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ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-145229-1
Client Project/Site: Ford LTP - On Site

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

Attn: Kristoffer Hinskey

Authorized for release by:
3/24/2021 2:47:51 PM

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Definitions/Glossary

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

Job ID: 240-145229-1

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: 240-145229-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-145229-1

Comments
No additional comments.

Receipt
The samples were received on 3/3/2021 8:00 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 2.6º C.

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

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

Method Summary

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

Job ID: 240-145229-1

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 TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Sample Summary

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

Job ID: 240-145229-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-145229-1	TRIP BLANK	Water	03/01/21 00:00	03/03/21 08:00	
240-145229-2	MW-199S_030121	Water	03/01/21 11:05	03/03/21 08:00	
240-145229-3	MW-197S_030121	Water	03/01/21 14:02	03/03/21 08:00	

Detection Summary

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

Job ID: 240-145229-1

Client Sample ID: TRIP BLANK — Lab Sample ID: 240-145229-1

No Detections.

Client Sample ID: MW-199S_030121 — Lab Sample ID: 240-145229-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.43	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-197S_030121 — Lab Sample ID: 240-145229-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	17		5.0	0.80	ug/L	5		8260B	Total/NA
trans-1,2-Dichloroethene	0.97	J	5.0	0.95	ug/L	5		8260B	Total/NA
Trichloroethene	58		5.0	0.50	ug/L	5		8260B	Total/NA
Vinyl chloride	1.6	J	5.0	1.0	ug/L	5		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

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

Job ID: 240-145229-1

Client Sample ID: TRIP BLANK
Date Collected: 03/01/21 00:00
Date Received: 03/03/21 08:00

Lab Sample ID: 240-145229-1
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	0.19	ug/L			03/05/21 15:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/05/21 15:12	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/05/21 15:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/05/21 15:12	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/05/21 15:12	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/05/21 15:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*75 - 130*		*03/05/21 15:12*	*1*
4-Bromofluorobenzene (Surr)	*83*		*47 - 134*		*03/05/21 15:12*	*1*
Toluene-d8 (Surr)	*93*		*69 - 122*		*03/05/21 15:12*	*1*
Dibromofluoromethane (Surr)	*85*		*78 - 129*		*03/05/21 15:12*	*1*

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

Job ID: 240-145229-1

Client Sample ID: MW-199S_030121
Date Collected: 03/01/21 11:05
Date Received: 03/03/21 08:00

Lab Sample ID: 240-145229-2
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			03/04/21 21:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 133*		*03/04/21 21:28*	*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	0.19	ug/L			03/05/21 15:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/05/21 15:34	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/05/21 15:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/05/21 15:34	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/05/21 15:34	1
Vinyl chloride	**0.43**	**J**	1.0	0.20	ug/L			03/05/21 15:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*75 - 130*		*03/05/21 15:34*	*1*
4-Bromofluorobenzene (Surr)	*81*		*47 - 134*		*03/05/21 15:34*	*1*
Toluene-d8 (Surr)	*89*		*69 - 122*		*03/05/21 15:34*	*1*
Dibromofluoromethane (Surr)	*83*		*78 - 129*		*03/05/21 15:34*	*1*

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

Job ID: 240-145229-1

Client Sample ID: MW-197S_030121

Date Collected: 03/01/21 14:02
Date Received: 03/03/21 08:00

Lab Sample ID: 240-145229-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/04/21 21:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 133*		*03/04/21 21:54*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	5.0	U	5.0	0.95	ug/L			03/09/21 12:46	5
cis-1,2-Dichloroethene	**17**		5.0	0.80	ug/L			03/09/21 12:46	5
Tetrachloroethene	5.0	U	5.0	0.75	ug/L			03/09/21 12:46	5
trans-1,2-Dichloroethene	**0.97**	**J**	5.0	0.95	ug/L			03/09/21 12:46	5
Trichloroethene	**58**		5.0	0.50	ug/L			03/09/21 12:46	5
Vinyl chloride	**1.6**	**J**	5.0	1.0	ug/L			03/09/21 12:46	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*75 - 130*		*03/09/21 12:46*	*5*
4-Bromofluorobenzene (Surr)	*77*		*47 - 134*		*03/09/21 12:46*	*5*
Toluene-d8 (Surr)	*91*		*69 - 122*		*03/09/21 12:46*	*5*
Dibromofluoromethane (Surr)	*81*		*78 - 129*		*03/09/21 12:46*	*5*

Surrogate Summary

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

Job ID: 240-145229-1

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	(75-130)	(47-134)	(69-122)	(78-129)
240-145229-1	TRIP BLANK	88	83	93	85
240-145229-2	MW-199S_030121	87	81	89	83
240-145229-3	MW-197S_030121	91	77	91	81
240-145297-B-13 MS	Matrix Spike	92	87	98	92
240-145297-B-13 MSD	Matrix Spike Duplicate	98	90	99	99
240-145324-A-1 MS	Matrix Spike	90	87	96	82
240-145324-A-1 MSD	Matrix Spike Duplicate	90	84	92	88
LCS 240-475616/4	Lab Control Sample	88	82	90	89
LCS 240-476001/4	Lab Control Sample	90	87	92	89
MB 240-475616/6	Method Blank	97	87	99	94
MB 240-476001/6	Method Blank	95	86	96	88

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	(70-133)
240-145164-J-2 MS	Matrix Spike	94
240-145164-J-2 MSD	Matrix Spike Duplicate	96
240-145229-2	MW-199S_030121	93
240-145229-3	MW-197S_030121	89
LCS 240-475458/4	Lab Control Sample	84
MB 240-475458/5	Method Blank	87

Surrogate Legend

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

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

Lab Sample ID: MB 240-475616/6
Matrix: Water
Analysis Batch: 475616

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	0.19	ug/L			03/05/21 12:14	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/05/21 12:14	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/05/21 12:14	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/05/21 12:14	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/05/21 12:14	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/05/21 12:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 130*		*03/05/21 12:14*	*1*
4-Bromofluorobenzene (Surr)	*87*		*47 - 134*		*03/05/21 12:14*	*1*
Toluene-d8 (Surr)	*99*		*69 - 122*		*03/05/21 12:14*	*1*
Dibromofluoromethane (Surr)	*94*		*78 - 129*		*03/05/21 12:14*	*1*

Lab Sample ID: LCS 240-475616/4
Matrix: Water
Analysis Batch: 475616

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	10.0	8.93		ug/L		89	73 - 129
cis-1,2-Dichloroethene	10.0	9.26		ug/L		93	75 - 124
Tetrachloroethene	10.0	9.68		ug/L		97	70 - 125
trans-1,2-Dichloroethene	10.0	8.93		ug/L		89	74 - 130
Trichloroethene	10.0	9.56		ug/L		96	71 - 121
Vinyl chloride	10.0	8.43		ug/L		84	61 - 134

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*88*		*75 - 130*
4-Bromofluorobenzene (Surr)	*82*		*47 - 134*
Toluene-d8 (Surr)	*90*		*69 - 122*
Dibromofluoromethane (Surr)	*89*		*78 - 129*

Lab Sample ID: 240-145297-B-13 MS
Matrix: Water
Analysis Batch: 475616

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	370		1000	1070		ug/L		70	64 - 132
cis-1,2-Dichloroethene	42	J	1000	939		ug/L		90	68 - 121
Tetrachloroethene	100	U	1000	880		ug/L		88	52 - 129
trans-1,2-Dichloroethene	100	U	1000	859		ug/L		86	69 - 126
Trichloroethene	100	U	1000	893		ug/L		89	56 - 124
Vinyl chloride	100	U	1000	684		ug/L		68	49 - 136

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*75 - 130*
4-Bromofluorobenzene (Surr)	*87*		*47 - 134*
Toluene-d8 (Surr)	*98*		*69 - 122*

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

Lab Sample ID: 240-145297-B-13 MS
Matrix: Water
Analysis Batch: 475616

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

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	92		78 - 129

Lab Sample ID: 240-145297-B-13 MSD
Matrix: Water
Analysis Batch: 475616

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	370		1000	1160		ug/L		79	64 - 132	8	35
cis-1,2-Dichloroethene	42	J	1000	910		ug/L		87	68 - 121	3	35
Tetrachloroethene	100	U	1000	932		ug/L		93	52 - 129	6	35
trans-1,2-Dichloroethene	100	U	1000	832		ug/L		83	69 - 126	3	35
Trichloroethene	100	U	1000	881		ug/L		88	56 - 124	1	35
Vinyl chloride	100	U	1000	830		ug/L		83	49 - 136	19	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		75 - 130
4-Bromofluorobenzene (Surr)	90		47 - 134
Toluene-d8 (Surr)	99		69 - 122
Dibromofluoromethane (Surr)	99		78 - 129

Lab Sample ID: MB 240-476001/6
Matrix: Water
Analysis Batch: 476001

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	0.19	ug/L			03/09/21 12:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/09/21 12:23	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/09/21 12:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/09/21 12:23	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/09/21 12:23	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/09/21 12:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 130		03/09/21 12:23	1
4-Bromofluorobenzene (Surr)	86		47 - 134		03/09/21 12:23	1
Toluene-d8 (Surr)	96		69 - 122		03/09/21 12:23	1
Dibromofluoromethane (Surr)	88		78 - 129		03/09/21 12:23	1

Lab Sample ID: LCS 240-476001/4
Matrix: Water
Analysis Batch: 476001

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	10.0	9.71		ug/L		97	73 - 129
cis-1,2-Dichloroethene	10.0	9.40		ug/L		94	75 - 124
Tetrachloroethene	10.0	10.3		ug/L		103	70 - 125
trans-1,2-Dichloroethene	10.0	9.46		ug/L		95	74 - 130
Trichloroethene	10.0	9.98		ug/L		100	71 - 121

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

Lab Sample ID: LCS 240-476001/4
Matrix: Water
Analysis Batch: 476001

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Vinyl chloride			10.0	8.75		ug/L		88	61 - 134		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*75 - 130*
4-Bromofluorobenzene (Surr)	*87*		*47 - 134*
Toluene-d8 (Surr)	*92*		*69 - 122*
Dibromofluoromethane (Surr)	*89*		*78 - 129*

Lab Sample ID: 240-145324-A-1 MS
Matrix: Water
Analysis Batch: 476001

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	200	153		ug/L		77	64 - 132		
cis-1,2-Dichloroethene	33		200	196		ug/L		82	68 - 121		
Tetrachloroethene	20	U	200	162		ug/L		81	52 - 129		
trans-1,2-Dichloroethene	20	U	200	162		ug/L		81	69 - 126		
Trichloroethene	20	U	200	174		ug/L		87	56 - 124		
Vinyl chloride	21		200	168		ug/L		74	49 - 136		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*75 - 130*
4-Bromofluorobenzene (Surr)	*87*		*47 - 134*
Toluene-d8 (Surr)	*96*		*69 - 122*
Dibromofluoromethane (Surr)	*82*		*78 - 129*

Lab Sample ID: 240-145324-A-1 MSD
Matrix: Water
Analysis Batch: 476001

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	200	174		ug/L		87	64 - 132	13	35
cis-1,2-Dichloroethene	33		200	206		ug/L		86	68 - 121	5	35
Tetrachloroethene	20	U	200	186		ug/L		93	52 - 129	14	35
trans-1,2-Dichloroethene	20	U	200	170		ug/L		85	69 - 126	5	35
Trichloroethene	20	U	200	177		ug/L		88	56 - 124	2	35
Vinyl chloride	21		200	186		ug/L		83	49 - 136	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*75 - 130*
4-Bromofluorobenzene (Surr)	*84*		*47 - 134*
Toluene-d8 (Surr)	*92*		*69 - 122*
Dibromofluoromethane (Surr)	*88*		*78 - 129*

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

Lab Sample ID: MB 240-475458/5
Matrix: Water
Analysis Batch: 475458

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			03/04/21 11:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*70 - 133*		*03/04/21 11:50*	*1*

Lab Sample ID: LCS 240-475458/4
Matrix: Water
Analysis Batch: 475458

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	8.91		ug/L		89	80 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*84*		*70 - 133*

Lab Sample ID: 240-145164-J-2 MS
Matrix: Water
Analysis Batch: 475458

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	8.58		ug/L		86	46 - 170		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 133*

Lab Sample ID: 240-145164-J-2 MSD
Matrix: Water
Analysis Batch: 475458

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	8.65		ug/L		86	46 - 170	1	26

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 133*

QC Association Summary

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

Job ID: 240-145229-1

GC/MS VOA

Analysis Batch: 475458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145229-2	MW-199S_030121	Total/NA	Water	8260B SIM	
240-145229-3	MW-197S_030121	Total/NA	Water	8260B SIM	
MB 240-475458/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-475458/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-145164-J-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-145164-J-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 475616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145229-1	TRIP BLANK	Total/NA	Water	8260B	
240-145229-2	MW-199S_030121	Total/NA	Water	8260B	
MB 240-475616/6	Method Blank	Total/NA	Water	8260B	
LCS 240-475616/4	Lab Control Sample	Total/NA	Water	8260B	
240-145297-B-13 MS	Matrix Spike	Total/NA	Water	8260B	
240-145297-B-13 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 476001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145229-3	MW-197S_030121	Total/NA	Water	8260B	
MB 240-476001/6	Method Blank	Total/NA	Water	8260B	
LCS 240-476001/4	Lab Control Sample	Total/NA	Water	8260B	
240-145324-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
240-145324-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-145229-1

Client Sample ID: TRIP BLANK
Date Collected: 03/01/21 00:00
Date Received: 03/03/21 08:00

Lab Sample ID: 240-145229-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	475616	03/05/21 15:12	LEE	TAL CAN

Client Sample ID: MW-199S_030121
Date Collected: 03/01/21 11:05
Date Received: 03/03/21 08:00

Lab Sample ID: 240-145229-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	475616	03/05/21 15:34	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	475458	03/04/21 21:28	SAM	TAL CAN

Client Sample ID: MW-197S_030121
Date Collected: 03/01/21 14:02
Date Received: 03/03/21 08:00

Lab Sample ID: 240-145229-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	476001	03/09/21 12:46	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	475458	03/04/21 21:54	SAM	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

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

Job ID: 240-145229-1

Laboratory: Eurofins TestAmerica, 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	02-23-21 *
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21 *
Illinois	NELAP	004498	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21 *
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

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

Chain of Custody Record

MICHIGAN 190 TestAmerica

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
Address: 28550 Cabot Drive, Suite 500	Telephone: 248-994-2240	Telephone: 734-644-5131	Telephone: 330-497-9396
City/State/Zip: Novi, MI, 48377	Email: kristoffer.hinskey@arcadis.com	Analysis Turnaround Time	COC No: 1 of 1 COCs
Phone: 248-994-2240	Sampler Name: Allyson Hartz	TAT if different from below: 10 day; 3 weeks; 2 weeks; 1 week; 2 days; 1 day	For lab use only: Walk-in client; Lab sampling
Project Name: Ford LTP On-Site	Method of Shipment/Carrier:		Job/SDG No:
Project Number: 30050315.401.03	Shipping/Tracking No:		
PO # 30050315.401.03			

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	—	—		1						1					N	G	X	X	X	X	X	X	X	1 TRIP BLANK
MW-1995_030121	3/1/21	11:05		6						6					N	G	X	X	X	X	X	X	X	3 VOAs for 8260B; 3 VOAs for 8260BSIM
MW-1975_030121	3/1/21	14:02		6						6					N	G	X	X	X	X	X	X	X	" "

240-145229 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:
[illegible]	Arcadis	3/1/21 17:30	Dcvi cold storage	Arcadis	3/1/21 17:30
Rachel Bielak	Arcadis	3/2/21 1000	Amanda Battershell	ETA	3/2/21 10:01
Amanda Battershell	ETA	3/2/21 1052	[illegible]	ETA	3-3-21 800

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** 145729
Canton Facility

Client Arcadis Site Name _____ Cooler unpacked by: Matt Smyder

Cooler Received on 3-3-21 Opened on 3-3-21

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

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

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____

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

COOLANT: ~~Wet Ice~~ Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 2.5 °C Corrected Cooler Temp. 2.6 °C
   IR GUN #IR-12 (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# HC022887
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 # 0212801F	(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