

ANALYTICAL REPORT

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

Laboratory Job ID: 240-159850-1
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:
11/26/2021 7:58:46 AM

Michael DelMonico, Project Manager I
(330)497-9396
Michael.DelMonico@Eurofinset.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:

www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Method Summary	5
Sample Summary	6
Detection Summary	7
Client Sample Results	8
Surrogate Summary	12
QC Sample Results	13
QC Association Summary	17
Lab Chronicle	18
Certification Summary	19
Chain of Custody	20



Definitions/Glossary

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

Job ID: 240-159850-1

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 - On-Site

Job ID: 240-159850-1

Job ID: 240-159850-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative 240-159850-1

Comments

No additional comments.

Receipt

The samples were received on 11/11/2021 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 4.6° C.

GC/MS VOA

Method 8260B: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: MW-29_110921 (240-159850-2). Elevated reporting limits (RLs) are provided.

Method 8260B SIM: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: MW-58_110921 (240-159850-4). Elevated reporting limits (RLs) are provided.

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 - On-Site

Job ID: 240-159850-1

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: 240-159850-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-159850-1	TRIP BLANK_101	Water	11/09/21 00:00	11/11/21 08:00
240-159850-2	MW-29_110921	Water	11/09/21 11:40	11/11/21 08:00
240-159850-3	MW-39_110921	Water	11/09/21 14:05	11/11/21 08:00
240-159850-4	MW-58_110921	Water	11/09/21 10:10	11/11/21 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 - On-Site

Job ID: 240-159850-1

Client Sample ID: TRIP BLANK_101

Lab Sample ID: 240-159850-1

No Detections.

Client Sample ID: MW-29_110921

Lab Sample ID: 240-159850-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	12		2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	3.0		2.0	0.90	ug/L	2		8260B	Total/NA

Client Sample ID: MW-39_110921

Lab Sample ID: 240-159850-3

No Detections.

Client Sample ID: MW-58_110921

Lab Sample ID: 240-159850-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	5.6		4.0	1.7	ug/L	2		8260B SIM	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

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

Job ID: 240-159850-1

Client Sample ID: TRIP BLANK_101

Lab Sample ID: 240-159850-1

Date Collected: 11/09/21 00:00

Matrix: Water

Date Received: 11/11/21 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			11/18/21 18:03	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/18/21 18:03	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/18/21 18:03	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/18/21 18:03	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/18/21 18:03	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/18/21 18:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		62 - 137		11/18/21 18:03	1
4-Bromofluorobenzene (Surr)	83		56 - 136		11/18/21 18:03	1
Toluene-d8 (Surr)	94		78 - 122		11/18/21 18:03	1
Dibromofluoromethane (Surr)	100		73 - 120		11/18/21 18:03	1

Client Sample Results

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

Job ID: 240-159850-1

Client Sample ID: MW-29_110921

Lab Sample ID: 240-159850-2

Date Collected: 11/09/21 11:40

Matrix: Water

Date Received: 11/11/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	12		2.0	0.86	ug/L			11/13/21 04:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	77		66 - 120		11/13/21 04:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	2.0	U	2.0	0.98	ug/L			11/18/21 21:49	2
cis-1,2-Dichloroethene	2.0	U	2.0	0.92	ug/L			11/18/21 21:49	2
Tetrachloroethene	2.0	U	2.0	0.88	ug/L			11/18/21 21:49	2
trans-1,2-Dichloroethene	2.0	U	2.0	1.0	ug/L			11/18/21 21:49	2
Trichloroethene	2.0	U	2.0	0.88	ug/L			11/18/21 21:49	2
Vinyl chloride	3.0		2.0	0.90	ug/L			11/18/21 21:49	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		62 - 137		11/18/21 21:49	2
4-Bromofluorobenzene (Surr)	82		56 - 136		11/18/21 21:49	2
Toluene-d8 (Surr)	95		78 - 122		11/18/21 21:49	2
Dibromofluoromethane (Surr)	101		73 - 120		11/18/21 21:49	2

Client Sample Results

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

Job ID: 240-159850-1

Client Sample ID: MW-39_110921

Lab Sample ID: 240-159850-3

Date Collected: 11/09/21 14:05

Matrix: Water

Date Received: 11/11/21 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			11/13/21 04:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	78		66 - 120		11/13/21 04:28	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			11/18/21 22:15	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/18/21 22:15	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/18/21 22:15	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/18/21 22:15	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/18/21 22:15	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/18/21 22:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		62 - 137		11/18/21 22:15	1
4-Bromofluorobenzene (Surr)	79		56 - 136		11/18/21 22:15	1
Toluene-d8 (Surr)	94		78 - 122		11/18/21 22:15	1
Dibromofluoromethane (Surr)	98		73 - 120		11/18/21 22:15	1

Client Sample Results

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

Job ID: 240-159850-1

Client Sample ID: MW-58_110921

Lab Sample ID: 240-159850-4

Date Collected: 11/09/21 10:10

Matrix: Water

Date Received: 11/11/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	5.6		4.0	1.7	ug/L			11/12/21 18:05	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		66 - 120		11/12/21 18:05	2

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			11/18/21 22:40	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/18/21 22:40	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/18/21 22:40	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/18/21 22:40	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/18/21 22:40	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/18/21 22:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		62 - 137		11/18/21 22:40	1
4-Bromofluorobenzene (Surr)	81		56 - 136		11/18/21 22:40	1
Toluene-d8 (Surr)	93		78 - 122		11/18/21 22:40	1
Dibromofluoromethane (Surr)	102		73 - 120		11/18/21 22:40	1

Surrogate Summary

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

Job ID: 240-159850-1

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)
240-159848-E-3 MS	Matrix Spike	89	93	92	95
240-159848-E-3 MSD	Matrix Spike Duplicate	86	95	94	94
240-159850-1	TRIP BLANK_101	92	83	94	100
240-159850-2	MW-29_110921	95	82	95	101
240-159850-3	MW-39_110921	94	79	94	98
240-159850-4	MW-58_110921	97	81	93	102
LCS 240-513621/5	Lab Control Sample	87	90	95	94
MB 240-513621/8	Method Blank	90	84	93	99

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)
240-159541-G-2 MS	Matrix Spike	77
240-159541-M-2 MSD	Matrix Spike Duplicate	78
240-159543-G-3 MS	Matrix Spike	85
240-159543-O-3 MSD	Matrix Spike Duplicate	83
240-159850-2	MW-29_110921	77
240-159850-3	MW-39_110921	78
240-159850-4	MW-58_110921	84
LCS 240-512758/4	Lab Control Sample	83
LCS 240-512785/4	Lab Control Sample	79
MB 240-512758/5	Method Blank	84
MB 240-512785/5	Method Blank	79

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-159850-1

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

Lab Sample ID: MB 240-513621/8
Matrix: Water
Analysis Batch: 513621

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			11/18/21 15:31	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/18/21 15:31	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/18/21 15:31	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/18/21 15:31	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/18/21 15:31	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/18/21 15:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		62 - 137		11/18/21 15:31	1
4-Bromofluorobenzene (Surr)	84		56 - 136		11/18/21 15:31	1
Toluene-d8 (Surr)	93		78 - 122		11/18/21 15:31	1
Dibromofluoromethane (Surr)	99		73 - 120		11/18/21 15:31	1

Lab Sample ID: LCS 240-513621/5
Matrix: Water
Analysis Batch: 513621

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25.0	26.8		ug/L		107	63 - 134
cis-1,2-Dichloroethene	25.0	24.6		ug/L		99	77 - 123
Tetrachloroethene	25.0	26.5		ug/L		106	76 - 123
trans-1,2-Dichloroethene	25.0	25.6		ug/L		102	75 - 124
Trichloroethene	25.0	25.5		ug/L		102	70 - 122
Vinyl chloride	25.0	20.1		ug/L		81	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	87		62 - 137
4-Bromofluorobenzene (Surr)	90		56 - 136
Toluene-d8 (Surr)	95		78 - 122
Dibromofluoromethane (Surr)	94		73 - 120

Lab Sample ID: 240-159848-E-3 MS
Matrix: Water
Analysis Batch: 513621

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	2.0	U	50.0	52.2		ug/L		104	56 - 135
cis-1,2-Dichloroethene	2.0	U	50.0	52.0		ug/L		104	66 - 128
Tetrachloroethene	2.0	U	50.0	56.8		ug/L		114	62 - 131
trans-1,2-Dichloroethene	2.0	U	50.0	51.2		ug/L		102	56 - 136
Trichloroethene	2.0	U	50.0	51.9		ug/L		104	61 - 124
Vinyl chloride	2.0	U	50.0	41.8		ug/L		84	43 - 157

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	89		62 - 137
4-Bromofluorobenzene (Surr)	93		56 - 136
Toluene-d8 (Surr)	92		78 - 122

QC Sample Results

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

Job ID: 240-159850-1

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

Lab Sample ID: 240-159848-E-3 MS
Matrix: Water
Analysis Batch: 513621

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

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
Dibromofluoromethane (Surr)	95		73 - 120

Lab Sample ID: 240-159848-E-3 MSD
Matrix: Water
Analysis Batch: 513621

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	2.0	U	50.0	49.7		ug/L		99	56 - 135	5	26
cis-1,2-Dichloroethene	2.0	U	50.0	48.6		ug/L		97	66 - 128	7	14
Tetrachloroethene	2.0	U	50.0	55.3		ug/L		111	62 - 131	3	20
trans-1,2-Dichloroethene	2.0	U	50.0	48.6		ug/L		97	56 - 136	5	15
Trichloroethene	2.0	U	50.0	49.9		ug/L		100	61 - 124	4	15
Vinyl chloride	2.0	U	50.0	38.6		ug/L		77	43 - 157	8	24

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		62 - 137
4-Bromofluorobenzene (Surr)	95		56 - 136
Toluene-d8 (Surr)	94		78 - 122
Dibromofluoromethane (Surr)	94		73 - 120

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

Lab Sample ID: MB 240-512758/5
Matrix: Water
Analysis Batch: 512758

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			11/12/21 16:51	1

	MB	MB		Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier	Limits			
1,2-Dichloroethane-d4 (Surr)	84		66 - 120		11/12/21 16:51	1

Lab Sample ID: LCS 240-512758/4
Matrix: Water
Analysis Batch: 512758

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	9.63		ug/L		96	80 - 122

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		66 - 120

Lab Sample ID: 240-159543-G-3 MS
Matrix: Water
Analysis Batch: 512758

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	9.98		ug/L		100	51 - 153

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-159850-1

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

	<i>MS</i>	<i>MS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	85		66 - 120

Lab Sample ID: 240-159543-O-3 MSD
Matrix: Water
Analysis Batch: 512758

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

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
1,4-Dioxane	2.0	U F1	10.0	9.71		ug/L		97	51 - 153	3	16

	<i>MSD</i>	<i>MSD</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	83		66 - 120

Lab Sample ID: MB 240-512785/5
Matrix: Water
Analysis Batch: 512785

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

<i>Analyte</i>	<i>MB Result</i>	<i>MB Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			11/12/21 18:32	1

	<i>MB</i>	<i>MB</i>		<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			
1,2-Dichloroethane-d4 (Surr)	79		66 - 120		11/12/21 18:32	1

Lab Sample ID: LCS 240-512785/4
Matrix: Water
Analysis Batch: 512785

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

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>
1,4-Dioxane	10.0	10.7		ug/L		107	80 - 122

	<i>LCS</i>	<i>LCS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	79		66 - 120

Lab Sample ID: 240-159541-G-2 MS
Matrix: Water
Analysis Batch: 512785

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

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>
1,4-Dioxane	2.0	U F1	10.0	10.6		ug/L		106	51 - 153

	<i>MS</i>	<i>MS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	77		66 - 120

Lab Sample ID: 240-159541-M-2 MSD
Matrix: Water
Analysis Batch: 512785

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

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
1,4-Dioxane	2.0	U F1	10.0	10.4		ug/L		104	51 - 153	2	16

QC Sample Results

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

Job ID: 240-159850-1

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

Lab Sample ID: 240-159541-M-2 MSD
Matrix: Water
Analysis Batch: 512785

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

<i>Surrogate</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
1,2-Dichloroethane-d4 (Surr)	78		66 - 120

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

QC Association Summary

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

Job ID: 240-159850-1

GC/MS VOA

Analysis Batch: 512758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159850-4	MW-58_110921	Total/NA	Water	8260B SIM	
MB 240-512758/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-512758/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-159543-G-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-159543-O-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 512785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159850-2	MW-29_110921	Total/NA	Water	8260B SIM	
240-159850-3	MW-39_110921	Total/NA	Water	8260B SIM	
MB 240-512785/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-512785/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-159541-G-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-159541-M-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 513621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159850-1	TRIP BLANK_101	Total/NA	Water	8260B	
240-159850-2	MW-29_110921	Total/NA	Water	8260B	
240-159850-3	MW-39_110921	Total/NA	Water	8260B	
240-159850-4	MW-58_110921	Total/NA	Water	8260B	
MB 240-513621/8	Method Blank	Total/NA	Water	8260B	
LCS 240-513621/5	Lab Control Sample	Total/NA	Water	8260B	
240-159848-E-3 MS	Matrix Spike	Total/NA	Water	8260B	
240-159848-E-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-159850-1

Client Sample ID: TRIP BLANK_101

Lab Sample ID: 240-159850-1

Date Collected: 11/09/21 00:00

Matrix: Water

Date Received: 11/11/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	513621	11/18/21 18:03	SAM	TAL CAN

Client Sample ID: MW-29_110921

Lab Sample ID: 240-159850-2

Date Collected: 11/09/21 11:40

Matrix: Water

Date Received: 11/11/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	513621	11/18/21 21:49	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	512785	11/13/21 04:04	CS	TAL CAN

Client Sample ID: MW-39_110921

Lab Sample ID: 240-159850-3

Date Collected: 11/09/21 14:05

Matrix: Water

Date Received: 11/11/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	513621	11/18/21 22:15	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	512785	11/13/21 04:28	CS	TAL CAN

Client Sample ID: MW-58_110921

Lab Sample ID: 240-159850-4

Date Collected: 11/09/21 10:10

Matrix: Water

Date Received: 11/11/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	513621	11/18/21 22:40	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		2	512758	11/12/21 18:05	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 - On-Site

Job ID: 240-159850-1

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

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: 24850 Cabot Drive, Suite 500
City/State/Zip: Novi, MI, 48377
Phone: 248-994-2240

Client Project Manager: Kris Hinskey
Site Contact: Julia McClafferty
Telephone: 248-994-2240 Telephone: 734-644-5131

Sampler Name: Andrew Barritt
Method of Shipment/Carrier:
Shipping/Tracking No:

PO # 30080642.401.03

Company Name: Arcadis
Address: 24850 Cabot Drive, Suite 500
City/State/Zip: Novi, MI, 48377
Phone: 248-994-2240

Client Project Manager: Kris Hinskey
Site Contact: Julia McClafferty
Telephone: 248-994-2240 Telephone: 734-644-5131

Sampler Name: Andrew Barritt
Method of Shipment/Carrier:
Shipping/Tracking No:

PO # 30080642.401.03

Sample Identification	Sample Date	Sample Time	Matrix			Containers & Preservatives							Filtered Sample (Y/N)	Composite=C/Crb=C	Analyses							Sample Specific Notes / Special Instructions:	
			Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl	NaOH	ZnOH			Empres	Other:	1-1-DCE 8260B	cis-1,2-DCE 8260B	Trans-1,2-DCE 8260B	PCE 8260B	TCE 8260B		Vinyl Chloride 8260B
TRIP BLANK_101	----	----	X													X	X	X	X	X	X	X	1 Trip Blank
MW-29-110921	11/9/21	1140	X													X	X	X	X	X	X	X	3 VOAs for 8260B 3 VOAs for 8260B SIM
MW-39-110921	11/9/21	1405	X													X	X	X	X	X	X	X	
MW-58-110921	11/9/21	1010	X													X	X	X	X	X	X	X	

Barcode: 240-159850 Chain of Custody

Possible Hazard Identification
 Non-Hazard Flammable Irritant

Special Instructions/QC Requirements & Comments:
Submit all results through Cadena at Romalie@cadenaco.com Cadena #E203728
Level IV Reporting requested

Relinquished by: [Signature]
Relinquished by: [Signature]
Relinquished by: [Signature]

Received by: [Signature]
Received by: [Signature]
Received in Laboratory by: [Signature]

Company: Arcadis
Company: Arcadis
Company: GTA

Date/Time: 11/9/21 1625
Date/Time: 11/10/21
Date/Time: 11/10/21 104

Company: Arcadis
Company: GTA
Company: ETA

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Return to Client Disposal By Lab Archive For Months



©2008 TestAmerica Laboratories, Inc. All rights reserved.
Performance & Design are trademarks of TestAmerica Laboratories, Inc.

Eurofins TestAmerica Canton Sample Receipt Form/Narrative

Login #: 159850

Canton Facility

Client Arcadis Site Name

Cooler unpacked by: Tanya Payne

Cooler Received on 11-11-21 Opened on 11-11-21

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 IR GUN# IR-14 (CF +0.1 °C) Observed Cooler Temp. 4.5 °C Corrected Cooler Temp. 4.6 °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 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 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? Larger than this. Yes No NA

16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 60358 Yes No

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

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. [Signature] 11/11/21

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: