

ANALYTICAL REPORT

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

Laboratory Job ID: 240-144709-1
Client Project/Site: Ford LTP - On Site

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

Attn: Kristoffer Hinskey



Authorized for release by:
3/8/2021 11:00:49 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	14
QC Sample Results	15
QC Association Summary	18
Lab Chronicle	19
Certification Summary	20
Chain of Custody	21

Definitions/Glossary

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

Job ID: 240-144709-1

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: 240-144709-1

Job ID: 240-144709-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-144709-1

Comments

No additional comments.

Receipt

The samples were received on 2/20/2021 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 1.7° C.

GC/MS VOA

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

VOA Prep

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

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

Method Summary

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

Job ID: 240-144709-1

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 - On Site

Job ID: 240-144709-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-144709-1	TRIP BLANK	Water	02/18/21 00:00	02/20/21 08:00	
240-144709-2	MW-198S_021821	Water	02/18/21 11:45	02/20/21 08:00	
240-144709-3	MW-195S_021821	Water	02/18/21 10:01	02/20/21 08:00	
240-144709-4	MW-21_021821	Water	02/18/21 13:56	02/20/21 08:00	
240-144709-5	DUP-04	Water	02/18/21 00:00	02/20/21 08:00	
240-144709-6	MW-20_021821	Water	02/18/21 15:33	02/20/21 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: 240-144709-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-144709-1

No Detections.

Client Sample ID: MW-198S_021821

Lab Sample ID: 240-144709-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.46	J	1.0	0.10	ug/L	1		8260B	Total/NA

Client Sample ID: MW-195S_021821

Lab Sample ID: 240-144709-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	120		100	16	ug/L	100		8260B	Total/NA
trans-1,2-Dichloroethene	160		100	19	ug/L	100		8260B	Total/NA
Trichloroethene	3500		100	10	ug/L	100		8260B	Total/NA

Client Sample ID: MW-21_021821

Lab Sample ID: 240-144709-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	29		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	11000		500	80	ug/L	500		8260B	Total/NA
Trichloroethene	110	J	500	50	ug/L	500		8260B	Total/NA
Vinyl chloride	5400		500	100	ug/L	500		8260B	Total/NA

Client Sample ID: DUP-04

Lab Sample ID: 240-144709-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	30		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	12000		630	100	ug/L	625		8260B	Total/NA
Trichloroethene	110	J	630	63	ug/L	625		8260B	Total/NA
Vinyl chloride	6000		630	130	ug/L	625		8260B	Total/NA

Client Sample ID: MW-20_021821

Lab Sample ID: 240-144709-6

No Detections.

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: 240-144709-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-144709-1

Date Collected: 02/18/21 00:00

Matrix: Water

Date Received: 02/20/21 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	0.19	ug/L			02/26/21 19:14	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/21 19:14	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/21 19:14	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/21 19:14	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/21 19:14	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/21 19:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		75 - 130		02/26/21 19:14	1
4-Bromofluorobenzene (Surr)	64		47 - 134		02/26/21 19:14	1
Toluene-d8 (Surr)	81		69 - 122		02/26/21 19:14	1
Dibromofluoromethane (Surr)	110		78 - 129		02/26/21 19:14	1

Client Sample Results

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

Job ID: 240-144709-1

Client Sample ID: MW-198S_021821

Lab Sample ID: 240-144709-2

Date Collected: 02/18/21 11:45

Matrix: Water

Date Received: 02/20/21 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			02/26/21 18:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	79		70 - 133					02/26/21 18:21	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			02/26/21 19:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/21 19:37	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/21 19:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/21 19:37	1
Trichloroethene	0.46	J	1.0	0.10	ug/L			02/26/21 19:37	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/21 19:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		75 - 130					02/26/21 19:37	1
4-Bromofluorobenzene (Surr)	62		47 - 134					02/26/21 19:37	1
Toluene-d8 (Surr)	79		69 - 122					02/26/21 19:37	1
Dibromofluoromethane (Surr)	111		78 - 129					02/26/21 19:37	1

Client Sample Results

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

Job ID: 240-144709-1

Client Sample ID: MW-195S_021821

Lab Sample ID: 240-144709-3

Date Collected: 02/18/21 10:01

Matrix: Water

Date Received: 02/20/21 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			02/26/21 18:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	76		70 - 133		02/26/21 18:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	100	U	100	19	ug/L			02/26/21 20:01	100
cis-1,2-Dichloroethene	120		100	16	ug/L			02/26/21 20:01	100
Tetrachloroethene	100	U	100	15	ug/L			02/26/21 20:01	100
trans-1,2-Dichloroethene	160		100	19	ug/L			02/26/21 20:01	100
Trichloroethene	3500		100	10	ug/L			02/26/21 20:01	100
Vinyl chloride	100	U	100	20	ug/L			02/26/21 20:01	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		75 - 130		02/26/21 20:01	100
4-Bromofluorobenzene (Surr)	64		47 - 134		02/26/21 20:01	100
Toluene-d8 (Surr)	80		69 - 122		02/26/21 20:01	100
Dibromofluoromethane (Surr)	108		78 - 129		02/26/21 20:01	100

Client Sample Results

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

Job ID: 240-144709-1

Client Sample ID: MW-21_021821

Lab Sample ID: 240-144709-4

Date Collected: 02/18/21 13:56

Matrix: Water

Date Received: 02/20/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	29		2.0	0.86	ug/L			02/26/21 19:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	79		70 - 133					02/26/21 19:12	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	500	U	500	95	ug/L			02/26/21 20:25	500
cis-1,2-Dichloroethene	11000		500	80	ug/L			02/26/21 20:25	500
Tetrachloroethene	500	U	500	75	ug/L			02/26/21 20:25	500
trans-1,2-Dichloroethene	500	U	500	95	ug/L			02/26/21 20:25	500
Trichloroethene	110	J	500	50	ug/L			02/26/21 20:25	500
Vinyl chloride	5400		500	100	ug/L			02/26/21 20:25	500
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		75 - 130					02/26/21 20:25	500
4-Bromofluorobenzene (Surr)	63		47 - 134					02/26/21 20:25	500
Toluene-d8 (Surr)	79		69 - 122					02/26/21 20:25	500
Dibromofluoromethane (Surr)	110		78 - 129					02/26/21 20:25	500

Client Sample Results

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

Job ID: 240-144709-1

Client Sample ID: DUP-04
Date Collected: 02/18/21 00:00
Date Received: 02/20/21 08:00

Lab Sample ID: 240-144709-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	30		2.0	0.86	ug/L			02/26/21 19:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	77		70 - 133					02/26/21 19:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	630	U	630	120	ug/L			02/26/21 20:49	625
cis-1,2-Dichloroethene	12000		630	100	ug/L			02/26/21 20:49	625
Tetrachloroethene	630	U	630	94	ug/L			02/26/21 20:49	625
trans-1,2-Dichloroethene	630	U	630	120	ug/L			02/26/21 20:49	625
Trichloroethene	110	J	630	63	ug/L			02/26/21 20:49	625
Vinyl chloride	6000		630	130	ug/L			02/26/21 20:49	625
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		75 - 130					02/26/21 20:49	625
4-Bromofluorobenzene (Surr)	63		47 - 134					02/26/21 20:49	625
Toluene-d8 (Surr)	80		69 - 122					02/26/21 20:49	625
Dibromofluoromethane (Surr)	109		78 - 129					02/26/21 20:49	625

Client Sample Results

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

Job ID: 240-144709-1

Client Sample ID: MW-20_021821

Lab Sample ID: 240-144709-6

Date Collected: 02/18/21 15:33

Matrix: Water

Date Received: 02/20/21 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			02/26/21 20:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	78		70 - 133		02/26/21 20:02	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			02/26/21 21:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/21 21:13	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/21 21:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/21 21:13	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/21 21:13	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/21 21:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		75 - 130		02/26/21 21:13	1
4-Bromofluorobenzene (Surr)	69		47 - 134		02/26/21 21:13	1
Toluene-d8 (Surr)	79		69 - 122		02/26/21 21:13	1
Dibromofluoromethane (Surr)	118		78 - 129		02/26/21 21:13	1

Surrogate Summary

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

Job ID: 240-144709-1

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)
240-144709-1	TRIP BLANK	111	64	81	110
240-144709-2	MW-198S_021821	112	62	79	111
240-144709-3	MW-195S_021821	114	64	80	108
240-144709-4	MW-21_021821	109	63	79	110
240-144709-5	DUP-04	106	63	80	109
240-144709-6	MW-20_021821	115	69	79	118
240-144710-E-5 MS	Matrix Spike	94	91	94	96
240-144710-F-5 MSD	Matrix Spike Duplicate	93	89	87	89
LCS 240-474676/4	Lab Control Sample	87	93	92	89
MB 240-474676/7	Method Blank	104	68	83	102

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)
240-144709-2	MW-198S_021821	79
240-144709-3	MW-195S_021821	76
240-144709-4	MW-21_021821	79
240-144709-5	DUP-04	77
240-144709-6	MW-20_021821	78
240-144712-L-3 MS	Matrix Spike	80
240-144712-L-3 MSD	Matrix Spike Duplicate	81
LCS 240-474632/4	Lab Control Sample	80
MB 240-474632/5	Method Blank	80

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-144709-1

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

Lab Sample ID: MB 240-474676/7
Matrix: Water
Analysis Batch: 474676

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			02/26/21 15:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/21 15:39	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/21 15:39	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/21 15:39	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/21 15:39	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/21 15:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		75 - 130		02/26/21 15:39	1
4-Bromofluorobenzene (Surr)	68		47 - 134		02/26/21 15:39	1
Toluene-d8 (Surr)	83		69 - 122		02/26/21 15:39	1
Dibromofluoromethane (Surr)	102		78 - 129		02/26/21 15:39	1

Lab Sample ID: LCS 240-474676/4
Matrix: Water
Analysis Batch: 474676

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.57		ug/L		96	73 - 129
cis-1,2-Dichloroethene	10.0	9.15		ug/L		91	75 - 124
Tetrachloroethene	10.0	12.0		ug/L		120	70 - 125
trans-1,2-Dichloroethene	10.0	10.1		ug/L		101	74 - 130
Trichloroethene	10.0	9.71		ug/L		97	71 - 121
Vinyl chloride	10.0	8.29		ug/L		83	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	87		75 - 130
4-Bromofluorobenzene (Surr)	93		47 - 134
Toluene-d8 (Surr)	92		69 - 122
Dibromofluoromethane (Surr)	89		78 - 129

Lab Sample ID: 240-144710-E-5 MS
Matrix: Water
Analysis Batch: 474676

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	10.0	8.98		ug/L		90	64 - 132
cis-1,2-Dichloroethene	4.2		10.0	13.3		ug/L		91	68 - 121
Tetrachloroethene	1.0	U	10.0	10.6		ug/L		106	52 - 129
trans-1,2-Dichloroethene	0.64	J	10.0	10.4		ug/L		98	69 - 126
Trichloroethene	1.0	U	10.0	9.13		ug/L		91	56 - 124
Vinyl chloride	14		10.0	20.4		ug/L		69	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		75 - 130
4-Bromofluorobenzene (Surr)	91		47 - 134
Toluene-d8 (Surr)	94		69 - 122

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-144709-1

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

Lab Sample ID: 240-144710-E-5 MS
Matrix: Water
Analysis Batch: 474676

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

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	96		78 - 129

Lab Sample ID: 240-144710-F-5 MSD
Matrix: Water
Analysis Batch: 474676

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	10.0	9.48		ug/L		95	64 - 132	5	35
cis-1,2-Dichloroethene	4.2		10.0	12.9		ug/L		87	68 - 121	3	35
Tetrachloroethene	1.0	U	10.0	10.9		ug/L		109	52 - 129	2	35
trans-1,2-Dichloroethene	0.64	J	10.0	10.3		ug/L		96	69 - 126	1	35
Trichloroethene	1.0	U	10.0	9.48		ug/L		95	56 - 124	4	35
Vinyl chloride	14		10.0	20.5		ug/L		70	49 - 136	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		75 - 130
4-Bromofluorobenzene (Surr)	89		47 - 134
Toluene-d8 (Surr)	87		69 - 122
Dibromofluoromethane (Surr)	89		78 - 129

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

Lab Sample ID: MB 240-474632/5
Matrix: Water
Analysis Batch: 474632

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			02/26/21 10:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		70 - 133		02/26/21 10:47	1

Lab Sample ID: LCS 240-474632/4
Matrix: Water
Analysis Batch: 474632

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	10.5		ug/L		105	80 - 135

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

Lab Sample ID: 240-144712-L-3 MS
Matrix: Water
Analysis Batch: 474632

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	10.2		ug/L		102	46 - 170

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-144709-1

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)	80		70 - 133

Lab Sample ID: 240-144712-L-3 MSD
 Matrix: Water
 Analysis Batch: 474632

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	10.0	10.2		ug/L		102	46 - 170	0	26

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	81		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: 240-144709-1

GC/MS VOA

Analysis Batch: 474632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144709-2	MW-198S_021821	Total/NA	Water	8260B SIM	
240-144709-3	MW-195S_021821	Total/NA	Water	8260B SIM	
240-144709-4	MW-21_021821	Total/NA	Water	8260B SIM	
240-144709-5	DUP-04	Total/NA	Water	8260B SIM	
240-144709-6	MW-20_021821	Total/NA	Water	8260B SIM	
MB 240-474632/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-474632/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-144712-L-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-144712-L-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 474676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144709-1	TRIP BLANK	Total/NA	Water	8260B	
240-144709-2	MW-198S_021821	Total/NA	Water	8260B	
240-144709-3	MW-195S_021821	Total/NA	Water	8260B	
240-144709-4	MW-21_021821	Total/NA	Water	8260B	
240-144709-5	DUP-04	Total/NA	Water	8260B	
240-144709-6	MW-20_021821	Total/NA	Water	8260B	
MB 240-474676/7	Method Blank	Total/NA	Water	8260B	
LCS 240-474676/4	Lab Control Sample	Total/NA	Water	8260B	
240-144710-E-5 MS	Matrix Spike	Total/NA	Water	8260B	
240-144710-F-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-144709-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-144709-1

Date Collected: 02/18/21 00:00

Matrix: Water

Date Received: 02/20/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	474676	02/26/21 19:14	LRW	TAL CAN

Client Sample ID: MW-198S_021821

Lab Sample ID: 240-144709-2

Date Collected: 02/18/21 11:45

Matrix: Water

Date Received: 02/20/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	474676	02/26/21 19:37	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	474632	02/26/21 18:21	SAM	TAL CAN

Client Sample ID: MW-195S_021821

Lab Sample ID: 240-144709-3

Date Collected: 02/18/21 10:01

Matrix: Water

Date Received: 02/20/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	474676	02/26/21 20:01	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	474632	02/26/21 18:46	SAM	TAL CAN

Client Sample ID: MW-21_021821

Lab Sample ID: 240-144709-4

Date Collected: 02/18/21 13:56

Matrix: Water

Date Received: 02/20/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		500	474676	02/26/21 20:25	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	474632	02/26/21 19:12	SAM	TAL CAN

Client Sample ID: DUP-04

Lab Sample ID: 240-144709-5

Date Collected: 02/18/21 00:00

Matrix: Water

Date Received: 02/20/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		625	474676	02/26/21 20:49	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	474632	02/26/21 19:37	SAM	TAL CAN

Client Sample ID: MW-20_021821

Lab Sample ID: 240-144709-6

Date Collected: 02/18/21 15:33

Matrix: Water

Date Received: 02/20/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	474676	02/26/21 21:13	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	474632	02/26/21 20:02	SAM	TAL CAN

Laboratory References:

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

Eurofins TestAmerica, Canton

Accreditation/Certification Summary

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

Job ID: 240-144709-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21 *
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21 *
Illinois	NELAP	004498	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21 *
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

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



Chain of Custody Record

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

Regulatory program: DW NPDES RCRA Other

Client Project Manager: Kris Hinskey
 Telephone: 248-994-2240
 Email: kristoffer.hinskey@arcadis.com

Site Contact: Julia McClafferty
 Telephone: 734-644-5131

Lab Contact: Mike DeMonico
 Telephone: 330-497-9396

Company Name: Arcadis
 Address: 28550 Cabot Drive, Suite 500
 City/State/Zip: Novi, MI, 48377
 Phone: 248-994-2240

Project Name: Ford I, TP On-Site
 Project Number: 30050315.401.03
 PO # 30050315.401.03

Sampler Name: Xenia Chan
 Method of Shipment/Carrier:
 Shipping/Tracking No:

Sample Identification	Sample Date	Sample Time	Matrix							Filtered Sample (Y/N)	Composite=C / Grab=G	Analyses						Sample Specific Notes / Special Instructions						
			Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3			HCl	NaOH	ZnAc	NaOH	Unpres	Other:		1,1-DCE 8260B	Cis-1,2-DCE 8260B	Trans-1,2-DCE 8260B	PCE 8260B	TCE 8260B	Vinyl Chloride 8260B
TRIP BLANK																								1 Trip Blank
MW-1985-021821	2/18/21	1145	1	6																				3 WAS for 8260B 3 WAS for 8260B SIM
MW-1955-021821	2/18/21	1001	6	6																				
MW-21-021821	2/18/21	1356	6	6																				
DUP-04	2/18/21		6	6																				
MW-20-021821	2/18/21	1533	6	6																				



Possible Hazard Identification: Non-Hazard Irritant Flammable Poison B Unknown

are retained longer than 1 month) Archive For _____ Months

Disposal by Lab

Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203728
 Level IV Reporting requested.

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
<i>Xenia Chan</i>	Arcadis	2/18/21 1645	Non Corp Storage	Arcadis	2/18/21 1645
<i>Kris Hinskey</i>	Arcadis	2/19/21 10:11	<i>Amende-Battushel</i>	ETA	2/19/21 10:11
<i>Amende-Battushel</i>	ETA	2/19/21 14:33	<i>TA</i>	TA	2-20-21 800



Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 144709

Client Arcadis Site Name _____

Cooler unpacked by: _____

Cooler Received on 2-20-21 Opened on 2-20-21

FedEx: 1st Grd Exp UPS FAS Chopper 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. 1.6 °C Corrected Cooler Temp. 1.7 °C
 IR GUN #IR-12 (CF +0.2°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA

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)?
 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: _____