

ANALYTICAL REPORT

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

Laboratory Job ID: 240-140384-1
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:
12/2/2020 8:50:59 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	13
QC Sample Results	14
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: 240-140384-1

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.
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: 240-140384-1

Job ID: 240-140384-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP - On Site

Report Number: 240-140384-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 11/17/2020 9:10 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.8° C and 2.4° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-140384-1), MW-209S_111420 (240-140384-2), MW-41_111420 (240-140384-3), MW-210S_111420 (240-140384-4) and MW-34_111420 (240-140384-5) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 11/25/2020.

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

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-209S_111420 (240-140384-2), MW-41_111420 (240-140384-3), MW-210S_111420 (240-140384-4) and MW-34_111420 (240-140384-5) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 11/23/2020.

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

Method Summary

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

Job ID: 240-140384-1

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: 240-140384-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-140384-1	TRIP BLANK	Water	11/14/20 00:00	11/17/20 09:10	
240-140384-2	MW-209S_111420	Water	11/14/20 08:58	11/17/20 09:10	
240-140384-3	MW-41_111420	Water	11/14/20 09:52	11/17/20 09:10	
240-140384-4	MW-210S_111420	Water	11/14/20 10:42	11/17/20 09:10	
240-140384-5	MW-34_111420	Water	11/14/20 11:35	11/17/20 09:10	

- 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: 240-140384-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-140384-1

No Detections.

Client Sample ID: MW-209S_111420

Lab Sample ID: 240-140384-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.35	J	1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	0.37	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-41_111420

Lab Sample ID: 240-140384-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	4.9		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	1.1		1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	1.2		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-210S_111420

Lab Sample ID: 240-140384-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.97	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	17		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	2.0		1.0	0.19	ug/L	1		8260B	Total/NA
Vinyl chloride	17		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-34_111420

Lab Sample ID: 240-140384-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	6.1		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.58	J	1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	1.8		1.0	0.20	ug/L	1		8260B	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: 240-140384-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-140384-1

Date Collected: 11/14/20 00:00

Matrix: Water

Date Received: 11/17/20 09:10

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			11/25/20 15:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/25/20 15:23	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/25/20 15:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/25/20 15:23	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/25/20 15:23	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/25/20 15:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		75 - 130		11/25/20 15:23	1
4-Bromofluorobenzene (Surr)	97		47 - 134		11/25/20 15:23	1
Toluene-d8 (Surr)	102		69 - 122		11/25/20 15:23	1
Dibromofluoromethane (Surr)	95		78 - 129		11/25/20 15:23	1

Client Sample Results

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

Job ID: 240-140384-1

Client Sample ID: MW-209S_111420

Lab Sample ID: 240-140384-2

Date Collected: 11/14/20 08:58

Matrix: Water

Date Received: 11/17/20 09:10

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			11/23/20 05:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 133		11/23/20 05:05	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			11/25/20 15:48	1
cis-1,2-Dichloroethene	0.35	J	1.0	0.16	ug/L			11/25/20 15:48	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/25/20 15:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/25/20 15:48	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/25/20 15:48	1
Vinyl chloride	0.37	J	1.0	0.20	ug/L			11/25/20 15:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		75 - 130		11/25/20 15:48	1
4-Bromofluorobenzene (Surr)	100		47 - 134		11/25/20 15:48	1
Toluene-d8 (Surr)	101		69 - 122		11/25/20 15:48	1
Dibromofluoromethane (Surr)	96		78 - 129		11/25/20 15:48	1

Client Sample Results

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

Job ID: 240-140384-1

Client Sample ID: MW-41_111420

Lab Sample ID: 240-140384-3

Date Collected: 11/14/20 09:52

Matrix: Water

Date Received: 11/17/20 09:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	4.9		2.0	0.86	ug/L			11/23/20 05:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 133					11/23/20 05:30	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			11/25/20 16:12	1
cis-1,2-Dichloroethene	1.1		1.0	0.16	ug/L			11/25/20 16:12	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/25/20 16:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/25/20 16:12	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/25/20 16:12	1
Vinyl chloride	1.2		1.0	0.20	ug/L			11/25/20 16:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	122		75 - 130					11/25/20 16:12	1
4-Bromofluorobenzene (Surr)	98		47 - 134					11/25/20 16:12	1
Toluene-d8 (Surr)	102		69 - 122					11/25/20 16:12	1
Dibromofluoromethane (Surr)	99		78 - 129					11/25/20 16:12	1

Client Sample Results

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

Job ID: 240-140384-1

Client Sample ID: MW-210S_111420

Lab Sample ID: 240-140384-4

Date Collected: 11/14/20 10:42

Matrix: Water

Date Received: 11/17/20 09:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.97	J	2.0	0.86	ug/L			11/23/20 05:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 133					11/23/20 05:56	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			11/25/20 16:37	1
cis-1,2-Dichloroethene	17		1.0	0.16	ug/L			11/25/20 16:37	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/25/20 16:37	1
trans-1,2-Dichloroethene	2.0		1.0	0.19	ug/L			11/25/20 16:37	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/25/20 16:37	1
Vinyl chloride	17		1.0	0.20	ug/L			11/25/20 16:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		75 - 130					11/25/20 16:37	1
4-Bromofluorobenzene (Surr)	100		47 - 134					11/25/20 16:37	1
Toluene-d8 (Surr)	103		69 - 122					11/25/20 16:37	1
Dibromofluoromethane (Surr)	97		78 - 129					11/25/20 16:37	1

Client Sample Results

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

Job ID: 240-140384-1

Client Sample ID: MW-34_111420

Lab Sample ID: 240-140384-5

Date Collected: 11/14/20 11:35

Matrix: Water

Date Received: 11/17/20 09:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	6.1		2.0	0.86	ug/L			11/23/20 06:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 133					11/23/20 06:21	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			11/25/20 17:02	1
cis-1,2-Dichloroethene	0.58	J	1.0	0.16	ug/L			11/25/20 17:02	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/25/20 17:02	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/25/20 17:02	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/25/20 17:02	1
Vinyl chloride	1.8		1.0	0.20	ug/L			11/25/20 17:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	124		75 - 130					11/25/20 17:02	1
4-Bromofluorobenzene (Surr)	93		47 - 134					11/25/20 17:02	1
Toluene-d8 (Surr)	98		69 - 122					11/25/20 17:02	1
Dibromofluoromethane (Surr)	99		78 - 129					11/25/20 17:02	1

Surrogate Summary

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

Job ID: 240-140384-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-140384-1	TRIP BLANK	120	97	102	95
240-140384-2	MW-209S_111420	120	100	101	96
240-140384-3	MW-41_111420	122	98	102	99
240-140384-4	MW-210S_111420	121	100	103	97
240-140384-5	MW-34_111420	124	93	98	99
240-140389-D-2 MS	Matrix Spike	107	117	93	84
240-140389-G-2 MSD	Matrix Spike Duplicate	107	105	107	84
LCS 240-462807/5	Lab Control Sample	107	107	105	86
MB 240-462807/8	Method Blank	120	99	102	92

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)

Lab Sample ID	Client Sample ID	DCA
		(70-133)
240-140384-2	MW-209S_111420	86
240-140384-3	MW-41_111420	87
240-140384-4	MW-210S_111420	86
240-140384-5	MW-34_111420	87
240-140389-A-2 MS	Matrix Spike	88
240-140389-A-2 MSD	Matrix Spike Duplicate	87
LCS 240-462286/4	Lab Control Sample	84
MB 240-462286/5	Method Blank	85

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-140384-1

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

Lab Sample ID: MB 240-462807/8
Matrix: Water
Analysis Batch: 462807

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			11/25/20 12:30	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/25/20 12:30	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/25/20 12:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/25/20 12:30	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/25/20 12:30	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/25/20 12:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		75 - 130		11/25/20 12:30	1
4-Bromofluorobenzene (Surr)	99		47 - 134		11/25/20 12:30	1
Toluene-d8 (Surr)	102		69 - 122		11/25/20 12:30	1
Dibromofluoromethane (Surr)	92		78 - 129		11/25/20 12:30	1

Lab Sample ID: LCS 240-462807/5
Matrix: Water
Analysis Batch: 462807

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	20.0	20.5		ug/L		102	73 - 129
cis-1,2-Dichloroethene	20.0	21.0		ug/L		105	75 - 124
Tetrachloroethene	20.0	18.9		ug/L		94	70 - 125
trans-1,2-Dichloroethene	20.0	20.7		ug/L		103	74 - 130
Trichloroethene	20.0	17.6		ug/L		88	71 - 121
Vinyl chloride	20.0	22.9		ug/L		114	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	107		75 - 130
4-Bromofluorobenzene (Surr)	107		47 - 134
Toluene-d8 (Surr)	105		69 - 122
Dibromofluoromethane (Surr)	86		78 - 129

Lab Sample ID: 240-140389-D-2 MS
Matrix: Water
Analysis Batch: 462807

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	1.0	U	20.0	19.4		ug/L		97	64 - 132
cis-1,2-Dichloroethene	1.0	U	20.0	18.9		ug/L		94	68 - 121
Tetrachloroethene	1.0	U	20.0	15.7		ug/L		78	52 - 129
trans-1,2-Dichloroethene	1.0	U	20.0	18.8		ug/L		94	69 - 126
Trichloroethene	1.0	U	20.0	15.9		ug/L		79	56 - 124
Vinyl chloride	0.86	J	20.0	21.1		ug/L		101	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	107		75 - 130
4-Bromofluorobenzene (Surr)	117		47 - 134
Toluene-d8 (Surr)	93		69 - 122

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-140384-1

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

Lab Sample ID: 240-140389-D-2 MS
Matrix: Water
Analysis Batch: 462807

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

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	84		78 - 129

Lab Sample ID: 240-140389-G-2 MSD
Matrix: Water
Analysis Batch: 462807

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	1.0	U	20.0	20.2		ug/L		101	64 - 132	4	35
cis-1,2-Dichloroethene	1.0	U	20.0	19.9		ug/L		99	68 - 121	5	35
Tetrachloroethene	1.0	U	20.0	17.5		ug/L		87	52 - 129	11	35
trans-1,2-Dichloroethene	1.0	U	20.0	19.8		ug/L		99	69 - 126	5	35
Trichloroethene	1.0	U	20.0	16.4		ug/L		82	56 - 124	3	35
Vinyl chloride	0.86	J	20.0	23.2		ug/L		112	49 - 136	10	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	107		75 - 130
4-Bromofluorobenzene (Surr)	105		47 - 134
Toluene-d8 (Surr)	107		69 - 122
Dibromofluoromethane (Surr)	84		78 - 129

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

Lab Sample ID: MB 240-462286/5
Matrix: Water
Analysis Batch: 462286

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			11/23/20 02:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 133		11/23/20 02:33	1

Lab Sample ID: LCS 240-462286/4
Matrix: Water
Analysis Batch: 462286

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	9.91		ug/L		99	80 - 135

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

Lab Sample ID: 240-140389-A-2 MS
Matrix: Water
Analysis Batch: 462286

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	1.5	J	10.0	12.2		ug/L		107	46 - 170

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-140384-1

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

<i>Surrogate</i>	<i>MS</i> <i>%Recovery</i>	<i>MS</i> <i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	88		70 - 133

Lab Sample ID: 240-140389-A-2 MSD
Matrix: Water
Analysis Batch: 462286

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

<i>Analyte</i>	<i>Sample</i> <i>Result</i>	<i>Sample</i> <i>Qualifier</i>	<i>Spike</i> <i>Added</i>	<i>MSD</i> <i>Result</i>	<i>MSD</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec.</i> <i>Limits</i>	<i>RPD</i>	<i>RPD</i> <i>Limit</i>
1,4-Dioxane	1.5	J	10.0	12.3		ug/L		108	46 - 170	1	26

<i>Surrogate</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	87		70 - 133

- 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: 240-140384-1

GC/MS VOA

Analysis Batch: 462286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-140384-2	MW-209S_111420	Total/NA	Water	8260B SIM	
240-140384-3	MW-41_111420	Total/NA	Water	8260B SIM	
240-140384-4	MW-210S_111420	Total/NA	Water	8260B SIM	
240-140384-5	MW-34_111420	Total/NA	Water	8260B SIM	
MB 240-462286/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-462286/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-140389-A-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-140389-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 462807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-140384-1	TRIP BLANK	Total/NA	Water	8260B	
240-140384-2	MW-209S_111420	Total/NA	Water	8260B	
240-140384-3	MW-41_111420	Total/NA	Water	8260B	
240-140384-4	MW-210S_111420	Total/NA	Water	8260B	
240-140384-5	MW-34_111420	Total/NA	Water	8260B	
MB 240-462807/8	Method Blank	Total/NA	Water	8260B	
LCS 240-462807/5	Lab Control Sample	Total/NA	Water	8260B	
240-140389-D-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-140389-G-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-140384-1

Client Sample ID: TRIP BLANK

Date Collected: 11/14/20 00:00

Date Received: 11/17/20 09:10

Lab Sample ID: 240-140384-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	462807	11/25/20 15:23	HMB	TAL CAN

Client Sample ID: MW-209S_111420

Date Collected: 11/14/20 08:58

Date Received: 11/17/20 09:10

Lab Sample ID: 240-140384-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	462807	11/25/20 15:48	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	462286	11/23/20 05:05	TJL2	TAL CAN

Client Sample ID: MW-41_111420

Date Collected: 11/14/20 09:52

Date Received: 11/17/20 09:10

Lab Sample ID: 240-140384-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	462807	11/25/20 16:12	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	462286	11/23/20 05:30	TJL2	TAL CAN

Client Sample ID: MW-210S_111420

Date Collected: 11/14/20 10:42

Date Received: 11/17/20 09:10

Lab Sample ID: 240-140384-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	462807	11/25/20 16:37	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	462286	11/23/20 05:56	TJL2	TAL CAN

Client Sample ID: MW-34_111420

Date Collected: 11/14/20 11:35

Date Received: 11/17/20 09:10

Lab Sample ID: 240-140384-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	462807	11/25/20 17:02	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	462286	11/23/20 06:21	TJL2	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: 240-140384-1

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	12-31-20
Minnesota	NELAP	OH00048	12-31-20
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	06-05-21
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	01-12-21
West Virginia DEP	State	210	12-31-20

0.9/1.8

Chain of Custody Record

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

Client Contact Company Name: Arcadis Address: 28550 Cabot Drive, Suite 500 City/State/Zip: Novi, MI, 48377 Phone: 248-994-2240 Project Name: Ford LTP On-Site Project Number: 30050315.401.03 PO # 30050315.401.03		Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other	
Client Project Manager: Kris Hinskey Telephone: 248-994-2240 Email: kristoffer.hinskey@arcadis.com		Lab Contact: Mike DelMonico Telephone: 330-497-9396	
Site Contact: Julia McClafferty Telephone: 734-644-5131		TestAmerica Laboratories, Inc. COC No: _____ of _____ COCs	
Sampler Name: <i>Christina Weaver</i> Method of Shipment/Carrier: Shipping/Tracking No:		Analysis Turnaround Time IAT if different from below: <input type="checkbox"/> 3 weeks <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day	
Sample Date 11/14/20 11/14/20 11/14/20 11/14/20 11/14/20		Sample Time — 0858 0952 1042 1135	
Sample Identification TRIP BLANK MW-209S-111420 MW-41-111420 MW-210S-111420 MW-34-111420		Matrix Air: <input checked="" type="checkbox"/> Aqueous: <input type="checkbox"/> Sediment: <input type="checkbox"/> Solid: <input type="checkbox"/> Other: <input type="checkbox"/>	
Containers & Preservatives H2SO4: <input type="checkbox"/> HNO3: <input type="checkbox"/> HCl: <input checked="" type="checkbox"/> NaOH: <input type="checkbox"/> NaOH: <input type="checkbox"/> Unpres: <input type="checkbox"/> Other: <input type="checkbox"/>		Filtered Sample (Y/N) NG NG NG NG NG	
Composite=C/Grab=G G G G G G		Analyses 1,4-DCE 8260B: <input checked="" type="checkbox"/> cis-1,2-DCE 8260B: <input checked="" type="checkbox"/> Trans-1,2-DCE 8260B: <input checked="" type="checkbox"/> PCE 8260B: <input checked="" type="checkbox"/> TCE 8260B: <input checked="" type="checkbox"/> Vinyl Chloride 8260B: <input checked="" type="checkbox"/> 1,4-Dioxane 8260B SIM: <input checked="" type="checkbox"/>	
Sample Specific Notes / Special Instructions: TRIP BLANK 13 VOLS FOR B260B 3 VOLS FOR B260B SIM		Walk-in client Lab sampling Job/SIDG No:	



Possible Hazard Identification
 Non-Hazard Irritant Inflammable Corrosive Unknown
 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: <i>Christina Weaver</i>	Company: ARCADIS	Date/Time: 11/14/20 1230	Received by: <i>Novis COLO STORAGE</i>	Company: ARCADIS	Date/Time: 11/14/20 1230
Relinquished by: <i>Julia McClafferty</i>	Company: Arcadis	Date/Time: 11/16/20 1140	Received by: <i>James Berger</i>	Company: ETA	Date/Time: 11-17-20 910
Relinquished by: <i>Matthew C. Adams</i>	Company: ETA	Date/Time: 11/16/20 1700	Received in Laboratory by:	Company:	Date/Time:

©2019 TestAmerica Laboratories, Inc. All rights reserved. Environmental & Safety — 30050315.401.03 Arcadis/Enviro. TestAmerica Laboratories, Inc.



Eurofins TestAmerica Canton Sample Receipt Form/Narrative

Login # : 110384

Canton Facility

Client Arcadis Site Name _____

Cooler unpacked by:

Cooler Received on 11-17-20 Opened on 11-17-20

Vanny Page

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 +0.9 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 IR GUN #IR-12 (CF +0.5 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2 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

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

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)? Yes No
 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 # _____ 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:

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: _____

