-162623-4	MW-131S_020922	95	97	100	104
240-162623-5	MW-105S_020922	93	98	100	102
240-162623-6	DUP-12	92	97	102	102
240-162632-B-4 MS	Matrix Spike	85	99	101	99
240-162632-B-4 MSD	Matrix Spike Duplicate	91	99	105	101
LCS 240-517994/5	Lab Control Sample	88	101	104	101
MB 240-517994/7	Method Blank	92	96	99	104

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)
240-162623-2	MW-142S_020922	82
240-162623-3	MW-85SR_020922	84
240-162623-4	MW-131S_020922	82
240-162623-5	MW-105S_020922	83
240-162623-6	DUP-12	82
LCS 240-518020/4	Lab Control Sample	84
MB 240-518020/5	Method Blank	84

Surrogate Legend

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

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

Lab Sample ID: MB 240-517994/7
Matrix: Water
Analysis Batch: 517994

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			02/14/22 12:45	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/14/22 12:45	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/14/22 12:45	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/14/22 12:45	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/14/22 12:45	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/14/22 12:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*62 - 137*		*02/14/22 12:45*	*1*
4-Bromofluorobenzene (Surr)	*96*		*56 - 136*		*02/14/22 12:45*	*1*
Toluene-d8 (Surr)	*99*		*78 - 122*		*02/14/22 12:45*	*1*
Dibromofluoromethane (Surr)	*104*		*73 - 120*		*02/14/22 12:45*	*1*

Lab Sample ID: LCS 240-517994/5
Matrix: Water
Analysis Batch: 517994

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	27.1		ug/L		109	63 - 134
cis-1,2-Dichloroethene	25.0	23.9		ug/L		96	77 - 123
Tetrachloroethene	25.0	26.7		ug/L		107	76 - 123
trans-1,2-Dichloroethene	25.0	25.4		ug/L		101	75 - 124
Trichloroethene	25.0	25.4		ug/L		102	70 - 122
Vinyl chloride	25.0	22.5		ug/L		90	60 - 144

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*88*		*62 - 137*
4-Bromofluorobenzene (Surr)	*101*		*56 - 136*
Toluene-d8 (Surr)	*104*		*78 - 122*
Dibromofluoromethane (Surr)	*101*		*73 - 120*

Lab Sample ID: 240-162632-B-4 MS
Matrix: Water
Analysis Batch: 517994

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	500	484		ug/L		97	56 - 135
cis-1,2-Dichloroethene	20	U	500	441		ug/L		88	66 - 128
Tetrachloroethene	20	U	500	452		ug/L		90	62 - 131
trans-1,2-Dichloroethene	20	U	500	460		ug/L		92	56 - 136
Trichloroethene	20	U	500	442		ug/L		88	61 - 124
Vinyl chloride	20	U	500	417		ug/L		83	43 - 157

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*85*		*62 - 137*
4-Bromofluorobenzene (Surr)	*99*		*56 - 136*
Toluene-d8 (Surr)	*101*		*78 - 122*

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

Lab Sample ID: 240-162632-B-4 MS
Matrix: Water
Analysis Batch: 517994

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

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*99*		*73 - 120*

Lab Sample ID: 240-162632-B-4 MSD
Matrix: Water
Analysis Batch: 517994

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	500	474		ug/L		95	56 - 135	2	26
cis-1,2-Dichloroethene	20	U	500	466		ug/L		93	66 - 128	6	14
Tetrachloroethene	20	U	500	451		ug/L		90	62 - 131	0	20
trans-1,2-Dichloroethene	20	U	500	460		ug/L		92	56 - 136	0	15
Trichloroethene	20	U	500	448		ug/L		90	61 - 124	1	15
Vinyl chloride	20	U	500	422		ug/L		84	43 - 157	1	24

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*62 - 137*
4-Bromofluorobenzene (Surr)	*99*		*56 - 136*
Toluene-d8 (Surr)	*105*		*78 - 122*
Dibromofluoromethane (Surr)	*101*		*73 - 120*

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

Lab Sample ID: MB 240-518020/5
Matrix: Water
Analysis Batch: 518020

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/14/22 17:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*66 - 120*		*02/14/22 17:23*	*1*

Lab Sample ID: LCS 240-518020/4
Matrix: Water
Analysis Batch: 518020

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)	*84*		*66 - 120*

QC Association Summary

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

Job ID: 240-162623-1

GC/MS VOA

Analysis Batch: 517994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-162623-1	TRIP BLANK_70	Total/NA	Water	8260B	
240-162623-2	MW-142S_020922	Total/NA	Water	8260B	
240-162623-3	MW-85SR_020922	Total/NA	Water	8260B	
240-162623-4	MW-131S_020922	Total/NA	Water	8260B	
240-162623-5	MW-105S_020922	Total/NA	Water	8260B	
240-162623-6	DUP-12	Total/NA	Water	8260B	
MB 240-517994/7	Method Blank	Total/NA	Water	8260B	
LCS 240-517994/5	Lab Control Sample	Total/NA	Water	8260B	
240-162632-B-4 MS	Matrix Spike	Total/NA	Water	8260B	
240-162632-B-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 518020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-162623-2	MW-142S_020922	Total/NA	Water	8260B SIM	
240-162623-3	MW-85SR_020922	Total/NA	Water	8260B SIM	
240-162623-4	MW-131S_020922	Total/NA	Water	8260B SIM	
240-162623-5	MW-105S_020922	Total/NA	Water	8260B SIM	
240-162623-6	DUP-12	Total/NA	Water	8260B SIM	
MB 240-518020/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-518020/4	Lab Control Sample	Total/NA	Water	8260B SIM	

Lab Chronicle

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

Job ID: 240-162623-1

Client Sample ID: TRIP BLANK_70
Lab Sample ID: 240-162623-1
Date Collected: 02/09/22 00:00
Matrix: Water
Date Received: 02/11/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	517994	02/14/22 13:33	SAM	TAL CAN

Client Sample ID: MW-142S_020922
Lab Sample ID: 240-162623-2
Date Collected: 02/09/22 09:20
Matrix: Water
Date Received: 02/11/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	517994	02/14/22 15:08	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	518020	02/14/22 19:28	CS	TAL CAN

Client Sample ID: MW-85SR_020922
Lab Sample ID: 240-162623-3
Date Collected: 02/09/22 10:25
Matrix: Water
Date Received: 02/11/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	517994	02/14/22 15:32	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	518020	02/14/22 19:53	CS	TAL CAN

Client Sample ID: MW-131S_020922
Lab Sample ID: 240-162623-4
Date Collected: 02/09/22 11:40
Matrix: Water
Date Received: 02/11/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	517994	02/14/22 15:55	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	518020	02/14/22 20:19	CS	TAL CAN

Client Sample ID: MW-105S_020922
Lab Sample ID: 240-162623-5
Date Collected: 02/09/22 12:50
Matrix: Water
Date Received: 02/11/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	517994	02/14/22 16:19	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	518020	02/14/22 20:44	CS	TAL CAN

Client Sample ID: DUP-12
Lab Sample ID: 240-162623-6
Date Collected: 02/09/22 00:00
Matrix: Water
Date Received: 02/11/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	517994	02/14/22 16:43	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	518020	02/14/22 21:09	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: 240-162623-1

Laboratory: Eurofins Canton

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

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

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

Chain of Custody Record

MICHIGAN 190

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	Client Project Manager: Kris Hinskey	Site Contact: Julia McClafferty	Lab Contact: Mike DelMonico	COC No:
Company Name: Arcadis	Telephone: 248-994-2240	Telephone: 734-644-5131	Telephone: 330-497-9396	1 of 1 COCs
Address: 28550 Cabot Drive, Suite 500	Email: kristoffer.hinskey@arcadis.com	Analysis Turnaround Time		For lab use only
City/State/Zip: Novi, MI, 48377	Sampler Name: Christian Garrido	TAT if different from below 10 day ☐ 3 weeks ☑ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Walk-in client Lab sampling
Phone: 248-994-2240	Method of Shipment/Carrier:			
Project Name: Ford LTP Off-Site	Shipping/Tracking No:			Job/SDG No:
Project Number: 30080642.402.04				
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	Analyses: 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_ 70	2/9/22	—		X						1					N	G	X	X	X	X	X	X	X (CG)					1 Trip Blank
MW-14RS_020922	2/9/22	920		X						6					N	G	X	X	X	X	X	X	X					3 VOAs for 8260B 3 VOAs for 8260B SIM
MW-85SR_020922	2/9/22	1025		X						6					N	G	X	X	X	X	X	X	X					
MW-131S_020922	2/9/22	1140		X						6					N	G	X	X	X	X	X	X	X					
MW-105S_020922	2/9/22	1250		X						6					N	G	X	X	X	Y	X	Y	X					
DUP-12	2/9/22	—		X						6					N	G	Y	Y	Y	X	X	Y	Y					

240-162623 Chain of Custody

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

Sample Disposal: ☐ Return to ... Archive for ... Months

Special Instructions/QC Requirements & Comments:
Sample Address: Rosita Road
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:
Christian Garrido	Arcadis	2/9/22 1351	Nivil cell storage	Arcadis	2/9/22 1351
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Christian Garrido	ARCADIS	2/10/22 1000		Eurofins	2-10-22 1000
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
	Eurofins	2-10-22 1330		EETNC	2-11-22 1130

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Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # : 162623**
Canton Facility

Client Arcadis Site Name _____ Cooler unpacked by: Matt

Cooler Received on 2-11-22 Opened on 2-11-22

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

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

TestAmerica Cooler # ~~1~~ 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 +0.1 °C) Observed Cooler Temp. 3.1 °C Corrected Cooler Temp. 3.2 °C
   IR GUN #IR-15 (CF +0.2°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 # 210420IG	(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

64 CAKA

44203
CLE
OH-US

FRI - 11 FEB 10:30A
PRIORITY OVERNIGHT

TRK# 0201 4506 9518 9180

FedEx Express

INV:
PO:
DEPT:
REF:

BARBERTON OH 44203

180 S. VAN BUREN AVE.
EUROFINS BARBERTON OH
ATTN: SAMPLE RECEIVING

ORIGIN ID:DEOA (810) 229-2763
SHIPPING DEPARTMENT
EUROFINS TESTAMERICA
10448 CITATION DRIVE
SUITE 200
BRIGHTON, MI 48116
UNITED STATES US

SHIP DATE: 10FEB22
ACTWGT: 31.35 LB
CAD: 0183192/CAFE3509

BILL RECIPIENT

eurofins

RT164 6 10:30 A 9180 02.11

Part # 159469-434 MTW EXP 07/22