

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
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North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-159970-1
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:
11/29/2021 8:46:48 AM

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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: 240-159970-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Case Narrative

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

Job ID: 240-159970-1

Job ID: 240-159970-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative 240-159970-1

Comments

No additional comments.

Receipt

The samples were received on 11/12/2021 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 0.6° C.

GC/MS VOA

Method 8260B: The continuing calibration verification (CCV) associated with batch 513962 recovered above the upper control limit for Vinyl Chloride. 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_115 (240-159970-1), MW-107S_111021 (240-159970-2), MW-82D_111021 (240-159970-3) and MW-82SR_111021 (240-159970-4).

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: 240-159970-1

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Sample Summary

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

Job ID: 240-159970-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-159970-1	TRIP BLANK_115	Water	11/10/21 00:00	11/12/21 08:00
240-159970-2	MW-107S_111021	Water	11/10/21 15:20	11/12/21 08:00
240-159970-3	MW-82D_111021	Water	11/10/21 11:25	11/12/21 08:00
240-159970-4	MW-82SR_111021	Water	11/10/21 12:50	11/12/21 08:00

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

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

Job ID: 240-159970-1

Client Sample ID: TRIP BLANK_115

Lab Sample ID: 240-159970-1

No Detections.

Client Sample ID: MW-107S_111021

Lab Sample ID: 240-159970-2

No Detections.

Client Sample ID: MW-82D_111021

Lab Sample ID: 240-159970-3

No Detections.

Client Sample ID: MW-82SR_111021

Lab Sample ID: 240-159970-4

No Detections.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

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

Job ID: 240-159970-1

Client Sample ID: TRIP BLANK_115

Lab Sample ID: 240-159970-1

Date Collected: 11/10/21 00:00

Matrix: Water

Date Received: 11/12/21 08:00

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			11/20/21 21:06	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/20/21 21:06	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 21:06	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/20/21 21:06	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 21:06	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/20/21 21:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		62 - 137		11/20/21 21:06	1
4-Bromofluorobenzene (Surr)	70		56 - 136		11/20/21 21:06	1
Toluene-d8 (Surr)	104		78 - 122		11/20/21 21:06	1
Dibromofluoromethane (Surr)	89		73 - 120		11/20/21 21:06	1

Client Sample Results

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

Job ID: 240-159970-1

Client Sample ID: MW-107S_111021

Lab Sample ID: 240-159970-2

Date Collected: 11/10/21 15:20

Matrix: Water

Date Received: 11/12/21 08:00

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			11/18/21 22:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	75		66 - 120		11/18/21 22:10	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			11/20/21 21:28	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/20/21 21:28	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 21:28	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/20/21 21:28	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 21:28	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/20/21 21:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		62 - 137		11/20/21 21:28	1
4-Bromofluorobenzene (Surr)	72		56 - 136		11/20/21 21:28	1
Toluene-d8 (Surr)	105		78 - 122		11/20/21 21:28	1
Dibromofluoromethane (Surr)	99		73 - 120		11/20/21 21:28	1

Client Sample Results

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

Job ID: 240-159970-1

Client Sample ID: MW-82D_111021

Lab Sample ID: 240-159970-3

Date Collected: 11/10/21 11:25

Matrix: Water

Date Received: 11/12/21 08:00

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			11/18/21 22:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	78		66 - 120					11/18/21 22:35	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			11/20/21 21:50	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/20/21 21:50	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 21:50	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/20/21 21:50	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 21:50	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/20/21 21:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		62 - 137					11/20/21 21:50	1
4-Bromofluorobenzene (Surr)	72		56 - 136					11/20/21 21:50	1
Toluene-d8 (Surr)	107		78 - 122					11/20/21 21:50	1
Dibromofluoromethane (Surr)	94		73 - 120					11/20/21 21:50	1

Client Sample Results

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

Job ID: 240-159970-1

Client Sample ID: MW-82SR_111021

Lab Sample ID: 240-159970-4

Date Collected: 11/10/21 12:50

Matrix: Water

Date Received: 11/12/21 08:00

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			11/18/21 23:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	77		66 - 120		11/18/21 23:00	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			11/20/21 22:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/20/21 22:13	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 22:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/20/21 22:13	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 22:13	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/20/21 22:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		62 - 137		11/20/21 22:13	1
4-Bromofluorobenzene (Surr)	72		56 - 136		11/20/21 22:13	1
Toluene-d8 (Surr)	110		78 - 122		11/20/21 22:13	1
Dibromofluoromethane (Surr)	101		73 - 120		11/20/21 22:13	1

Surrogate Summary

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

Job ID: 240-159970-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (62-137)	BFB (56-136)	TOL (78-122)	DBFM (73-120)
240-159970-1	TRIP BLANK_115	99	70	104	89
240-159970-2	MW-107S_111021	105	72	105	99
240-159970-3	MW-82D_111021	103	72	107	94
240-159970-4	MW-82SR_111021	107	72	110	101
240-160095-B-1 MS	Matrix Spike	96	84	113	91
240-160095-B-1 MSD	Matrix Spike Duplicate	95	85	103	88
LCS 240-513962/4	Lab Control Sample	97	79	113	93
MB 240-513962/6	Method Blank	103	76	112	94

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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (66-120)
240-159739-G-3 MS	Matrix Spike	74
240-159739-M-3 MSD	Matrix Spike Duplicate	75
240-159970-2	MW-107S_111021	75
240-159970-3	MW-82D_111021	78
240-159970-4	MW-82SR_111021	77
LCS 240-513700/4	Lab Control Sample	75
MB 240-513700/5	Method Blank	77

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-159970-1

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

Lab Sample ID: MB 240-513962/6
Matrix: Water
Analysis Batch: 513962

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			11/20/21 15:30	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/20/21 15:30	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 15:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/20/21 15:30	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/20/21 15:30	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/20/21 15:30	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	103		62 - 137		11/20/21 15:30	1
4-Bromofluorobenzene (Surr)	76		56 - 136		11/20/21 15:30	1
Toluene-d8 (Surr)	112		78 - 122		11/20/21 15:30	1
Dibromofluoromethane (Surr)	94		73 - 120		11/20/21 15:30	1

Lab Sample ID: LCS 240-513962/4
Matrix: Water
Analysis Batch: 513962

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	77 - 123
Tetrachloroethene	10.0	10.5		ug/L		105	76 - 123
trans-1,2-Dichloroethene	10.0	10.2		ug/L		102	75 - 124
Trichloroethene	10.0	8.81		ug/L		88	70 - 122
Vinyl chloride	10.0	10.0		ug/L		100	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	97		62 - 137
4-Bromofluorobenzene (Surr)	79		56 - 136
Toluene-d8 (Surr)	113		78 - 122
Dibromofluoromethane (Surr)	93		73 - 120

Lab Sample ID: 240-160095-B-1 MS
Matrix: Water
Analysis Batch: 513962

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

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier							
1,1-Dichloroethene	50	U	500	457		ug/L		91	56 - 135
cis-1,2-Dichloroethene	50	U	500	478		ug/L		96	66 - 128
Tetrachloroethene	50	U	500	451		ug/L		90	62 - 131
trans-1,2-Dichloroethene	50	U	500	477		ug/L		95	56 - 136
Trichloroethene	50	U	500	396		ug/L		79	61 - 124
Vinyl chloride	50	U	500	476		ug/L		95	43 - 157

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	96		62 - 137
4-Bromofluorobenzene (Surr)	84		56 - 136
Toluene-d8 (Surr)	113		78 - 122

QC Sample Results

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

Job ID: 240-159970-1

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

Lab Sample ID: 240-160095-B-1 MS
Matrix: Water
Analysis Batch: 513962

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

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	91		73 - 120

Lab Sample ID: 240-160095-B-1 MSD
Matrix: Water
Analysis Batch: 513962

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	50	U	500	486		ug/L		97	56 - 135	6	26
cis-1,2-Dichloroethene	50	U	500	481		ug/L		96	66 - 128	1	14
Tetrachloroethene	50	U	500	459		ug/L		92	62 - 131	2	20
trans-1,2-Dichloroethene	50	U	500	487		ug/L		97	56 - 136	2	15
Trichloroethene	50	U	500	399		ug/L		80	61 - 124	1	15
Vinyl chloride	50	U	500	504		ug/L		101	43 - 157	6	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		62 - 137
4-Bromofluorobenzene (Surr)	85		56 - 136
Toluene-d8 (Surr)	103		78 - 122
Dibromofluoromethane (Surr)	88		73 - 120

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

Lab Sample ID: MB 240-513700/5
Matrix: Water
Analysis Batch: 513700

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			11/18/21 19:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	77		66 - 120		11/18/21 19:41	1

Lab Sample ID: LCS 240-513700/4
Matrix: Water
Analysis Batch: 513700

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	10.4		ug/L		104	80 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	75		66 - 120

Lab Sample ID: 240-159739-G-3 MS
Matrix: Water
Analysis Batch: 513700

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 F1	10.0	10.4		ug/L		104	51 - 153

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QC Sample Results

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

Job ID: 240-159970-1

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

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	74		66 - 120

Lab Sample ID: 240-159739-M-3 MSD
 Matrix: Water
 Analysis Batch: 513700

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 F1	10.0	10.6		ug/L		106	51 - 153	2	16

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	75		66 - 120

QC Association Summary

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

Job ID: 240-159970-1

GC/MS VOA

Analysis Batch: 513700

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159970-2	MW-107S_111021	Total/NA	Water	8260B SIM	
240-159970-3	MW-82D_111021	Total/NA	Water	8260B SIM	
240-159970-4	MW-82SR_111021	Total/NA	Water	8260B SIM	
MB 240-513700/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-513700/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-159739-G-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-159739-M-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 513962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159970-1	TRIP BLANK_115	Total/NA	Water	8260B	
240-159970-2	MW-107S_111021	Total/NA	Water	8260B	
240-159970-3	MW-82D_111021	Total/NA	Water	8260B	
240-159970-4	MW-82SR_111021	Total/NA	Water	8260B	
MB 240-513962/6	Method Blank	Total/NA	Water	8260B	
LCS 240-513962/4	Lab Control Sample	Total/NA	Water	8260B	
240-160095-B-1 MS	Matrix Spike	Total/NA	Water	8260B	
240-160095-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-159970-1

Client Sample ID: TRIP BLANK_115

Lab Sample ID: 240-159970-1

Date Collected: 11/10/21 00:00

Matrix: Water

Date Received: 11/12/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	513962	11/20/21 21:06	LEE	TAL CAN

Client Sample ID: MW-107S_111021

Lab Sample ID: 240-159970-2

Date Collected: 11/10/21 15:20

Matrix: Water

Date Received: 11/12/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	513962	11/20/21 21:28	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	513700	11/18/21 22:10	CS	TAL CAN

Client Sample ID: MW-82D_111021

Lab Sample ID: 240-159970-3

Date Collected: 11/10/21 11:25

Matrix: Water

Date Received: 11/12/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	513962	11/20/21 21:50	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	513700	11/18/21 22:35	CS	TAL CAN

Client Sample ID: MW-82SR_111021

Lab Sample ID: 240-159970-4

Date Collected: 11/10/21 12:50

Matrix: Water

Date Received: 11/12/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	513962	11/20/21 22:13	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	513700	11/18/21 23:00	CS	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: 240-159970-1

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	02-23-22
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	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-22
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-22
Texas	NELAP	T104704517-18-10	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

Chain of Custody Record

TestAmerica Laboratory location: Brighton -- 10448 Citation Drive, Suite 200 / Brighton, MI 48116 / 810-229-2763

Regulatory program: DW NPDES RCRA Other

Client Contact
 Company Name: Arcadis
 Address: 26550 Cabot Drive, Suite 500
 City/State/Zip: Novi, MI, 48377
 Phone: 248-994-2240
 Project Name: Ford LTP Off-Site
 Project Number: 30080642.402.04
 PO # 30080642.402.04

Client Project Manager: Krs Hinskey
 Telephone: 248-994-2240
 Email: kristoffer.hinskey@arcadis.com
 Site Contact: Julia McClafferty
 Telephone: 734-644-5131

Sampler Name: *SAM KUNDY / CHRISTINA WEBER*
 Method of Shipment/Carrier: *COVERED*
 Shipping/Tracking No: *10 day*

Analysis Turnaround Time
 TAT if different from below
 3 weeks
 2 weeks
 1 week
 2 days
 1 day

Containers & Preservatives
 H2SO4
 HNO3
 HCl
 NaOH
 ZnAc
 NaOH
 Others

Matrix
 Solid
 Sediment
 Aqueous
 Air

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
 1 Trip Blank
 3 VOAs for 8260B
 3 VOAs for 8260B SIM

Sample Date Sample Time
 -- --
 11/10/21 15:20
 11/10/21 11:25
 11/10/21 12:50

Possible Hazard Identification
 Non-Hazard Irritable Irritant 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: *Sally Chatter*
 Relinquished by: *Christina*
 Relinquished by: *Joni Hale*

Received by: *NOVE COLD STORAGE*
 Received by: *Joni Hale*
 Received in Laboratory by: *Joni Hale*

Date/Time: 11/10/21 16:45
 Date/Time: 11/12/21 09:50
 Date/Time: 11/12/21 8:00

Company: Arcadis
 Company: Arcadis
 Company: ETA

Company: ARCADIS
 Company: ETA
 Company: ETA

Eurofins TestAmerica Canton Sample Receipt Form/Narrative

Login #: 159970

Canton Facility

Client Arcadis Site Name

Cooler unpacked by:

Cooler Received on 11/12/21 Opened on 11/12/21

Matthew Surran

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-14 (CF +0.1 °C) Observed Cooler Temp 0.5 °C Corrected Cooler Temp. 0.6 °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 (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 NA

-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? (Yes) No NA

16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # (Yes) No

17. Was a LL Hg or Me Hg trip blank present? (Yes) No

Tests that are not checked for pH by Receiving: VOAs Oil and Grease TOC

Contacted PM Date by via Verbal Voice Mail Other

Concerning

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES additional next page Samples processed by:

NO SIM on TB per corrected COC. Date 11/12/21

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: