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ANALYTICAL REPORT

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

Laboratory Job ID: 240-144436-1
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:
2/24/2021 11:22:45 AM

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Definitions/Glossary

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

Job ID: 240-144436-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 240-144436-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-144436-1

Comments
No additional comments.

Receipt
The samples were received on 2/12/2021 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 0.4º C.

GC/MS VOA
Method 8260B: The continuing calibration verification (CCV) associated with batch 473553 recovered above the upper control limit for 1,1-Dichloroethene. The samples associated with this CCV were non-detect for the affected analyte; therefore, the data have been reported. The associated samples are impacted: TRIP BLANK (240-144436-1), DUP-08 (240-144436-2), MW-80SR_021021 (240-144436-3) and MW-137S_021021 (240-144436-4).

Method 8260B: The laboratory control sample (LCS) for 473553 recovered outside control limits for the following analyte: 1,1-Dichloroethene. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported: TRIP BLANK (240-144436-1), DUP-08 (240-144436-2), MW-80SR_021021 (240-144436-3), MW-137S_021021 (240-144436-4) and (LCS 240-473553/4).

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: 240-144436-1

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 - Off Site

Job ID: 240-144436-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-144436-1	TRIP BLANK	Water	02/10/21 00:00	02/12/21 08:00	
240-144436-2	DUP-08	Water	02/10/21 00:00	02/12/21 08:00	
240-144436-3	MW-80SR_021021	Water	02/10/21 10:45	02/12/21 08:00	
240-144436-4	MW-137S_021021	Water	02/10/21 12:00	02/12/21 08:00	

Detection Summary

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

Job ID: 240-144436-1

Client Sample ID: TRIP BLANK — Lab Sample ID: 240-144436-1

No Detections.

Client Sample ID: DUP-08 — Lab Sample ID: 240-144436-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	1.8		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-80SR_021021 — Lab Sample ID: 240-144436-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	1.6		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-137S_021021 — Lab Sample ID: 240-144436-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.33	J	1.0	0.20	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: 240-144436-1

Client Sample ID: TRIP BLANK
Date Collected: 02/10/21 00:00
Date Received: 02/12/21 08:00

Lab Sample ID: 240-144436-1
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			02/18/21 14:46	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/18/21 14:46	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/18/21 14:46	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/18/21 14:46	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/18/21 14:46	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/18/21 14:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*123*		*75 - 130*		*02/18/21 14:46*	*1*
4-Bromofluorobenzene (Surr)	*84*		*47 - 134*		*02/18/21 14:46*	*1*
Toluene-d8 (Surr)	*88*		*69 - 122*		*02/18/21 14:46*	*1*
Dibromofluoromethane (Surr)	*111*		*78 - 129*		*02/18/21 14:46*	*1*

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

Job ID: 240-144436-1

Client Sample ID: DUP-08

Date Collected: 02/10/21 00:00
Date Received: 02/12/21 08:00

Lab Sample ID: 240-144436-2

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			02/17/21 12:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*81*		*70 - 133*		*02/17/21 12:30*	*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			02/18/21 15:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/18/21 15:08	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/18/21 15:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/18/21 15:08	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/18/21 15:08	1
Vinyl chloride	**1.8**		1.0	0.20	ug/L			02/18/21 15:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*125*		*75 - 130*		*02/18/21 15:08*	*1*
4-Bromofluorobenzene (Surr)	*80*		*47 - 134*		*02/18/21 15:08*	*1*
Toluene-d8 (Surr)	*90*		*69 - 122*		*02/18/21 15:08*	*1*
Dibromofluoromethane (Surr)	*109*		*78 - 129*		*02/18/21 15:08*	*1*

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

Job ID: 240-144436-1

Client Sample ID: MW-80SR_021021
Date Collected: 02/10/21 10:45
Date Received: 02/12/21 08:00

Lab Sample ID: 240-144436-3
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			02/17/21 12:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*70 - 133*		*02/17/21 12:55*	*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			02/18/21 15:30	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/18/21 15:30	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/18/21 15:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/18/21 15:30	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/18/21 15:30	1
Vinyl chloride	**1.6**		1.0	0.20	ug/L			02/18/21 15:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*123*		*75 - 130*		*02/18/21 15:30*	*1*
4-Bromofluorobenzene (Surr)	*79*		*47 - 134*		*02/18/21 15:30*	*1*
Toluene-d8 (Surr)	*88*		*69 - 122*		*02/18/21 15:30*	*1*
Dibromofluoromethane (Surr)	*106*		*78 - 129*		*02/18/21 15:30*	*1*

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

Job ID: 240-144436-1

Client Sample ID: MW-137S_021021
Date Collected: 02/10/21 12:00
Date Received: 02/12/21 08:00

Lab Sample ID: 240-144436-4
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			02/17/21 13:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*70 - 133*		*02/17/21 13:21*	*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			02/18/21 15:52	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/18/21 15:52	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/18/21 15:52	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/18/21 15:52	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/18/21 15:52	1
Vinyl chloride	**0.33**	**J**	1.0	0.20	ug/L			02/18/21 15:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*121*		*75 - 130*		*02/18/21 15:52*	*1*
4-Bromofluorobenzene (Surr)	*80*		*47 - 134*		*02/18/21 15:52*	*1*
Toluene-d8 (Surr)	*87*		*69 - 122*		*02/18/21 15:52*	*1*
Dibromofluoromethane (Surr)	*108*		*78 - 129*		*02/18/21 15:52*	*1*

Surrogate Summary

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

Job ID: 240-144436-1

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)
240-144436-1	TRIP BLANK	123	84	88	111
240-144436-2	DUP-08	125	80	90	109
240-144436-3	MW-80SR_021021	123	79	88	106
240-144436-4	MW-137S_021021	121	80	87	108
240-144460-B-2 MS	Matrix Spike	111	110	100	102
240-144460-B-2 MSD	Matrix Spike Duplicate	104	107	99	95
LCS 240-473553/4	Lab Control Sample	105	107	96	95
MB 240-473553/7	Method Blank	116	86	91	101

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)
240-144436-2	DUP-08	81
240-144436-3	MW-80SR_021021	82
240-144436-4	MW-137S_021021	82
240-144439-A-3 MS	Matrix Spike	84
240-144439-A-3 MSD	Matrix Spike Duplicate	85
LCS 240-473381/4	Lab Control Sample	80
MB 240-473381/5	Method Blank	81

Surrogate Legend

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

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

Lab Sample ID: MB 240-473553/7
Matrix: Water
Analysis Batch: 473553

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			02/18/21 12:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/18/21 12:13	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/18/21 12:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/18/21 12:13	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/18/21 12:13	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/18/21 12:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*116*		*75 - 130*		*02/18/21 12:13*	*1*
4-Bromofluorobenzene (Surr)	*86*		*47 - 134*		*02/18/21 12:13*	*1*
Toluene-d8 (Surr)	*91*		*69 - 122*		*02/18/21 12:13*	*1*
Dibromofluoromethane (Surr)	*101*		*78 - 129*		*02/18/21 12:13*	*1*

Lab Sample ID: LCS 240-473553/4
Matrix: Water
Analysis Batch: 473553

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	17.3	*+	ug/L		173	73 - 129
cis-1,2-Dichloroethene	10.0	9.52		ug/L		95	75 - 124
Tetrachloroethene	10.0	9.34		ug/L		93	70 - 125
trans-1,2-Dichloroethene	10.0	9.59		ug/L		96	74 - 130
Trichloroethene	10.0	9.06		ug/L		91	71 - 121
Vinyl chloride	10.0	8.30		ug/L		83	61 - 134

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*75 - 130*
4-Bromofluorobenzene (Surr)	*107*		*47 - 134*
Toluene-d8 (Surr)	*96*		*69 - 122*
Dibromofluoromethane (Surr)	*95*		*78 - 129*

Lab Sample ID: 240-144460-B-2 MS
Matrix: Water
Analysis Batch: 473553

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	2500	U F1 *+	25000	35500	F1	ug/L		142	64 - 132
cis-1,2-Dichloroethene	2900		25000	25500		ug/L		91	68 - 121
Tetrachloroethene	2500	U	25000	21400		ug/L		86	52 - 129
Trichloroethene	50000		25000	65000		ug/L		59	56 - 124
Vinyl chloride	2500	U	25000	15800		ug/L		63	49 - 136

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*111*		*75 - 130*
4-Bromofluorobenzene (Surr)	*110*		*47 - 134*
Toluene-d8 (Surr)	*100*		*69 - 122*
Dibromofluoromethane (Surr)	*102*		*78 - 129*

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

Lab Sample ID: 240-144460-B-2 MSD
Matrix: Water
Analysis Batch: 473553

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	2500	U F1 *+	25000	38200	F1	ug/L		153	64 - 132	7	35
cis-1,2-Dichloroethene	2900		25000	26200		ug/L		93	68 - 121	2	35
Tetrachloroethene	2500	U	25000	24000		ug/L		96	52 - 129	12	35
Trichloroethene	50000		25000	65000		ug/L		59	56 - 124	0	35
Vinyl chloride	2500	U	25000	18200		ug/L		73	49 - 136	14	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 130*
4-Bromofluorobenzene (Surr)	*107*		*47 - 134*
Toluene-d8 (Surr)	*99*		*69 - 122*
Dibromofluoromethane (Surr)	*95*		*78 - 129*

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

Lab Sample ID: MB 240-473381/5
Matrix: Water
Analysis Batch: 473381

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			02/17/21 09:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*81*		*70 - 133*		*02/17/21 09:33*	*1*

Lab Sample ID: LCS 240-473381/4
Matrix: Water
Analysis Batch: 473381

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			10.0	10.8		ug/L		108	80 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*80*		*70 - 133*

Lab Sample ID: 240-144439-A-3 MS
Matrix: Water
Analysis Batch: 473381

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	34		10.0	43.3		ug/L		91	46 - 170		

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

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

Lab Sample ID: 240-144439-A-3 MSD
Matrix: Water
Analysis Batch: 473381

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	34		10.0	42.6		ug/L		83	46 - 170	2	26

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*85*		*70 - 133*

QC Association Summary

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

Job ID: 240-144436-1

GC/MS VOA

Analysis Batch: 473381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144436-2	DUP-08	Total/NA	Water	8260B SIM	
240-144436-3	MW-80SR_021021	Total/NA	Water	8260B SIM	
240-144436-4	MW-137S_021021	Total/NA	Water	8260B SIM	
MB 240-473381/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-473381/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-144439-A-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-144439-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 473553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144436-1	TRIP BLANK	Total/NA	Water	8260B	
240-144436-2	DUP-08	Total/NA	Water	8260B	
240-144436-3	MW-80SR_021021	Total/NA	Water	8260B	
240-144436-4	MW-137S_021021	Total/NA	Water	8260B	
MB 240-473553/7	Method Blank	Total/NA	Water	8260B	
LCS 240-473553/4	Lab Control Sample	Total/NA	Water	8260B	
240-144460-B-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-144460-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-144436-1

Client Sample ID: TRIP BLANK
Lab Sample ID: 240-144436-1
Date Collected: 02/10/21 00:00
Matrix: Water
Date Received: 02/12/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	473553	02/18/21 14:46	LEE	TAL CAN

Client Sample ID: DUP-08
Lab Sample ID: 240-144436-2
Date Collected: 02/10/21 00:00
Matrix: Water
Date Received: 02/12/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	473553	02/18/21 15:08	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	473381	02/17/21 12:30	SAM	TAL CAN

Client Sample ID: MW-80SR_021021
Lab Sample ID: 240-144436-3
Date Collected: 02/10/21 10:45
Matrix: Water
Date Received: 02/12/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	473553	02/18/21 15:30	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	473381	02/17/21 12:55	SAM	TAL CAN

Client Sample ID: MW-137S_021021
Lab Sample ID: 240-144436-4
Date Collected: 02/10/21 12:00
Matrix: Water
Date Received: 02/12/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	473553	02/18/21 15:52	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	473381	02/17/21 13:21	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 - Off Site

Job ID: 240-144436-1

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	02-24-21
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

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	of 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: Emma Witherspoon	TAT if different from below: 10 day; ☐ 3 weeks ☑ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Walk-in client:
Phone: 248-994-2240	Method of Shipment/Carrier:			Lab sampling:
Project Name: Ford LTP Off-Site	Shipping/Tracking No:			Job/SDG No:
Project Number: 30050315.402.04				
PO # 30050315.402.04				

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	—	—		1						1					N	G	X	X	X	X	X	X	X	1 TRIP BLANK
DUP-08	2/10/21	—		6						6					N	G	X	X	X	X	X	X	X	3 VOAs for 8260B 3 VOAs for 8260B SIM
MW-80SR_021021	2/10/21	1045		6						6					N	G	X	V	X	X	X	X	X	
MW-137S_021021	2/10/21	1200		6						6					N	G	X	X	X	X	X	X	X	

240-144436 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 #E203631
Level IV Reporting requested.

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Elyntha Spoon	Arcadis	2/10/21 / 1700	Novi gold Storage	Arcadis	2/10/21 / 1700
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	ARCADIS	2/11/21 / 0953		ETA	2/11/21 / 0953
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				ETA	2-12-21 800

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # : 144436**
Canton Facility

Client Aradis Site Name

Cooler Received on 2-12-21 Opened on 2-12-21 800

Cooler unpacked by: Ryan C

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. 0.3 °C Corrected Cooler Temp. 0.4 °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 3	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 FAC 2-12-21
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# HC907861
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 # 59072	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: