

ANALYTICAL REPORT

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

Laboratory Job ID: 240-134994-1
Client Project/Site: Ford LTP On-Site

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



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Definitions/Glossary

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

Job ID: 240-134994-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
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
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: 240-134994-1

Job ID: 240-134994-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP On-Site

Report Number: 240-134994-1

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.

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

RECEIPT

The samples were received on 8/14/2020 9:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.8° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-134994-1), LMW-20-28_081220 (240-134994-2), LMW-20-12_081220 (240-134994-3), LMW-20-13_081220 (240-134994-4), LMW-20-14_081220 (240-134994-5), LMW-20-22_081220 (240-134994-6), LMW-20-25_081220 (240-134994-7) and LMW-20-21_081220 (240-134994-8) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 08/24/2020 and 08/25/2020.

Sample LMW-20-25_081220 (240-134994-7)[4X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

cis-1,2-Dichloroethene and Vinyl chloride failed the recovery criteria high for the MSD of sample 240-135149-5 in batch 240-448672. cis-1,2-Dichloroethene and Vinyl chloride exceeded the RPD limit.

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

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples LMW-20-28_081220 (240-134994-2), LMW-20-12_081220 (240-134994-3), LMW-20-13_081220 (240-134994-4), LMW-20-14_081220 (240-134994-5), LMW-20-22_081220 (240-134994-6), LMW-20-25_081220 (240-134994-7) and LMW-20-21_081220 (240-134994-8) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method

Case Narrative

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

Job ID: 240-134994-1

Job ID: 240-134994-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

8260B SIM. The samples were analyzed on 08/22/2020.

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

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Method Summary

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

Job ID: 240-134994-1

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

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Sample Summary

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

Job ID: 240-134994-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-134994-1	TRIP BLANK	Water	08/12/20 00:00	08/14/20 09:30	
240-134994-2	LMW-20-28_081220	Water	08/12/20 09:14	08/14/20 09:30	
240-134994-3	LMW-20-12_081220	Water	08/12/20 10:34	08/14/20 09:30	
240-134994-4	LMW-20-13_081220	Water	08/12/20 11:55	08/14/20 09:30	
240-134994-5	LMW-20-14_081220	Water	08/12/20 12:52	08/14/20 09:30	
240-134994-6	LMW-20-22_081220	Water	08/12/20 13:52	08/14/20 09:30	
240-134994-7	LMW-20-25_081220	Water	08/12/20 15:41	08/14/20 09:30	
240-134994-8	LMW-20-21_081220	Water	08/12/20 17:00	08/14/20 09:30	

Detection Summary

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

Job ID: 240-134994-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-134994-1

No Detections.

Client Sample ID: LMW-20-28_081220

Lab Sample ID: 240-134994-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.2	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.79	J	1.0	0.38	ug/L	1		8260B	Total/NA

Client Sample ID: LMW-20-12_081220

Lab Sample ID: 240-134994-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.88	J	1.0	0.38	ug/L	1		8260B	Total/NA
Vinyl chloride	3.5		1.0	0.50	ug/L	1		8260B	Total/NA

Client Sample ID: LMW-20-13_081220

Lab Sample ID: 240-134994-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.9	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA

Client Sample ID: LMW-20-14_081220

Lab Sample ID: 240-134994-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.56	J	1.0	0.36	ug/L	1		8260B	Total/NA

Client Sample ID: LMW-20-22_081220

Lab Sample ID: 240-134994-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.4		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	25		1.0	0.38	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	2.1		1.0	0.43	ug/L	1		8260B	Total/NA
Trichloroethene	0.65	J	1.0	0.36	ug/L	1		8260B	Total/NA
Vinyl chloride	35		1.0	0.50	ug/L	1		8260B	Total/NA

Client Sample ID: LMW-20-25_081220

Lab Sample ID: 240-134994-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.3	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
1,1-Dichloroethene	1.8	J	4.0	1.8	ug/L	4		8260B	Total/NA
cis-1,2-Dichloroethene	95		4.0	1.5	ug/L	4		8260B	Total/NA
Tetrachloroethene	18		4.0	1.3	ug/L	4		8260B	Total/NA
trans-1,2-Dichloroethene	7.3		4.0	1.7	ug/L	4		8260B	Total/NA
Trichloroethene	28		4.0	1.4	ug/L	4		8260B	Total/NA
Vinyl chloride	6.2		4.0	2.0	ug/L	4		8260B	Total/NA

Client Sample ID: LMW-20-21_081220

Lab Sample ID: 240-134994-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.4	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.68	J	1.0	0.38	ug/L	1		8260B	Total/NA
Vinyl chloride	0.59	J	1.0	0.50	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: 240-134994-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-134994-1

Date Collected: 08/12/20 00:00

Matrix: Water

Date Received: 08/14/20 09:30

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	0.46	ug/L			08/24/20 18:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/24/20 18:34	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 18:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 18:34	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 18:34	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/24/20 18:34	1
2-Methylnaphthalene	5.0	U	5.0	2.4	ug/L			08/24/20 18:34	1
Naphthalene	1.0	U	1.0	0.82	ug/L			08/24/20 18:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		75 - 130		08/24/20 18:34	1
4-Bromofluorobenzene (Surr)	111		47 - 134		08/24/20 18:34	1
Toluene-d8 (Surr)	103		69 - 122		08/24/20 18:34	1
Dibromofluoromethane (Surr)	89		78 - 129		08/24/20 18:34	1

Client Sample Results

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

Job ID: 240-134994-1

Client Sample ID: LMW-20-28_081220

Lab Sample ID: 240-134994-2

Date Collected: 08/12/20 09:14

Matrix: Water

Date Received: 08/14/20 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.2	J	2.0	0.86	ug/L			08/22/20 09:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 133		08/22/20 09:29	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	0.46	ug/L			08/24/20 18:57	1
cis-1,2-Dichloroethene	0.79	J	1.0	0.38	ug/L			08/24/20 18:57	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 18:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 18:57	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 18:57	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/24/20 18:57	1
2-Methylnaphthalene	5.0	U	5.0	2.4	ug/L			08/24/20 18:57	1
Naphthalene	1.0	U	1.0	0.82	ug/L			08/24/20 18:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		75 - 130		08/24/20 18:57	1
4-Bromofluorobenzene (Surr)	108		47 - 134		08/24/20 18:57	1
Toluene-d8 (Surr)	103		69 - 122		08/24/20 18:57	1
Dibromofluoromethane (Surr)	88		78 - 129		08/24/20 18:57	1

Client Sample Results

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

Job ID: 240-134994-1

Client Sample ID: LMW-20-12_081220

Lab Sample ID: 240-134994-3

Date Collected: 08/12/20 10:34

Matrix: Water

Date Received: 08/14/20 09:30

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			08/22/20 09:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 133					08/22/20 09:54	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	0.46	ug/L			08/24/20 19:20	1
cis-1,2-Dichloroethene	0.88	J	1.0	0.38	ug/L			08/24/20 19:20	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 19:20	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 19:20	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 19:20	1
Vinyl chloride	3.5		1.0	0.50	ug/L			08/24/20 19:20	1
2-Methylnaphthalene	5.0	U	5.0	2.4	ug/L			08/24/20 19:20	1
Naphthalene	1.0	U	1.0	0.82	ug/L			08/24/20 19:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 130					08/24/20 19:20	1
4-Bromofluorobenzene (Surr)	107		47 - 134					08/24/20 19:20	1
Toluene-d8 (Surr)	101		69 - 122					08/24/20 19:20	1
Dibromofluoromethane (Surr)	89		78 - 129					08/24/20 19:20	1

Client Sample Results

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

Job ID: 240-134994-1

Client Sample ID: LMW-20-13_081220

Lab Sample ID: 240-134994-4

Date Collected: 08/12/20 11:55

Matrix: Water

Date Received: 08/14/20 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.9	J	2.0	0.86	ug/L			08/22/20 10:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		70 - 133					08/22/20 10:18	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	0.46	ug/L			08/24/20 19:42	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/24/20 19:42	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 19:42	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 19:42	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 19:42	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/24/20 19:42	1
2-Methylnaphthalene	5.0	U	5.0	2.4	ug/L			08/24/20 19:42	1
Naphthalene	1.0	U	1.0	0.82	ug/L			08/24/20 19:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		75 - 130					08/24/20 19:42	1
4-Bromofluorobenzene (Surr)	108		47 - 134					08/24/20 19:42	1
Toluene-d8 (Surr)	103		69 - 122					08/24/20 19:42	1
Dibromofluoromethane (Surr)	89		78 - 129					08/24/20 19:42	1

Client Sample Results

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

Job ID: 240-134994-1

Client Sample ID: LMW-20-14_081220

Lab Sample ID: 240-134994-5

Date Collected: 08/12/20 12:52

Matrix: Water

Date Received: 08/14/20 09:30

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			08/22/20 10:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		70 - 133		08/22/20 10:43	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	0.46	ug/L			08/24/20 20:05	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/24/20 20:05	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 20:05	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 20:05	1
Trichloroethene	0.56	J	1.0	0.36	ug/L			08/24/20 20:05	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/24/20 20:05	1
2-Methylnaphthalene	5.0	U	5.0	2.4	ug/L			08/24/20 20:05	1
Naphthalene	1.0	U	1.0	0.82	ug/L			08/24/20 20:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		75 - 130		08/24/20 20:05	1
4-Bromofluorobenzene (Surr)	111		47 - 134		08/24/20 20:05	1
Toluene-d8 (Surr)	104		69 - 122		08/24/20 20:05	1
Dibromofluoromethane (Surr)	89		78 - 129		08/24/20 20:05	1

Client Sample Results

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

Job ID: 240-134994-1

Client Sample ID: LMW-20-22_081220

Lab Sample ID: 240-134994-6

Date Collected: 08/12/20 13:52

Matrix: Water

Date Received: 08/14/20 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.4		2.0	0.86	ug/L			08/22/20 11:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		70 - 133					08/22/20 11:08	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	0.46	ug/L			08/25/20 19:49	1
cis-1,2-Dichloroethene	25		1.0	0.38	ug/L			08/25/20 19:49	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/25/20 19:49	1
trans-1,2-Dichloroethene	2.1		1.0	0.43	ug/L			08/25/20 19:49	1
Trichloroethene	0.65	J	1.0	0.36	ug/L			08/25/20 19:49	1
Vinyl chloride	35		1.0	0.50	ug/L			08/25/20 19:49	1
2-Methylnaphthalene	5.0	U	5.0	2.4	ug/L			08/25/20 19:49	1
Naphthalene	1.0	U	1.0	0.82	ug/L			08/25/20 19:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 130					08/25/20 19:49	1
4-Bromofluorobenzene (Surr)	110		47 - 134					08/25/20 19:49	1
Toluene-d8 (Surr)	105		69 - 122					08/25/20 19:49	1
Dibromofluoromethane (Surr)	91		78 - 129					08/25/20 19:49	1

Client Sample Results

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

Job ID: 240-134994-1

Client Sample ID: LMW-20-25_081220

Lab Sample ID: 240-134994-7

Date Collected: 08/12/20 15:41

Matrix: Water

Date Received: 08/14/20 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.3	J	2.0	0.86	ug/L			08/22/20 11:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 133		08/22/20 11:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.8	J	4.0	1.8	ug/L			08/24/20 20:50	4
cis-1,2-Dichloroethene	95		4.0	1.5	ug/L			08/24/20 20:50	4
Tetrachloroethene	18		4.0	1.3	ug/L			08/24/20 20:50	4
trans-1,2-Dichloroethene	7.3		4.0	1.7	ug/L			08/24/20 20:50	4
Trichloroethene	28		4.0	1.4	ug/L			08/24/20 20:50	4
Vinyl chloride	6.2		4.0	2.0	ug/L			08/24/20 20:50	4
2-Methylnaphthalene	20	U	20	9.6	ug/L			08/24/20 20:50	4
Naphthalene	4.0	U	4.0	3.3	ug/L			08/24/20 20:50	4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		75 - 130		08/24/20 20:50	4
4-Bromofluorobenzene (Surr)	106		47 - 134		08/24/20 20:50	4
Toluene-d8 (Surr)	101		69 - 122		08/24/20 20:50	4
Dibromofluoromethane (Surr)	89		78 - 129		08/24/20 20:50	4

Client Sample Results

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

Job ID: 240-134994-1

Client Sample ID: LMW-20-21_081220

Lab Sample ID: 240-134994-8

Date Collected: 08/12/20 17:00

Matrix: Water

Date Received: 08/14/20 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.4	J	2.0	0.86	ug/L			08/22/20 11:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 133		08/22/20 11:58	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	0.46	ug/L			08/24/20 22:19	1
cis-1,2-Dichloroethene	0.68	J	1.0	0.38	ug/L			08/24/20 22:19	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 22:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 22:19	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 22:19	1
Vinyl chloride	0.59	J	1.0	0.50	ug/L			08/24/20 22:19	1
2-Methylnaphthalene	5.0	U	5.0	2.4	ug/L			08/24/20 22:19	1
Naphthalene	1.0	U	1.0	0.82	ug/L			08/24/20 22:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		75 - 130		08/24/20 22:19	1
4-Bromofluorobenzene (Surr)	107		47 - 134		08/24/20 22:19	1
Toluene-d8 (Surr)	102		69 - 122		08/24/20 22:19	1
Dibromofluoromethane (Surr)	88		78 - 129		08/24/20 22:19	1

Surrogate Summary

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

Job ID: 240-134994-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-134994-1	TRIP BLANK	93	111	103	89
240-134994-2	LMW-20-28_081220	93	108	103	88
240-134994-3	LMW-20-12_081220	94	107	101	89
240-134994-4	LMW-20-13_081220	92	108	103	89
240-134994-5	LMW-20-14_081220	93	111	104	89
240-134994-6	LMW-20-22_081220	94	110	105	91
240-134994-7	LMW-20-25_081220	92	106	101	89
240-134994-7 MS	LMW-20-25_081220	92	106	103	88
240-134994-7 MSD	LMW-20-25_081220	91	106	102	90
240-134994-8	LMW-20-21_081220	92	107	102	88
240-135149-E-5 MS	Matrix Spike	91	106	101	88
240-135149-H-5 MSD	Matrix Spike Duplicate	93	107	103	90
LCS 240-448489/5	Lab Control Sample	89	106	100	89
LCS 240-448672/5	Lab Control Sample	90	105	101	87
MB 240-448489/8	Method Blank	92	105	100	87
MB 240-448672/9	Method Blank	92	108	101	87

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (70-133)
240-134992-B-5 MS	Matrix Spike	92
240-134992-B-5 MSD	Matrix Spike Duplicate	92
240-134994-2	LMW-20-28_081220	86
240-134994-3	LMW-20-12_081220	92
240-134994-4	LMW-20-13_081220	90
240-134994-5	LMW-20-14_081220	88
240-134994-6	LMW-20-22_081220	88
240-134994-7	LMW-20-25_081220	89
240-134994-8	LMW-20-21_081220	89
LCS 240-448279/4	Lab Control Sample	88
MB 240-448279/5	Method Blank	86

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-134994-1

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

Lab Sample ID: MB 240-448489/8
Matrix: Water
Analysis Batch: 448489

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/24/20 18:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/24/20 18:12	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 18:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 18:12	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 18:12	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/24/20 18:12	1
2-Methylnaphthalene	5.0	U	5.0	2.4	ug/L			08/24/20 18:12	1
Naphthalene	1.0	U	1.0	0.82	ug/L			08/24/20 18:12	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	92		75 - 130		08/24/20 18:12	1
4-Bromofluorobenzene (Surr)	105		47 - 134		08/24/20 18:12	1
Toluene-d8 (Surr)	100		69 - 122		08/24/20 18:12	1
Dibromofluoromethane (Surr)	87		78 - 129		08/24/20 18:12	1

Lab Sample ID: LCS 240-448489/5
Matrix: Water
Analysis Batch: 448489

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

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1-Dichloroethene	20.0	22.5		ug/L		113	73 - 129
cis-1,2-Dichloroethene	20.0	17.5		ug/L		88	75 - 124
Tetrachloroethene	20.0	20.7		ug/L		103	70 - 125
trans-1,2-Dichloroethene	20.0	22.8		ug/L		114	74 - 130
Trichloroethene	20.0	20.9		ug/L		105	71 - 121
Vinyl chloride	20.0	19.4		ug/L		97	61 - 134
Naphthalene	20.0	24.3		ug/L		121	28 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	89		75 - 130
4-Bromofluorobenzene (Surr)	106		47 - 134
Toluene-d8 (Surr)	100		69 - 122
Dibromofluoromethane (Surr)	89		78 - 129

Lab Sample ID: 240-134994-7 MS
Matrix: Water
Analysis Batch: 448489

Client Sample ID: LMW-20-25_081220
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
1,1-Dichloroethene	1.8	J	80.0	92.5		ug/L		113	64 - 132
cis-1,2-Dichloroethene	95		80.0	165		ug/L		88	68 - 121
Tetrachloroethene	18		80.0	100		ug/L		102	52 - 129
trans-1,2-Dichloroethene	7.3		80.0	100		ug/L		116	69 - 126
Trichloroethene	28		80.0	108		ug/L		100	56 - 124
Vinyl chloride	6.2		80.0	91.6		ug/L		107	49 - 136
Naphthalene	4.0	U	80.0	97.9		ug/L		122	30 - 125

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QC Sample Results

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

Job ID: 240-134994-1

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

Lab Sample ID: 240-134994-7 MS
Matrix: Water
Analysis Batch: 448489

Client Sample ID: LMW-20-25_081220
Prep Type: Total/NA

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	92		75 - 130
4-Bromofluorobenzene (Surr)	106		47 - 134
Toluene-d8 (Surr)	103		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: 240-134994-7 MSD
Matrix: Water
Analysis Batch: 448489

Client Sample ID: LMW-20-25_081220
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>
1,1-Dichloroethene	1.8	J	80.0	92.7		ug/L		114	64 - 132	0	35
cis-1,2-Dichloroethene	95		80.0	162		ug/L		84	68 - 121	2	35
Tetrachloroethene	18		80.0	97.7		ug/L		99	52 - 129	2	35
trans-1,2-Dichloroethene	7.3		80.0	99.3		ug/L		115	69 - 126	1	35
Trichloroethene	28		80.0	107		ug/L		99	56 - 124	1	35
Vinyl chloride	6.2		80.0	90.9		ug/L		106	49 - 136	1	35
Naphthalene	4.0	U	80.0	93.5		ug/L		117	30 - 125	5	24

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	91		75 - 130
4-Bromofluorobenzene (Surr)	106		47 - 134
Toluene-d8 (Surr)	102		69 - 122
Dibromofluoromethane (Surr)	90		78 - 129

Lab Sample ID: MB 240-448672/9
Matrix: Water
Analysis Batch: 448672

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

<i>Analyte</i>	<i>MB Result</i>	<i>MB Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,1-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/25/20 19:27	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/25/20 19:27	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/25/20 19:27	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/25/20 19:27	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/25/20 19:27	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/25/20 19:27	1
2-Methylnaphthalene	5.0	U	5.0	2.4	ug/L			08/25/20 19:27	1
Naphthalene	1.0	U	1.0	0.82	ug/L			08/25/20 19:27	1

<i>Surrogate</i>	<i>%Recovery</i>	<i>MB MB Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,2-Dichloroethane-d4 (Surr)	92		75 - 130		08/25/20 19:27	1
4-Bromofluorobenzene (Surr)	108		47 - 134		08/25/20 19:27	1
Toluene-d8 (Surr)	101		69 - 122		08/25/20 19:27	1
Dibromofluoromethane (Surr)	87		78 - 129		08/25/20 19:27	1

QC Sample Results

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

Job ID: 240-134994-1

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

Lab Sample ID: LCS 240-448672/5
Matrix: Water
Analysis Batch: 448672

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	22.5		ug/L		112	73 - 129
cis-1,2-Dichloroethene	20.0	17.6		ug/L		88	75 - 124
Tetrachloroethene	20.0	21.0		ug/L		105	70 - 125
trans-1,2-Dichloroethene	20.0	22.6		ug/L		113	74 - 130
Trichloroethene	20.0	20.5		ug/L		102	71 - 121
Vinyl chloride	20.0	20.7		ug/L		103	61 - 134
Naphthalene	20.0	23.9		ug/L		119	28 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	90		75 - 130
4-Bromofluorobenzene (Surr)	105		47 - 134
Toluene-d8 (Surr)	101		69 - 122
Dibromofluoromethane (Surr)	87		78 - 129

Lab Sample ID: 240-135149-E-5 MS
Matrix: Water
Analysis Batch: 448672

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	22.1		ug/L		111	64 - 132
cis-1,2-Dichloroethene	2.6	F1 F2	20.0	18.2		ug/L		78	68 - 121
Tetrachloroethene	1.0	U	20.0	19.7		ug/L		99	52 - 129
trans-1,2-Dichloroethene	1.0	U	20.0	22.0		ug/L		110	69 - 126
Trichloroethene	1.0	U	20.0	20.1		ug/L		101	56 - 124
Vinyl chloride	0.88	J F1 F2	20.0	21.4		ug/L		103	49 - 136
Naphthalene	1.0	U	20.0	22.6		ug/L		113	30 - 125

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		75 - 130
4-Bromofluorobenzene (Surr)	106		47 - 134
Toluene-d8 (Surr)	101		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: 240-135149-H-5 MSD
Matrix: Water
Analysis Batch: 448672

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	22.2		ug/L		111	64 - 132	1	35
cis-1,2-Dichloroethene	2.6	F1 F2	20.0	43.8	F1 F2	ug/L		206	68 - 121	83	35
Tetrachloroethene	1.0	U	20.0	20.5		ug/L		103	52 - 129	4	35
trans-1,2-Dichloroethene	1.0	U	20.0	22.4		ug/L		112	69 - 126	2	35
Trichloroethene	1.0	U	20.0	20.1		ug/L		101	56 - 124	0	35
Vinyl chloride	0.88	J F1 F2	20.0	40.9	F1 F2	ug/L		200	49 - 136	63	35
Naphthalene	1.0	U	20.0	24.1		ug/L		120	30 - 125	6	24

QC Sample Results

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

Job ID: 240-134994-1

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

Lab Sample ID: 240-135149-H-5 MSD
Matrix: Water
Analysis Batch: 448672

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		75 - 130
4-Bromofluorobenzene (Surr)	107		47 - 134
Toluene-d8 (Surr)	103		69 - 122
Dibromofluoromethane (Surr)	90		78 - 129

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

Lab Sample ID: MB 240-448279/5
Matrix: Water
Analysis Batch: 448279

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			08/22/20 07:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 133		08/22/20 07:01	1

Lab Sample ID: LCS 240-448279/4
Matrix: Water
Analysis Batch: 448279

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)	88		70 - 133

Lab Sample ID: 240-134992-B-5 MS
Matrix: Water
Analysis Batch: 448279

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	2.6		10.0	11.9		ug/L		94	46 - 170

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

Lab Sample ID: 240-134992-B-5 MSD
Matrix: Water
Analysis Batch: 448279

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	2.6		10.0	11.1		ug/L		85	46 - 170	7	26

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

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QC Association Summary

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

Job ID: 240-134994-1

GC/MS VOA

Analysis Batch: 448279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134994-2	LMW-20-28_081220	Total/NA	Water	8260B SIM	
240-134994-3	LMW-20-12_081220	Total/NA	Water	8260B SIM	
240-134994-4	LMW-20-13_081220	Total/NA	Water	8260B SIM	
240-134994-5	LMW-20-14_081220	Total/NA	Water	8260B SIM	
240-134994-6	LMW-20-22_081220	Total/NA	Water	8260B SIM	
240-134994-7	LMW-20-25_081220	Total/NA	Water	8260B SIM	
240-134994-8	LMW-20-21_081220	Total/NA	Water	8260B SIM	
MB 240-448279/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-448279/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-134992-B-5 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-134992-B-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 448489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134994-1	TRIP BLANK	Total/NA	Water	8260B	
240-134994-2	LMW-20-28_081220	Total/NA	Water	8260B	
240-134994-3	LMW-20-12_081220	Total/NA	Water	8260B	
240-134994-4	LMW-20-13_081220	Total/NA	Water	8260B	
240-134994-5	LMW-20-14_081220	Total/NA	Water	8260B	
240-134994-7	LMW-20-25_081220	Total/NA	Water	8260B	
240-134994-8	LMW-20-21_081220	Total/NA	Water	8260B	
MB 240-448489/8	Method Blank	Total/NA	Water	8260B	
LCS 240-448489/5	Lab Control Sample	Total/NA	Water	8260B	
240-134994-7 MS	LMW-20-25_081220	Total/NA	Water	8260B	
240-134994-7 MSD	LMW-20-25_081220	Total/NA	Water	8260B	

Analysis Batch: 448672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134994-6	LMW-20-22_081220	Total/NA	Water	8260B	
MB 240-448672/9	Method Blank	Total/NA	Water	8260B	
LCS 240-448672/5	Lab Control Sample	Total/NA	Water	8260B	
240-135149-E-5 MS	Matrix Spike	Total/NA	Water	8260B	
240-135149-H-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-134994-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-134994-1

Date Collected: 08/12/20 00:00

Matrix: Water

Date Received: 08/14/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448489	08/24/20 18:34	TJL1	TAL CAN

Client Sample ID: LMW-20-28_081220

Lab Sample ID: 240-134994-2

Date Collected: 08/12/20 09:14

Matrix: Water

Date Received: 08/14/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448489	08/24/20 18:57	TJL1	TAL CAN
Total/NA	Analysis	8260B SIM		1	448279	08/22/20 09:29	TJL2	TAL CAN

Client Sample ID: LMW-20-12_081220

Lab Sample ID: 240-134994-3

Date Collected: 08/12/20 10:34

Matrix: Water

Date Received: 08/14/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448489	08/24/20 19:20	TJL1	TAL CAN
Total/NA	Analysis	8260B SIM		1	448279	08/22/20 09:54	TJL2	TAL CAN

Client Sample ID: LMW-20-13_081220

Lab Sample ID: 240-134994-4

Date Collected: 08/12/20 11:55

Matrix: Water

Date Received: 08/14/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448489	08/24/20 19:42	TJL1	TAL CAN
Total/NA	Analysis	8260B SIM		1	448279	08/22/20 10:18	TJL2	TAL CAN

Client Sample ID: LMW-20-14_081220

Lab Sample ID: 240-134994-5

Date Collected: 08/12/20 12:52

Matrix: Water

Date Received: 08/14/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448489	08/24/20 20:05	TJL1	TAL CAN
Total/NA	Analysis	8260B SIM		1	448279	08/22/20 10:43	TJL2	TAL CAN

Client Sample ID: LMW-20-22_081220

Lab Sample ID: 240-134994-6

Date Collected: 08/12/20 13:52

Matrix: Water

Date Received: 08/14/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448672	08/25/20 19:49	TJL1	TAL CAN
Total/NA	Analysis	8260B SIM		1	448279	08/22/20 11:08	TJL2	TAL CAN

Lab Chronicle

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

Job ID: 240-134994-1

Client Sample ID: LMW-20-25_081220

Lab Sample ID: 240-134994-7

Date Collected: 08/12/20 15:41

Matrix: Water

Date Received: 08/14/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		4	448489	08/24/20 20:50	TJL1	TAL CAN
Total/NA	Analysis	8260B SIM		1	448279	08/22/20 11:33	TJL2	TAL CAN

Client Sample ID: LMW-20-21_081220

Lab Sample ID: 240-134994-8

Date Collected: 08/12/20 17:00

Matrix: Water

Date Received: 08/14/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448489	08/24/20 22:19	TJL1	TAL CAN
Total/NA	Analysis	8260B SIM		1	448279	08/22/20 11:58	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: 240-134994-1

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	07-31-20 *
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	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-18-00281	09-17-21
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.

Eurofins TestAmerica, Canton

Client Contact		Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other														
Company Name: Arcadis	Client Project Manager: Kris Hinskey	Lab Contact: Mike DeMontco	TestAmerica Laboratories, Inc.													
Address: 28550 Cabot Drive, Suite 500	Telephone: 248-994-2240	Telephone: 330-497-9396	COC No:													
City/State/Zip: Novi, MI, 48377	Email: kristoffer.hinskey@arcadis.com	Site Contact: Julia McClafferty	V of <input type="checkbox"/> <input type="checkbox"/>													
Phone: 248-994-2240	Sampler Name: CHRISTINA WEAVER	Analysis Turnaround Time	For lab use only													
Project Name: Ford LTP On-Site	Method of Shipment/Carrier:	TAT if different from below: 10 day <input checked="" type="checkbox"/> 3 weeks <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day <input type="checkbox"/>	Walk-in client Lab sampling													
Project Number: 30050315.401.03	Shipping/Tracking No:	Containers & Preservatives	Job/SDG No.													
PO # 30050315.401.03		Matrix: <input type="checkbox"/> Aqueous <input type="checkbox"/> Sediment <input type="checkbox"/> Solid <input type="checkbox"/> Other:	Sample Specific Notes / Special Instructions:													
Sample Identification	Sample Date	Sample Time	Matrix	Containers & Preservatives	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	MRPHTHALENE 8260B	2-METHYLNAPHTHALENE 8260B	Sample Specific Notes / Special Instructions:
TRIP BLANK	8/12/20	—	Air	HCl	NG	NG	X	X	X	X	X	X	X	X	X	"1 TRIP BLANK"
LMW-20-28-081220	8/12/20	0914	Aqueous	HNO3	NG	NG	X	X	X	X	X	X	X	X	X	"3 UOAS METHOD 8260B 3 UOAS METHOD 8260B"
LMW-20-12-081220	8/12/20	1034	Aqueous	H2SO4	NG	NG	X	X	X	X	X	X	X	X	X	" "
LMW-20-13-081220	8/12/20	1155	Aqueous		NG	NG	X	X	X	X	X	X	X	X	X	" "
LMW-20-14-081220	8/12/20	1252	Aqueous		NG	NG	X	X	X	X	X	X	X	X	X	" "
LMW-20-22-081220	8/12/20	1352	Aqueous		NG	NG	X	X	X	X	X	X	X	X	X	" "
LMW-20-25-081220	8/12/20	1541	Aqueous		NG	NG	X	X	X	X	X	X	X	X	X	" "
LMW-20-21-081220	8/12/20	1700	Aqueous		NG	NG	X	X	X	X	X	X	X	X	X	" "



240-134994 Chain of Custody

Reinquisitioned by: <i>Christina Weaver</i>	Company: ARCADES	Date/Time: 8/12/20 1820	Received by: <i>NOVA</i>	Company: ARCADES	Date/Time: 8/12/20 1820
Reinquisitioned by: <i>Julia McClafferty</i>	Company: Arcadis	Date/Time: 8/13/20 1430	Received by: <i>EMMI</i>	Company: EMMI	Date/Time: 8/13/20 1430
Reinquisitioned by: <i>EMMI</i>	Company: EMMI	Date/Time: 8/13/20 1430	Received by: <i>EMMI</i>	Company: EMMI	Date/Time: 8/14/20 9:30

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

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

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Eurofins TestAmerica Canton Sample Receipt Form/Narrative

Login # : 134994

Canton Facility

Client Arcadis Site Name _____
 Cooler Received on 8/14/20 Opened on 8/14/20
 FedEx: Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Cooler unpacked by: [Signature]

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

TestAmerica Cooler # _____ 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. _____ °C Corrected Cooler Temp. _____ °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 2
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels 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# HC911298
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes No NA ● ← Larger than this.
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 0417701E 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: _____

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: _____

Eurofins TestAmerica Canton Sample Receipt Multiple Cooler Form

This box only

Cooler Description (Circle)				IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)		
TA	Client	Box	Other	IR-10 (IR-11)	2.0	2.9	Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-10 (IR-11)	3.9	4.8	Water	None	
TA	Client	Box	Other	IR-10 IR-11			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-10 IR-11			Water	None	
TA	Client	Box	Other	IR-10 IR-11			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-10 IR-11			Water	None	
TA	Client	Box	Other	IR-10 IR-11			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-10 IR-11			Water	None	
TA	Client	Box	Other	IR-10 IR-11			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-10 IR-11			Water	None	
TA	Client	Box	Other	IR-10 IR-11			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-10 IR-11			Water	None	
TA	Client	Box	Other	IR-10 IR-11			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-10 IR-11			Water	None	
TA	Client	Box	Other	IR-10 IR-11			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-10 IR-11			Water	None	
TA	Client	Box	Other	IR-10 IR-11			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-10 IR-11			Water	None	
TA	Client	Box	Other	IR-10 IR-11			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-10 IR-11			Water	None	
TA	Client	Box	Other	IR-10 IR-11			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-10 IR-11			Water	None	
TA	Client	Box	Other	IR-10 IR-11			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-10 IR-11			Water	None	
TA	Client	Box	Other	IR-10 IR-11			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-10 IR-11			Water	None	
TA	Client	Box	Other	IR-10 IR-11			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-10 IR-11			Water	None	
TA	Client	Box	Other	IR-10 IR-11			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-10 IR-11			Water	None	
TA	Client	Box	Other	IR-10 IR-11			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-10 IR-11			Water	None	
TA	Client	Box	Other	IR-10 IR-11			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-10 IR-11			Water	None	
TA	Client	Box	Other	IR-10 IR-11			Wet Ice	Blue Ice	Dry Ice
TA	Client	Box	Other	IR-10 IR-11			Water	None	

See Temperature Excursion Form