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ANALYTICAL REPORT

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

Laboratory Job ID: 240-126624-1
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:
3/6/2020 9:49:24 AM

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

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Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

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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 2/21/2020 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.8º C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-126624-1), MW-2_021920 (240-126624-2), MW-3_021920 (240-126624-3), MW-5_021920 (240-126624-4), MW-4_021920 (240-126624-5), MW-10_021920 (240-126624-6), DUP-9 (240-126624-7), DUP-10 (240-126624-8) and DUP-12 (240-126624-9) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/26/2020 and 02/27/2020.

Samples MW-2_021920 (240-126624-2)[100X], MW-4_021920 (240-126624-5)[1250X], MW-10_021920 (240-126624-6)[200X], DUP-9 (240-126624-7)[100X], DUP-10 (240-126624-8)[1250X] and DUP-12 (240-126624-9)[200X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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-2_021920 (240-126624-2), MW-3_021920 (240-126624-3), MW-5_021920 (240-126624-4), MW-4_021920 (240-126624-5), MW-10_021920 (240-126624-6), DUP-9 (240-126624-7), DUP-10 (240-126624-8) and DUP-12 (240-126624-9) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 02/28/2020 and

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Laboratory: Eurofins TestAmerica, Canton (Continued)

03/02/2020.

Samples MW-4_021920 (240-126624-5)[10X] and DUP-10 (240-126624-8)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The following samples were diluted due to the nature of the sample matrix: MW-4_021920 (240-126624-5) and DUP-10 (240-126624-8). Elevated reporting limits (RLs) are provided.

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: 240-126624-1

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: 240-126624-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-126624-1	TRIP BLANK	Water	02/19/20 00:00	02/21/20 09:20	
240-126624-2	MW-2_021920	Water	02/19/20 10:22	02/21/20 09:20	
240-126624-3	MW-3_021920	Water	02/19/20 11:17	02/21/20 09:20	
240-126624-4	MW-5_021920	Water	02/19/20 12:17	02/21/20 09:20	
240-126624-5	MW-4_021920	Water	02/19/20 13:32	02/21/20 09:20	
240-126624-6	MW-10_021920	Water	02/19/20 15:12	02/21/20 09:20	
240-126624-7	DUP-9	Water	02/19/20 00:00	02/21/20 09:20	
240-126624-8	DUP-10	Water	02/19/20 00:00	02/21/20 09:20	
240-126624-9	DUP-12	Water	02/19/20 00:00	02/21/20 09:20	

Detection Summary

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

Job ID: 240-126624-1

Client Sample ID: TRIP BLANK — Lab Sample ID: 240-126624-1

No Detections.

Client Sample ID: MW-2_021920 — Lab Sample ID: 240-126624-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	4.7		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	3100		100	16	ug/L	100		8260B	Total/NA
trans-1,2-Dichloroethene	860		100	19	ug/L	100		8260B	Total/NA
Vinyl chloride	280		100	20	ug/L	100		8260B	Total/NA

Client Sample ID: MW-3_021920 — Lab Sample ID: 240-126624-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.5	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA

Client Sample ID: MW-5_021920 — Lab Sample ID: 240-126624-4

No Detections.

Client Sample ID: MW-4_021920 — Lab Sample ID: 240-126624-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	16000		1300	200	ug/L	1250		8260B	Total/NA
trans-1,2-Dichloroethene	670	J	1300	240	ug/L	1250		8260B	Total/NA
Trichloroethene	28000		1300	130	ug/L	1250		8260B	Total/NA
Vinyl chloride	1300		1300	250	ug/L	1250		8260B	Total/NA

Client Sample ID: MW-10_021920 — Lab Sample ID: 240-126624-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	5.3		2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	5300		200	40	ug/L	200		8260B	Total/NA

Client Sample ID: DUP-9 — Lab Sample ID: 240-126624-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	4.1		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	3000		100	16	ug/L	100		8260B	Total/NA
trans-1,2-Dichloroethene	830		100	19	ug/L	100		8260B	Total/NA
Vinyl chloride	280		100	20	ug/L	100		8260B	Total/NA

Client Sample ID: DUP-10 — Lab Sample ID: 240-126624-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	10	J	20	8.6	ug/L	10		8260B SIM	Total/NA
cis-1,2-Dichloroethene	15000		1300	200	ug/L	1250		8260B	Total/NA
trans-1,2-Dichloroethene	680	J	1300	240	ug/L	1250		8260B	Total/NA
Trichloroethene	25000		1300	130	ug/L	1250		8260B	Total/NA
Vinyl chloride	1200	J	1300	250	ug/L	1250		8260B	Total/NA

Client Sample ID: DUP-12 — Lab Sample ID: 240-126624-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	5.3		2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	5700		200	40	ug/L	200		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

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

Job ID: 240-126624-1

Client Sample ID: TRIP BLANK

Date Collected: 02/19/20 00:00
Date Received: 02/21/20 09:20

Lab Sample ID: 240-126624-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 16:20	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/20 16:20	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/20 16:20	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 16:20	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/20 16:20	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/20 16:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*75 - 130*		*02/26/20 16:20*	*1*
4-Bromofluorobenzene (Surr)	*99*		*47 - 134*		*02/26/20 16:20*	*1*
Toluene-d8 (Surr)	*94*		*69 - 122*		*02/26/20 16:20*	*1*
Dibromofluoromethane (Surr)	*85*		*78 - 129*		*02/26/20 16:20*	*1*

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

Job ID: 240-126624-1

Client Sample ID: MW-2_021920
Date Collected: 02/19/20 10:22
Date Received: 02/21/20 09:20

Lab Sample ID: 240-126624-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**4.7**		2.0	0.86	ug/L			02/28/20 14:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 133*		*02/28/20 14:59*	*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			02/26/20 16:45	100
cis-1,2-Dichloroethene	**3100**		100	16	ug/L			02/26/20 16:45	100
Tetrachloroethene	100	U	100	15	ug/L			02/26/20 16:45	100
trans-1,2-Dichloroethene	**860**		100	19	ug/L			02/26/20 16:45	100
Trichloroethene	100	U	100	10	ug/L			02/26/20 16:45	100
Vinyl chloride	**280**		100	20	ug/L			02/26/20 16:45	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*75 - 130*		*02/26/20 16:45*	*100*
4-Bromofluorobenzene (Surr)	*99*		*47 - 134*		*02/26/20 16:45*	*100*
Toluene-d8 (Surr)	*93*		*69 - 122*		*02/26/20 16:45*	*100*
Dibromofluoromethane (Surr)	*86*		*78 - 129*		*02/26/20 16:45*	*100*

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

Job ID: 240-126624-1

Client Sample ID: MW-3_021920
Date Collected: 02/19/20 11:17
Date Received: 02/21/20 09:20

Lab Sample ID: 240-126624-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.5	J	2.0	0.86	ug/L			02/28/20 15:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 133*		*02/28/20 15:26*	*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			02/26/20 17:09	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/20 17:09	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/20 17:09	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 17:09	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/20 17:09	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/20 17:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*75 - 130*		*02/26/20 17:09*	*1*
4-Bromofluorobenzene (Surr)	*104*		*47 - 134*		*02/26/20 17:09*	*1*
Toluene-d8 (Surr)	*93*		*69 - 122*		*02/26/20 17:09*	*1*
Dibromofluoromethane (Surr)	*84*		*78 - 129*		*02/26/20 17:09*	*1*

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

Job ID: 240-126624-1

Client Sample ID: MW-5_021920
Date Collected: 02/19/20 12:17
Date Received: 02/21/20 09:20

Lab Sample ID: 240-126624-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/28/20 15:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 133*		*02/28/20 15:52*	*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			02/26/20 17:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/20 17:34	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/20 17:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 17:34	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/20 17:34	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/20 17:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*75 - 130*		*02/26/20 17:34*	*1*
4-Bromofluorobenzene (Surr)	*99*		*47 - 134*		*02/26/20 17:34*	*1*
Toluene-d8 (Surr)	*94*		*69 - 122*		*02/26/20 17:34*	*1*
Dibromofluoromethane (Surr)	*87*		*78 - 129*		*02/26/20 17:34*	*1*

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

Job ID: 240-126624-1

Client Sample ID: MW-4_021920
Date Collected: 02/19/20 13:32
Date Received: 02/21/20 09:20

Lab Sample ID: 240-126624-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	20	U	20	8.6	ug/L			03/02/20 12:05	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 133*		*03/02/20 12:05*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1300	U	1300	240	ug/L			02/26/20 17:59	1250
cis-1,2-Dichloroethene	**16000**		1300	200	ug/L			02/26/20 17:59	1250
Tetrachloroethene	1300	U	1300	190	ug/L			02/26/20 17:59	1250
trans-1,2-Dichloroethene	**670**	**J**	1300	240	ug/L			02/26/20 17:59	1250
Trichloroethene	**28000**		1300	130	ug/L			02/26/20 17:59	1250
Vinyl chloride	**1300**		1300	250	ug/L			02/26/20 17:59	1250

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*75 - 130*		*02/26/20 17:59*	*1250*
4-Bromofluorobenzene (Surr)	*98*		*47 - 134*		*02/26/20 17:59*	*1250*
Toluene-d8 (Surr)	*92*		*69 - 122*		*02/26/20 17:59*	*1250*
Dibromofluoromethane (Surr)	*88*		*78 - 129*		*02/26/20 17:59*	*1250*

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

Job ID: 240-126624-1

Client Sample ID: MW-10_021920
Date Collected: 02/19/20 15:12
Date Received: 02/21/20 09:20

Lab Sample ID: 240-126624-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**5.3**		2.0	0.86	ug/L			02/28/20 16:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 133*		*02/28/20 16:44*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	200	U	200	38	ug/L			02/27/20 15:32	200
cis-1,2-Dichloroethene	200	U	200	32	ug/L			02/27/20 15:32	200
Tetrachloroethene	200	U	200	30	ug/L			02/27/20 15:32	200
trans-1,2-Dichloroethene	200	U	200	38	ug/L			02/27/20 15:32	200
Trichloroethene	200	U	200	20	ug/L			02/27/20 15:32	200
Vinyl chloride	**5300**		200	40	ug/L			02/27/20 15:32	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*75 - 130*		*02/27/20 15:32*	*200*
4-Bromofluorobenzene (Surr)	*100*		*47 - 134*		*02/27/20 15:32*	*200*
Toluene-d8 (Surr)	*91*		*69 - 122*		*02/27/20 15:32*	*200*
Dibromofluoromethane (Surr)	*87*		*78 - 129*		*02/27/20 15:32*	*200*

Client Sample ID: DUP-9

Date Collected: 02/19/20 00:00
Date Received: 02/21/20 09:20

Lab Sample ID: 240-126624-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**4.1**		2.0	0.86	ug/L			02/28/20 17:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 133*		*02/28/20 17:10*	*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			02/27/20 15:57	100
cis-1,2-Dichloroethene	**3000**		100	16	ug/L			02/27/20 15:57	100
Tetrachloroethene	100	U	100	15	ug/L			02/27/20 15:57	100
trans-1,2-Dichloroethene	**830**		100	19	ug/L			02/27/20 15:57	100
Trichloroethene	100	U	100	10	ug/L			02/27/20 15:57	100
Vinyl chloride	**280**		100	20	ug/L			02/27/20 15:57	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*75 - 130*		*02/27/20 15:57*	*100*
4-Bromofluorobenzene (Surr)	*99*		*47 - 134*		*02/27/20 15:57*	*100*
Toluene-d8 (Surr)	*91*		*69 - 122*		*02/27/20 15:57*	*100*
Dibromofluoromethane (Surr)	*87*		*78 - 129*		*02/27/20 15:57*	*100*

Client Sample ID: DUP-10

Date Collected: 02/19/20 00:00
Date Received: 02/21/20 09:20

Lab Sample ID: 240-126624-8

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**10**	**J**	20	8.6	ug/L			03/02/20 12:30	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 133*		*03/02/20 12:30*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1300	U	1300	240	ug/L			02/26/20 19:15	1250
cis-1,2-Dichloroethene	**15000**		1300	200	ug/L			02/26/20 19:15	1250
Tetrachloroethene	1300	U	1300	190	ug/L			02/26/20 19:15	1250
trans-1,2-Dichloroethene	**680**	**J**	1300	240	ug/L			02/26/20 19:15	1250
Trichloroethene	**25000**		1300	130	ug/L			02/26/20 19:15	1250
Vinyl chloride	**1200**	**J**	1300	250	ug/L			02/26/20 19:15	1250

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*75 - 130*		*02/26/20 19:15*	*1250*
4-Bromofluorobenzene (Surr)	*102*		*47 - 134*		*02/26/20 19:15*	*1250*
Toluene-d8 (Surr)	*92*		*69 - 122*		*02/26/20 19:15*	*1250*
Dibromofluoromethane (Surr)	*85*		*78 - 129*		*02/26/20 19:15*	*1250*

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

Job ID: 240-126624-1

Client Sample ID: DUP-12

Date Collected: 02/19/20 00:00
Date Received: 02/21/20 09:20

Lab Sample ID: 240-126624-9

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**5.3**		2.0	0.86	ug/L			02/28/20 18:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 133*		*02/28/20 18:02*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	200	U	200	38	ug/L			02/27/20 16:22	200
cis-1,2-Dichloroethene	200	U	200	32	ug/L			02/27/20 16:22	200
Tetrachloroethene	200	U	200	30	ug/L			02/27/20 16:22	200
trans-1,2-Dichloroethene	200	U	200	38	ug/L			02/27/20 16:22	200
Trichloroethene	200	U	200	20	ug/L			02/27/20 16:22	200
Vinyl chloride	**5700**		200	40	ug/L			02/27/20 16:22	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*75 - 130*		*02/27/20 16:22*	*200*
4-Bromofluorobenzene (Surr)	*102*		*47 - 134*		*02/27/20 16:22*	*200*
Toluene-d8 (Surr)	*92*		*69 - 122*		*02/27/20 16:22*	*200*
Dibromofluoromethane (Surr)	*85*		*78 - 129*		*02/27/20 16:22*	*200*

Surrogate Summary

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

Job ID: 240-126624-1

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(75-130)	(47-134)	(69-122)	(78-129)
240-126624-1	TRIP BLANK	84	99	94	85
240-126624-2	MW-2_021920	82	99	93	86
240-126624-2 MS	MW-2_021920	85	100	94	89
240-126624-2 MSD	MW-2_021920	83	99	90	84
240-126624-3	MW-3_021920	82	104	93	84
240-126624-4	MW-5_021920	84	99	94	87
240-126624-5	MW-4_021920	83	98	92	88
240-126624-6	MW-10_021920	84	100	91	87
240-126624-7	DUP-9	82	99	91	87
240-126624-8	DUP-10	83	102	92	85
240-126624-9	DUP-12	83	102	92	85
240-126748-E-1 MS	Matrix Spike	84	103	90	84
240-126748-F-1 MSD	Matrix Spike Duplicate	77	101	91	85
LCS 240-424389/4	Lab Control Sample	84	99	92	90
LCS 240-424572/4	Lab Control Sample	85	102	90	87
MB 240-424389/7	Method Blank	83	100	91	86
MB 240-424572/7	Method Blank	82	97	92	81

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		DCA
Lab Sample ID	Client Sample ID	(70-133)
240-126552-O-2 MS	Matrix Spike	92
240-126552-O-2 MSD	Matrix Spike Duplicate	93
240-126624-2	MW-2_021920	96
240-126624-3	MW-3_021920	96
240-126624-4	MW-5_021920	98
240-126624-5	MW-4_021920	93
240-126624-6	MW-10_021920	95
240-126624-7	DUP-9	98
240-126624-8	DUP-10	91
240-126624-9	DUP-12	95
240-126664-L-2 MS	Matrix Spike	93
240-126664-L-2 MSD	Matrix Spike Duplicate	95
LCS 240-424746/4	Lab Control Sample	90
LCS 240-424853/4	Lab Control Sample	91
MB 240-424746/5	Method Blank	91
MB 240-424853/5	Method Blank	91

Surrogate Legend

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

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

Lab Sample ID: MB 240-424389/7
Matrix: Water
Analysis Batch: 424389

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			02/26/20 15:55	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/20 15:55	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/20 15:55	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 15:55	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/20 15:55	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/20 15:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*75 - 130*		*02/26/20 15:55*	*1*
4-Bromofluorobenzene (Surr)	*100*		*47 - 134*		*02/26/20 15:55*	*1*
Toluene-d8 (Surr)	*91*		*69 - 122*		*02/26/20 15:55*	*1*
Dibromofluoromethane (Surr)	*86*		*78 - 129*		*02/26/20 15:55*	*1*

Lab Sample ID: LCS 240-424389/4
Matrix: Water
Analysis Batch: 424389

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	10.1		ug/L		101	73 - 129
cis-1,2-Dichloroethene	10.0	10.0		ug/L		100	75 - 124
Tetrachloroethene	10.0	9.82		ug/L		98	70 - 125
trans-1,2-Dichloroethene	10.0	10.6		ug/L		106	74 - 130
Trichloroethene	10.0	9.36		ug/L		94	71 - 121
Vinyl chloride	10.0	12.4		ug/L		124	61 - 134

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*84*		*75 - 130*
4-Bromofluorobenzene (Surr)	*99*		*47 - 134*
Toluene-d8 (Surr)	*92*		*69 - 122*
Dibromofluoromethane (Surr)	*90*		*78 - 129*

Lab Sample ID: 240-126624-2 MS
Matrix: Water
Analysis Batch: 424389

Client Sample ID: MW-2_021920
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	100	U	1000	993		ug/L		99	64 - 132
cis-1,2-Dichloroethene	3100		1000	4040	E	ug/L		93	68 - 121
Tetrachloroethene	100	U	1000	985		ug/L		98	52 - 129
trans-1,2-Dichloroethene	860		1000	1850		ug/L		99	69 - 126
Trichloroethene	100	U	1000	956		ug/L		96	56 - 124
Vinyl chloride	280		1000	1580		ug/L		130	49 - 136

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*85*		*75 - 130*
4-Bromofluorobenzene (Surr)	*100*		*47 - 134*
Toluene-d8 (Surr)	*94*		*69 - 122*

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

Lab Sample ID: 240-126624-2 MS
Matrix: Water
Analysis Batch: 424389

Client Sample ID: MW-2_021920
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	*89*		*78 - 129*

Lab Sample ID: 240-126624-2 MSD
Matrix: Water
Analysis Batch: 424389

Client Sample ID: MW-2_021920
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	100	U	1000	1010		ug/L		101	64 - 132	1	35
cis-1,2-Dichloroethene	3100		1000	3830		ug/L		72	68 - 121	5	35
Tetrachloroethene	100	U	1000	929		ug/L		93	52 - 129	6	35
trans-1,2-Dichloroethene	860		1000	1860		ug/L		100	69 - 126	1	35
Trichloroethene	100	U	1000	894		ug/L		89	56 - 124	7	35
Vinyl chloride	280		1000	1510		ug/L		123	49 - 136	4	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*83*		*75 - 130*
4-Bromofluorobenzene (Surr)	*99*		*47 - 134*
Toluene-d8 (Surr)	*90*		*69 - 122*
Dibromofluoromethane (Surr)	*84*		*78 - 129*

Lab Sample ID: MB 240-424572/7
Matrix: Water
Analysis Batch: 424572

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			02/27/20 15:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/27/20 15:07	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/27/20 15:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/27/20 15:07	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/27/20 15:07	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/27/20 15:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*82*		*75 - 130*		*02/27/20 15:07*	*1*
4-Bromofluorobenzene (Surr)	*97*		*47 - 134*		*02/27/20 15:07*	*1*
Toluene-d8 (Surr)	*92*		*69 - 122*		*02/27/20 15:07*	*1*
Dibromofluoromethane (Surr)	*81*		*78 - 129*		*02/27/20 15:07*	*1*

Lab Sample ID: LCS 240-424572/4
Matrix: Water
Analysis Batch: 424572

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	10.6		ug/L		106	73 - 129
cis-1,2-Dichloroethene	10.0	11.1		ug/L		111	75 - 124
Tetrachloroethene	10.0	11.4		ug/L		114	70 - 125
trans-1,2-Dichloroethene	10.0	10.8		ug/L		108	74 - 130
Trichloroethene	10.0	10.0		ug/L		100	71 - 121

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

Lab Sample ID: LCS 240-424572/4
Matrix: Water
Analysis Batch: 424572

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Vinyl chloride			10.0	12.6		ug/L		126	61 - 134		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*85*		*75 - 130*
4-Bromofluorobenzene (Surr)	*102*		*47 - 134*
Toluene-d8 (Surr)	*90*		*69 - 122*
Dibromofluoromethane (Surr)	*87*		*78 - 129*

Lab Sample ID: 240-126748-E-1 MS
Matrix: Water
Analysis Batch: 424572

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	10.3		ug/L		103	64 - 132		
cis-1,2-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	68 - 121		
Tetrachloroethene	1.0	U	10.0	10.5		ug/L		105	52 - 129		
trans-1,2-Dichloroethene	1.0	U	10.0	10.7		ug/L		107	69 - 126		
Trichloroethene	1.0	U	10.0	9.30		ug/L		93	56 - 124		
Vinyl chloride	1.0	U	10.0	12.8		ug/L		128	49 - 136		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*84*		*75 - 130*
4-Bromofluorobenzene (Surr)	*103*		*47 - 134*
Toluene-d8 (Surr)	*90*		*69 - 122*
Dibromofluoromethane (Surr)	*84*		*78 - 129*

Lab Sample ID: 240-126748-F-1 MSD
Matrix: Water
Analysis Batch: 424572

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	10.5		ug/L		105	64 - 132	2	35
cis-1,2-Dichloroethene	1.0	U	10.0	10.4		ug/L		104	68 - 121	2	35
Tetrachloroethene	1.0	U	10.0	10.4		ug/L		104	52 - 129	1	35
trans-1,2-Dichloroethene	1.0	U	10.0	10.7		ug/L		107	69 - 126	0	35
Trichloroethene	1.0	U	10.0	9.42		ug/L		94	56 - 124	1	35
Vinyl chloride	1.0	U	10.0	13.1		ug/L		131	49 - 136	2	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*77*		*75 - 130*
4-Bromofluorobenzene (Surr)	*101*		*47 - 134*
Toluene-d8 (Surr)	*91*		*69 - 122*
Dibromofluoromethane (Surr)	*85*		*78 - 129*

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

Lab Sample ID: MB 240-424746/5
Matrix: Water
Analysis Batch: 424746

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			02/28/20 12:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 133*		*02/28/20 12:24*	*1*

Lab Sample ID: LCS 240-424746/4
Matrix: Water
Analysis Batch: 424746

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	10.2		ug/L		102	80 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 133*

Lab Sample ID: 240-126552-O-2 MS
Matrix: Water
Analysis Batch: 424746

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	9.86		ug/L		99	46 - 170		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 133*

Lab Sample ID: 240-126552-O-2 MSD
Matrix: Water
Analysis Batch: 424746

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	9.91		ug/L		99	46 - 170	0	26

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 133*

Lab Sample ID: MB 240-424853/5
Matrix: Water
Analysis Batch: 424853

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			03/02/20 10:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 133*		*03/02/20 10:46*	*1*

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

Lab Sample ID: LCS 240-424853/4
Matrix: Water
Analysis Batch: 424853

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	10.1		ug/L		101	80 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 133*

Lab Sample ID: 240-126664-L-2 MS
Matrix: Water
Analysis Batch: 424853

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	8.96		ug/L		90	46 - 170		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 133*

Lab Sample ID: 240-126664-L-2 MSD
Matrix: Water
Analysis Batch: 424853

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	9.22		ug/L		92	46 - 170	3	26

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 133*

QC Association Summary

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

Job ID: 240-126624-1

GC/MS VOA

Analysis Batch: 424389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126624-1	TRIP BLANK	Total/NA	Water	8260B	
240-126624-2	MW-2_021920	Total/NA	Water	8260B	
240-126624-3	MW-3_021920	Total/NA	Water	8260B	
240-126624-4	MW-5_021920	Total/NA	Water	8260B	
240-126624-5	MW-4_021920	Total/NA	Water	8260B	
240-126624-8	DUP-10	Total/NA	Water	8260B	
MB 240-424389/7	Method Blank	Total/NA	Water	8260B	
LCS 240-424389/4	Lab Control Sample	Total/NA	Water	8260B	
240-126624-2 MS	MW-2_021920	Total/NA	Water	8260B	
240-126624-2 MSD	MW-2_021920	Total/NA	Water	8260B	

Analysis Batch: 424572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126624-6	MW-10_021920	Total/NA	Water	8260B	
240-126624-7	DUP-9	Total/NA	Water	8260B	
240-126624-9	DUP-12	Total/NA	Water	8260B	
MB 240-424572/7	Method Blank	Total/NA	Water	8260B	
LCS 240-424572/4	Lab Control Sample	Total/NA	Water	8260B	
240-126748-E-1 MS	Matrix Spike	Total/NA	Water	8260B	
240-126748-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 424746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126624-2	MW-2_021920	Total/NA	Water	8260B SIM	
240-126624-3	MW-3_021920	Total/NA	Water	8260B SIM	
240-126624-4	MW-5_021920	Total/NA	Water	8260B SIM	
240-126624-6	MW-10_021920	Total/NA	Water	8260B SIM	
240-126624-7	DUP-9	Total/NA	Water	8260B SIM	
240-126624-9	DUP-12	Total/NA	Water	8260B SIM	
MB 240-424746/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-424746/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-126552-O-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-126552-O-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 424853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126624-5	MW-4_021920	Total/NA	Water	8260B SIM	
240-126624-8	DUP-10	Total/NA	Water	8260B SIM	
MB 240-424853/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-424853/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-126664-L-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-126664-L-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Lab Chronicle

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

Job ID: 240-126624-1

Client Sample ID: TRIP BLANK
Lab Sample ID: 240-126624-1
Date Collected: 02/19/20 00:00
Matrix: Water
Date Received: 02/21/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424389	02/26/20 16:20	LRW	TAL CAN

Client Sample ID: MW-2_021920
Lab Sample ID: 240-126624-2
Date Collected: 02/19/20 10:22
Matrix: Water
Date Received: 02/21/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	424389	02/26/20 16:45	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	424746	02/28/20 14:59	SAM	TAL CAN

Client Sample ID: MW-3_021920
Lab Sample ID: 240-126624-3
Date Collected: 02/19/20 11:17
Matrix: Water
Date Received: 02/21/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424389	02/26/20 17:09	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	424746	02/28/20 15:26	SAM	TAL CAN

Client Sample ID: MW-5_021920
Lab Sample ID: 240-126624-4
Date Collected: 02/19/20 12:17
Matrix: Water
Date Received: 02/21/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424389	02/26/20 17:34	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	424746	02/28/20 15:52	SAM	TAL CAN

Client Sample ID: MW-4_021920
Lab Sample ID: 240-126624-5
Date Collected: 02/19/20 13:32
Matrix: Water
Date Received: 02/21/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1250	424389	02/26/20 17:59	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		10	424853	03/02/20 12:05	SAM	TAL CAN

Client Sample ID: MW-10_021920
Lab Sample ID: 240-126624-6
Date Collected: 02/19/20 15:12
Matrix: Water
Date Received: 02/21/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		200	424572	02/27/20 15:32	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	424746	02/28/20 16:44	SAM	TAL CAN

Lab Chronicle

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

Job ID: 240-126624-1

Client Sample ID: DUP-9

Lab Sample ID: 240-126624-7

Date Collected: 02/19/20 00:00

Matrix: Water

Date Received: 02/21/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	424572	02/27/20 15:57	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	424746	02/28/20 17:10	SAM	TAL CAN

Client Sample ID: DUP-10

Lab Sample ID: 240-126624-8

Date Collected: 02/19/20 00:00

Matrix: Water

Date Received: 02/21/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1250	424389	02/26/20 19:15	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		10	424853	03/02/20 12:30	SAM	TAL CAN

Client Sample ID: DUP-12

Lab Sample ID: 240-126624-9

Date Collected: 02/19/20 00:00

Matrix: Water

Date Received: 02/21/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		200	424572	02/27/20 16:22	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	424746	02/28/20 18:02	SAM	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

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

Job ID: 240-126624-1

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	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20 *
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

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

MICHIGAN
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2.1.2.6

Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

TestAmerica Laboratories, Inc.

Client Contact	Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other			
Company Name: Arcadis	Client Project Manager: Kris Hinskey	Site Contact: Julia McClafferty	Lab Contact: Mike DelMonico	COC No:
Address: 28550 Cabot Drive, Suite 500	Telephone: 248-994-2240	Telephone: 734-644-5131	Telephone: 330-497-9396	1 of 1 COCs
City/State/Zip: Novi, MI, 48377	Email: kristoffer.hinskey@arcadis.com	Analysis Turnaround Time	Analyses	For lab use only
Phone: 248-994-2240	Sampler Name: H. Woodrum	TAT if different from below: ☐ 3 weeks ☑ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day; 10 day		Walk-in client: Lab sampling:
Project Name: Ford LTP On-Site	Method of Shipment/Carrier:			Job/SDG No:
Project Number: 30042006.0401.02	Shipping/Tracking No:			
PO # 30042006.0401.02				

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other:	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	Zn(C2H3O2)2 NaOH	Unpres	Other:	Filtered Sample (Y / N)	Composite=C / Grab=G	1,1-DCE 8260B	cis-1,2-DCE 8260B	Trans-1,2-DCE 8260B	PCE 8260B	TCE 8260B	Vinyl Chloride 8260B	1,4-Dioxane 8260B SIM	Sample Specific Notes / Special Instructions:
TRIP BLANK	—	—		1						1					N	G	X	X	X	X	X	X	X	1 VOA
MW-2_021920	2/19/20	1022		6						6					N	G	X	X	X	X	X	X	X	3 VOA for 8260 3 VOA for 8260 SIM
MW-3_021920	2/19/20	1117		6						6					N	G	X	X	X	X	X	X	X	
MW-5_021920	2/19/20	1217		6						6					N	G	X	X	X	X	X	X	X	
MW-4_021920	2/19/20	1332		6						6					N	G	X	X	X	X	X	X	X	
MW-10_021920	2/19/20	1512		6						6					N	G	X	X	X	X	X	X	X	
DUP-9				6						6					N	G	X	X	X	X	X	X	X	
DUP-10				6						6					N	G	X	X	X	X	X	X	X	
DUP-12				6						6					N	G	X	X	X	X	X	X	X	

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are r: ☐ Return to Client ☑ Disposal By Lab ☐

Special Instructions/QC Requirements & Comments:

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

240-126624 Chain of Custody

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Heather Woodrum	Arcadis	2/19/20 1730	Novi Cold Storage	Arcadis	2/19/20 1730
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[illegible]	Arcadis	2/20/2020 1124	[illegible]	ETA	2/20/20 1125
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
[illegible]	ETA	2/20/20 1230	[illegible]	TAL	02/21/20 920

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 126674

Client Arcadis Site Name

Cooler Received on 02/21/20 Opened on 02/21/20

Cooler unpacked by: DSD

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # TAC 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-10 (CF +0.7 °C) Observed Cooler Temp. 2.1 °C Corrected Cooler Temp. 2.8 °C
   IR GUN #IR-11 (CF +0.9°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
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 be reconciled with the COC? — Yes No
9. Were correct bottle(s) used for the test(s) indicated? — Yes No
10. Sufficient quantity received to perform indicated analyses? — Yes No
11. Are these work share samples? — Yes No
    If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? — Yes No NA pH Strip Lot# **HC995364**
13. Were VOAs on the COC? — Yes No
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this. — Yes No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # N/A — Yes No
16. Was a LL Hg or Me Hg trip blank present? — Yes No

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM Date by via Verbal Voice Mail Other

Concerning

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: AG

18. 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)

19. 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: