

ANALYTICAL REPORT

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

Laboratory Job ID: 240-134914-1
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:
8/28/2020 2:47:39 PM
Jessica Rigdon, Project Management Assistant I
(330)966-9268

Jessica.Rigdon@Eurofinset.com

Designee for

Michael DelMonico, Project Manager I
(330)497-9396

Michael.DelMonico@Eurofinset.com

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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-Slfe

Job ID: 240-134914-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD recovery 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: 240-134914-1

Job ID: 240-134914-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP On-Site

Report Number: 240-134914-1

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

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

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

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

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

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

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

RECEIPT

The samples were received on 8/13/2020 10:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.2° C, 1.6° C and 5.3° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-134914-1), MW-53_081120 (240-134914-2), MW-55_081120 (240-134914-3), MW-55D_081120 (240-134914-4), MW-54S_081120 (240-134914-5) and MW-54_081120 (240-134914-6) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 08/23/2020, 08/24/2020 and 08/25/2020.

1,1-Dichloroethene, cis-1,2-Dichloroethene and trans-1,2-Dichloroethene failed the recovery criteria high for LCS 240-448590/4. Refer to the QC report for details.

1,1-Dichloroethene, cis-1,2-Dichloroethene and trans-1,2-Dichloroethene failed the recovery criteria high for the MS of sample 190-23823-6 in batch 240-448380.

1,1-Dichloroethene, cis-1,2-Dichloroethene and trans-1,2-Dichloroethene failed the recovery criteria high for the MSD of sample MW-53-MSD_081120MSD (240-134914-2) in batch 240-448299.

Case Narrative

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

Job ID: 240-134914-1

Job ID: 240-134914-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

1,1-Dichloroethene, cis-1,2-Dichloroethene and trans-1,2-Dichloroethene failed the recovery criteria high for the MSD of sample 240-134973-1 in batch 240-448590.

cis-1,2-Dichloroethene failed the recovery criteria high for the MS of sample 240-134973-1 in batch 240-448590.

Refer to the QC report for details.

Method 8260B: The continuing calibration verification (CCV) associated with batch 448380 recovered above the upper control limit for Vinyl Chloride. The samples associated with this CCV were non-detect for the affected analyte; therefore, the data have been reported. The associated samples are impacted: MW-55_081120 (240-134914-3), MW-55D_081120 (240-134914-4), MW-54S_081120 (240-134914-5) and (LCS 240-448380/4).

Method 8260B: The laboratory control sample (LCS) for 448590 recovered outside control limits for multiple analytes. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. MW-54_081120 (240-134914-6) and (LCS 240-448590/4)

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 MW-53_081120 (240-134914-2), MW-55_081120 (240-134914-3), MW-55D_081120 (240-134914-4), MW-54S_081120 (240-134914-5) and MW-54_081120 (240-134914-6) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 08/19/2020 and 08/20/2020.

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

Method Summary

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

Job ID: 240-134914-1

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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- 14

Sample Summary

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

Job ID: 240-134914-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-134914-1	TRIP BLANK	Water	08/11/20 00:00	08/13/20 10:30	
240-134914-2	MW-53_081120	Water	08/11/20 09:50	08/13/20 10:30	
240-134914-3	MW-55_081120	Water	08/11/20 12:15	08/13/20 10:30	
240-134914-4	MW-55D_081120	Water	08/11/20 13:45	08/13/20 10:30	
240-134914-5	MW-54S_081120	Water	08/11/20 15:50	08/13/20 10:30	
240-134914-6	MW-54_081120	Water	08/11/20 16:55	08/13/20 10:30	

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Detection Summary

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

Job ID: 240-134914-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-134914-1

No Detections.

Client Sample ID: MW-53_081120

Lab Sample ID: 240-134914-2

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-55_081120

Lab Sample ID: 240-134914-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.1	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA

Client Sample ID: MW-55D_081120

Lab Sample ID: 240-134914-4

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

Client Sample ID: MW-54S_081120

Lab Sample ID: 240-134914-5

No Detections.

Client Sample ID: MW-54_081120

Lab Sample ID: 240-134914-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.8	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	1.1		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-Slts

Job ID: 240-134914-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-134914-1

Date Collected: 08/11/20 00:00

Matrix: Water

Date Received: 08/13/20 10:30

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			08/23/20 20:20	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/23/20 20:20	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/23/20 20:20	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/23/20 20:20	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/23/20 20:20	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/23/20 20:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 130		08/23/20 20:20	1
4-Bromofluorobenzene (Surr)	102		47 - 134		08/23/20 20:20	1
Toluene-d8 (Surr)	104		69 - 122		08/23/20 20:20	1
Dibromofluoromethane (Surr)	116		78 - 129		08/23/20 20:20	1

Client Sample Results

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

Job ID: 240-134914-1

Client Sample ID: MW-53_081120

Lab Sample ID: 240-134914-2

Date Collected: 08/11/20 09:50

Matrix: Water

Date Received: 08/13/20 10:30

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			08/19/20 12:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		70 - 133					08/19/20 12:22	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 F1	1.0	0.46	ug/L			08/23/20 15:09	1
cis-1,2-Dichloroethene	1.0	U F1	1.0	0.38	ug/L			08/23/20 15:09	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/23/20 15:09	1
trans-1,2-Dichloroethene	1.0	U F1	1.0	0.43	ug/L			08/23/20 15:09	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/23/20 15:09	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/23/20 15:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		75 - 130					08/23/20 15:09	1
4-Bromofluorobenzene (Surr)	94		47 - 134					08/23/20 15:09	1
Toluene-d8 (Surr)	100		69 - 122					08/23/20 15:09	1
Dibromofluoromethane (Surr)	110		78 - 129					08/23/20 15:09	1

Client Sample Results

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

Job ID: 240-134914-1

Client Sample ID: MW-55_081120

Lab Sample ID: 240-134914-3

Date Collected: 08/11/20 12:15

Matrix: Water

Date Received: 08/13/20 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.1	J	2.0	0.86	ug/L			08/19/20 13:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 133					08/19/20 13:36	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 11:31	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/24/20 11:31	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 11:31	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 11:31	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 11:31	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/24/20 11:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		75 - 130					08/24/20 11:31	1
4-Bromofluorobenzene (Surr)	97		47 - 134					08/24/20 11:31	1
Toluene-d8 (Surr)	99		69 - 122					08/24/20 11:31	1
Dibromofluoromethane (Surr)	107		78 - 129					08/24/20 11:31	1

Client Sample Results

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

Job ID: 240-134914-1

Client Sample ID: MW-55D_081120

Lab Sample ID: 240-134914-4

Date Collected: 08/11/20 13:45

Matrix: Water

Date Received: 08/13/20 10:30

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			08/20/20 06:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 133		08/20/20 06:26	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	0.46	ug/L			08/24/20 11:54	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/24/20 11:54	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 11:54	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 11:54	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 11:54	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/24/20 11:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		75 - 130		08/24/20 11:54	1
4-Bromofluorobenzene (Surr)	103		47 - 134		08/24/20 11:54	1
Toluene-d8 (Surr)	108		69 - 122		08/24/20 11:54	1
Dibromofluoromethane (Surr)	116		78 - 129		08/24/20 11:54	1

Client Sample Results

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

Job ID: 240-134914-1

Client Sample ID: MW-54S_081120

Lab Sample ID: 240-134914-5

Date Collected: 08/11/20 15:50

Matrix: Water

Date Received: 08/13/20 10:30

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			08/20/20 06:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 133		08/20/20 06:51	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 12:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/24/20 12:16	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 12:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 12:16	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 12:16	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/24/20 12:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		75 - 130		08/24/20 12:16	1
4-Bromofluorobenzene (Surr)	105		47 - 134		08/24/20 12:16	1
Toluene-d8 (Surr)	109		69 - 122		08/24/20 12:16	1
Dibromofluoromethane (Surr)	114		78 - 129		08/24/20 12:16	1

Client Sample Results

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

Job ID: 240-134914-1

Client Sample ID: MW-54_081120

Lab Sample ID: 240-134914-6

Date Collected: 08/11/20 16:55

Matrix: Water

Date Received: 08/13/20 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.8	J	2.0	0.86	ug/L			08/20/20 07:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 133					08/20/20 07:16	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 11:32	1
cis-1,2-Dichloroethene	1.0	U *	1.0	0.38	ug/L			08/25/20 11:32	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/25/20 11:32	1
trans-1,2-Dichloroethene	1.0	U *	1.0	0.43	ug/L			08/25/20 11:32	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/25/20 11:32	1
Vinyl chloride	1.1		1.0	0.50	ug/L			08/25/20 11:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		75 - 130					08/25/20 11:32	1
4-Bromofluorobenzene (Surr)	93		47 - 134					08/25/20 11:32	1
Toluene-d8 (Surr)	103		69 - 122					08/25/20 11:32	1
Dibromofluoromethane (Surr)	115		78 - 129					08/25/20 11:32	1

Surrogate Summary

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

Job ID: 240-134914-1

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)
190-23823-G-6 MS	Matrix Spike	91	96	102	116
190-23823-G-6 MSD	Matrix Spike Duplicate	99	111	112	120
240-134914-1	TRIP BLANK	95	102	104	116
240-134914-2	MW-53_081120	93	94	100	110
240-134914-2 MS	MW-53-MS_081120	91	101	103	110
240-134914-2 MSD	MW-53-MSD_081120	92	98	99	115
240-134914-3	MW-55_081120	91	97	99	107
240-134914-4	MW-55D_081120	96	103	108	116
240-134914-5	MW-54S_081120	97	105	109	114
240-134914-6	MW-54_081120	93	93	103	115
240-134973-A-1 MSD	Matrix Spike Duplicate	99	114	116	123
240-134973-C-1 MS	Matrix Spike	92	100	106	116
LCS 240-448299/4	Lab Control Sample	91	99	99	114
LCS 240-448380/4	Lab Control Sample	92	96	99	115
LCS 240-448590/4	Lab Control Sample	100	107	112	127
MB 240-448299/6	Method Blank	90	88	97	107
MB 240-448380/6	Method Blank	99	104	107	118
MB 240-448590/6	Method Blank	97	102	107	118

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)
240-134914-2	MW-53_081120	88
240-134914-2 MS	MW-53-MS_081120	87
240-134914-2 MSD	MW-53-MSD_081120	89
240-134914-3	MW-55_081120	89
240-134914-4	MW-55D_081120	86
240-134914-5	MW-54S_081120	86
240-134914-6	MW-54_081120	87
500-186458-A-2 MS	Matrix Spike	90
500-186458-C-2 MSD	Matrix Spike Duplicate	88
LCS 240-447721/4	Lab Control Sample	83
LCS 240-447911/4	Lab Control Sample	86
MB 240-447721/5	Method Blank	86
MB 240-447911/5	Method Blank	85

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-134914-1

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

Lab Sample ID: MB 240-448299/6
Matrix: Water
Analysis Batch: 448299

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			08/23/20 12:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/23/20 12:10	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/23/20 12:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/23/20 12:10	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/23/20 12:10	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/23/20 12:10	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	90		75 - 130		08/23/20 12:10	1
4-Bromofluorobenzene (Surr)	88		47 - 134		08/23/20 12:10	1
Toluene-d8 (Surr)	97		69 - 122		08/23/20 12:10	1
Dibromofluoromethane (Surr)	107		78 - 129		08/23/20 12:10	1

Lab Sample ID: LCS 240-448299/4
Matrix: Water
Analysis Batch: 448299

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	10.0	11.6		ug/L		116	73 - 129
cis-1,2-Dichloroethene	10.0	11.8		ug/L		118	75 - 124
Tetrachloroethene	10.0	9.49		ug/L		95	70 - 125
trans-1,2-Dichloroethene	10.0	11.5		ug/L		115	74 - 130
Trichloroethene	10.0	9.71		ug/L		97	71 - 121
Vinyl chloride	10.0	10.0		ug/L		100	61 - 134

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	91		75 - 130
4-Bromofluorobenzene (Surr)	99		47 - 134
Toluene-d8 (Surr)	99		69 - 122
Dibromofluoromethane (Surr)	114		78 - 129

Lab Sample ID: 240-134914-2 MS
Matrix: Water
Analysis Batch: 448299

Client Sample ID: MW-53-MS_081120
Prep Type: Total/NA

Analyte	Sample Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
1,1-Dichloroethene	1.0	U F1	10.0	11.7		ug/L		117	64 - 132
cis-1,2-Dichloroethene	1.0	U F1	10.0	11.5		ug/L		115	68 - 121
Tetrachloroethene	1.0	U	10.0	9.68		ug/L		97	52 - 129
trans-1,2-Dichloroethene	1.0	U F1	10.0	11.6		ug/L		116	69 - 126
Trichloroethene	1.0	U	10.0	10.1		ug/L		101	56 - 124
Vinyl chloride	1.0	U	10.0	12.5		ug/L		125	49 - 136

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	91		75 - 130
4-Bromofluorobenzene (Surr)	101		47 - 134
Toluene-d8 (Surr)	103		69 - 122

QC Sample Results

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

Job ID: 240-134914-1

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

Lab Sample ID: 240-134914-2 MS
Matrix: Water
Analysis Batch: 448299

Client Sample ID: MW-53-MS_081120
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	110		78 - 129

Lab Sample ID: 240-134914-2 MSD
Matrix: Water
Analysis Batch: 448299

Client Sample ID: MW-53-MSD_081120
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 F1	10.0	13.8	F1	ug/L		138	64 - 132	16	35
cis-1,2-Dichloroethene	1.0	U F1	10.0	12.3	F1	ug/L		123	68 - 121	6	35
Tetrachloroethene	1.0	U	10.0	10.7		ug/L		107	52 - 129	10	35
trans-1,2-Dichloroethene	1.0	U F1	10.0	12.7	F1	ug/L		127	69 - 126	9	35
Trichloroethene	1.0	U	10.0	10.3		ug/L		103	56 - 124	2	35
Vinyl chloride	1.0	U	10.0	12.7		ug/L		127	49 - 136	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		75 - 130
4-Bromofluorobenzene (Surr)	98		47 - 134
Toluene-d8 (Surr)	99		69 - 122
Dibromofluoromethane (Surr)	115		78 - 129

Lab Sample ID: MB 240-448380/6
Matrix: Water
Analysis Batch: 448380

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	0.46	ug/L			08/24/20 10:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/24/20 10:24	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/24/20 10:24	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/24/20 10:24	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/24/20 10:24	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/24/20 10:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		75 - 130		08/24/20 10:24	1
4-Bromofluorobenzene (Surr)	104		47 - 134		08/24/20 10:24	1
Toluene-d8 (Surr)	107		69 - 122		08/24/20 10:24	1
Dibromofluoromethane (Surr)	118		78 - 129		08/24/20 10:24	1

Lab Sample ID: LCS 240-448380/4
Matrix: Water
Analysis Batch: 448380

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	11.0		ug/L		110	73 - 129
cis-1,2-Dichloroethene	10.0	11.6		ug/L		116	75 - 124
Tetrachloroethene	10.0	8.96		ug/L		90	70 - 125
trans-1,2-Dichloroethene	10.0	11.7		ug/L		117	74 - 130
Trichloroethene	10.0	9.65		ug/L		97	71 - 121

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-134914-1

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

Lab Sample ID: LCS 240-448380/4
Matrix: Water
Analysis Batch: 448380

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	10.4		ug/L		104	61 - 134
Surrogate							
	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	92		75 - 130				
4-Bromofluorobenzene (Surr)	96		47 - 134				
Toluene-d8 (Surr)	99		69 - 122				
Dibromofluoromethane (Surr)	115		78 - 129				

Lab Sample ID: 190-23823-G-6 MS
Matrix: Water
Analysis Batch: 448380

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 F1	10.0	13.7	F1	ug/L		137	64 - 132
cis-1,2-Dichloroethene	1.0	U F1	10.0	12.5	F1	ug/L		125	68 - 121
Tetrachloroethene	1.0	U	10.0	10.1		ug/L		101	52 - 129
trans-1,2-Dichloroethene	1.0	U F1	10.0	12.9	F1	ug/L		129	69 - 126
Trichloroethene	1.0	U	10.0	10.5		ug/L		105	56 - 124
Vinyl chloride	1.0	U	10.0	13.1		ug/L		131	49 - 136
Surrogate									
	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	91		75 - 130						
4-Bromofluorobenzene (Surr)	96		47 - 134						
Toluene-d8 (Surr)	102		69 - 122						
Dibromofluoromethane (Surr)	116		78 - 129						

Lab Sample ID: 190-23823-G-6 MSD
Matrix: Water
Analysis Batch: 448380

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 F1	10.0	13.2		ug/L		132	64 - 132	4	35
cis-1,2-Dichloroethene	1.0	U F1	10.0	11.6		ug/L		116	68 - 121	8	35
Tetrachloroethene	1.0	U	10.0	10.9		ug/L		109	52 - 129	7	35
trans-1,2-Dichloroethene	1.0	U F1	10.0	12.0		ug/L		120	69 - 126	7	35
Trichloroethene	1.0	U	10.0	10.4		ug/L		104	56 - 124	1	35
Vinyl chloride	1.0	U	10.0	12.7		ug/L		127	49 - 136	3	35
Surrogate											
	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	99		75 - 130								
4-Bromofluorobenzene (Surr)	111		47 - 134								
Toluene-d8 (Surr)	112		69 - 122								
Dibromofluoromethane (Surr)	120		78 - 129								

QC Sample Results

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

Job ID: 240-134914-1

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

Lab Sample ID: MB 240-448590/6
Matrix: Water
Analysis Batch: 448590

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			08/25/20 10:25	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/25/20 10:25	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/25/20 10:25	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/25/20 10:25	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/25/20 10:25	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/25/20 10:25	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	97		75 - 130		08/25/20 10:25	1
4-Bromofluorobenzene (Surr)	102		47 - 134		08/25/20 10:25	1
Toluene-d8 (Surr)	107		69 - 122		08/25/20 10:25	1
Dibromofluoromethane (Surr)	118		78 - 129		08/25/20 10:25	1

Lab Sample ID: LCS 240-448590/4
Matrix: Water
Analysis Batch: 448590

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	10.0	14.1	*	ug/L		141	73 - 129
cis-1,2-Dichloroethene	10.0	12.6	*	ug/L		126	75 - 124
Tetrachloroethene	10.0	11.6		ug/L		116	70 - 125
trans-1,2-Dichloroethene	10.0	13.2	*	ug/L		132	74 - 130
Trichloroethene	10.0	10.9		ug/L		109	71 - 121
Vinyl chloride	10.0	13.1		ug/L		131	61 - 134

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	100		75 - 130
4-Bromofluorobenzene (Surr)	107		47 - 134
Toluene-d8 (Surr)	112		69 - 122
Dibromofluoromethane (Surr)	127		78 - 129

Lab Sample ID: 240-134973-A-1 MSD
Matrix: Water
Analysis Batch: 448590

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

Analyte	Sample Sample		Spike Added	MSD MSD		Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier		Result	Qualifier						
1,1-Dichloroethene	1.0	U F1 *	10.0	13.8	F1	ug/L		138	64 - 132	9	35
cis-1,2-Dichloroethene	1.0	U F1 *	10.0	13.1	F1	ug/L		131	68 - 121	1	35
Tetrachloroethene	1.0	U	10.0	11.0		ug/L		110	52 - 129	2	35
trans-1,2-Dichloroethene	1.0	U F1 *	10.0	12.7	F1	ug/L		127	69 - 126	6	35
Trichloroethene	0.42	J	10.0	11.9		ug/L		115	56 - 124	3	35
Vinyl chloride	1.0	U	10.0	12.6		ug/L		126	49 - 136	4	35

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	99		75 - 130
4-Bromofluorobenzene (Surr)	114		47 - 134
Toluene-d8 (Surr)	116		69 - 122

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-134914-1

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

Lab Sample ID: 240-134973-A-1 MSD
Matrix: Water
Analysis Batch: 448590

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Dibromofluoromethane (Surr)	123		78 - 129

Lab Sample ID: 240-134973-C-1 MS
Matrix: Water
Analysis Batch: 448590

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 F1 *	10.0	12.6		ug/L		126	64 - 132
cis-1,2-Dichloroethene	1.0	U F1 *	10.0	13.1	F1	ug/L		131	68 - 121
Tetrachloroethene	1.0	U	10.0	10.7		ug/L		107	52 - 129
trans-1,2-Dichloroethene	1.0	U F1 *	10.0	12.0		ug/L		120	69 - 126
Trichloroethene	0.42	J	10.0	11.6		ug/L		112	56 - 124
Vinyl chloride	1.0	U	10.0	12.1		ug/L		121	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		75 - 130
4-Bromofluorobenzene (Surr)	100		47 - 134
Toluene-d8 (Surr)	106		69 - 122
Dibromofluoromethane (Surr)	116		78 - 129

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

Lab Sample ID: MB 240-447721/5
Matrix: Water
Analysis Batch: 447721

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			08/19/20 04:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 133		08/19/20 04:08	1

Lab Sample ID: LCS 240-447721/4
Matrix: Water
Analysis Batch: 447721

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	9.62		ug/L		96	80 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		70 - 133

Lab Sample ID: 240-134914-2 MS
Matrix: Water
Analysis Batch: 447721

Client Sample ID: MW-53-MS_081120
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.5	J	10.0	10.8		ug/L		92	46 - 170

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-134914-1

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

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

Lab Sample ID: 240-134914-2 MSD
Matrix: Water
Analysis Batch: 447721

Client Sample ID: MW-53-MSD_081120
Prep Type: Total/NA

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
1,4-Dioxane	1.5	J	10.0	10.2		ug/L		86	46 - 170	6	26

	<i>MSD</i>	<i>MSD</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	89		70 - 133

Lab Sample ID: MB 240-447911/5
Matrix: Water
Analysis Batch: 447911

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

<i>Analyte</i>	<i>MB Result</i>	<i>MB Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			08/20/20 04:19	1

	<i>MB</i>	<i>MB</i>		<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			
1,2-Dichloroethane-d4 (Surr)	85		70 - 133		08/20/20 04:19	1

Lab Sample ID: LCS 240-447911/4
Matrix: Water
Analysis Batch: 447911

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

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>
1,4-Dioxane	10.0	8.67		ug/L		87	80 - 135

	<i>LCS</i>	<i>LCS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	86		70 - 133

Lab Sample ID: 500-186458-A-2 MS
Matrix: Water
Analysis Batch: 447911

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

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>
1,4-Dioxane	2.0	U	10.0	9.82		ug/L		98	46 - 170

	<i>MS</i>	<i>MS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	90		70 - 133

Lab Sample ID: 500-186458-C-2 MSD
Matrix: Water
Analysis Batch: 447911

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

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
1,4-Dioxane	2.0	U	10.0	9.87		ug/L		99	46 - 170	1	26

QC Sample Results

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

Job ID: 240-134914-1

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

Lab Sample ID: 500-186458-C-2 MSD
Matrix: Water
Analysis Batch: 447911

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

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

- 1
- 2
- 3
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QC Association Summary

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

Job ID: 240-134914-1

GC/MS VOA

Analysis Batch: 447721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134914-2	MW-53_081120	Total/NA	Water	8260B SIM	
240-134914-3	MW-55_081120	Total/NA	Water	8260B SIM	
MB 240-447721/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-447721/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-134914-2 MS	MW-53-MS_081120	Total/NA	Water	8260B SIM	
240-134914-2 MSD	MW-53-MSD_081120	Total/NA	Water	8260B SIM	

Analysis Batch: 447911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134914-4	MW-55D_081120	Total/NA	Water	8260B SIM	
240-134914-5	MW-54S_081120	Total/NA	Water	8260B SIM	
240-134914-6	MW-54_081120	Total/NA	Water	8260B SIM	
MB 240-447911/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-447911/4	Lab Control Sample	Total/NA	Water	8260B SIM	
500-186458-A-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
500-186458-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 448299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134914-1	TRIP BLANK	Total/NA	Water	8260B	
240-134914-2	MW-53_081120	Total/NA	Water	8260B	
MB 240-448299/6	Method Blank	Total/NA	Water	8260B	
LCS 240-448299/4	Lab Control Sample	Total/NA	Water	8260B	
240-134914-2 MS	MW-53-MS_081120	Total/NA	Water	8260B	
240-134914-2 MSD	MW-53-MSD_081120	Total/NA	Water	8260B	

Analysis Batch: 448380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134914-3	MW-55_081120	Total/NA	Water	8260B	
240-134914-4	MW-55D_081120	Total/NA	Water	8260B	
240-134914-5	MW-54S_081120	Total/NA	Water	8260B	
MB 240-448380/6	Method Blank	Total/NA	Water	8260B	
LCS 240-448380/4	Lab Control Sample	Total/NA	Water	8260B	
190-23823-G-6 MS	Matrix Spike	Total/NA	Water	8260B	
190-23823-G-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 448590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134914-6	MW-54_081120	Total/NA	Water	8260B	
MB 240-448590/6	Method Blank	Total/NA	Water	8260B	
LCS 240-448590/4	Lab Control Sample	Total/NA	Water	8260B	
240-134973-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
240-134973-C-1 MS	Matrix Spike	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-134914-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-134914-1

Date Collected: 08/11/20 00:00

Matrix: Water

Date Received: 08/13/20 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448299	08/23/20 20:20	LEE	TAL CAN

Client Sample ID: MW-53_081120

Lab Sample ID: 240-134914-2

Date Collected: 08/11/20 09:50

Matrix: Water

Date Received: 08/13/20 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448299	08/23/20 15:09	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	447721	08/19/20 12:22	SAM	TAL CAN

Client Sample ID: MW-55_081120

Lab Sample ID: 240-134914-3

Date Collected: 08/11/20 12:15

Matrix: Water

Date Received: 08/13/20 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448380	08/24/20 11:31	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	447721	08/19/20 13:36	SAM	TAL CAN

Client Sample ID: MW-55D_081120

Lab Sample ID: 240-134914-4

Date Collected: 08/11/20 13:45

Matrix: Water

Date Received: 08/13/20 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448380	08/24/20 11:54	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	447911	08/20/20 06:26	SAM	TAL CAN

Client Sample ID: MW-54S_081120

Lab Sample ID: 240-134914-5

Date Collected: 08/11/20 15:50

Matrix: Water

Date Received: 08/13/20 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448380	08/24/20 12:16	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	447911	08/20/20 06:51	SAM	TAL CAN

Client Sample ID: MW-54_081120

Lab Sample ID: 240-134914-6

Date Collected: 08/11/20 16:55

Matrix: Water

Date Received: 08/13/20 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448590	08/25/20 11:32	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	447911	08/20/20 07:16	SAM	TAL CAN

Laboratory References:

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

Eurofins TestAmerica, Canton

Accreditation/Certification Summary

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

Job ID: 240-134914-1

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.

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

Client Contact		Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other	
Company Name: Arcadis		Lab Contact: Mike DeMonico	
Address: 28550 Cabot Drive, Suite 500		Telephone: 330-497-9396	
City/State/Zip: Novi, MI, 48377		Site Contact: Julia McClafferty	
Phone: 248-994-2240		Telephone: 734-644-5131	
Project Name: Ford LTP On-Site		Analysis Turnaround Time	
Project Number: 30050315.401.03		TAT if different from below	
PO # 30050315.401.03		<input type="checkbox"/> 3 weeks <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day	
Sampler Name: Patrick Labadie		Containers & Preservatives	
Method of Shipment/Carrier:		<input type="checkbox"/> H2SO4 <input type="checkbox"/> HNO3 <input type="checkbox"/> HCl <input type="checkbox"/> NaOH <input type="checkbox"/> ZnAc <input type="checkbox"/> LiPres <input type="checkbox"/> Other:	
Shipping/Tracking No:		Matrix	
		<input type="checkbox"/> Aqueous <input type="checkbox"/> Sediment <input type="checkbox"/> Solid <input type="checkbox"/> Other:	
Sample Date	Sample Time	Filtered Sample (Y/N)	
8-11-20	9:50	NO	
	9:50		
	9:50		
	12:15		
	13:45		
	15:50		
	16:55		
Sample Identification		Composite=C / Grab= <input type="checkbox"/>	
TRIP BLANK		1,4-DCE 8260B	
MW-53-081120		GIS-1,2-DCE 8260B	
MW-53-MS-081120		Trans-1,2-DCE 8260B	
MW-53-MSD-081120		PCE 8260B	
MW-55-081120		TCE 8260B	
MW-55D-081120		Vinyl Chloride 8260B	
MW-54S-081120		1,4-Dioxane 8260B SIM	
MW-54-081120			



Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Irritant <input type="checkbox"/> Inflammable <input type="checkbox"/> Corrosive <input type="checkbox"/> Unknown		<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Special Instructions/QC Requirements & Comments:			
Submit all results through Cadena at jtomalia@cadenaco.com, Cadena #E203728			
Level IV Reporting requested.			
Relinquished by: Patrick Labadie	Company: Arcadis	Date/Time: 8-11-20/17:55	Received by: Novi Cold Storage
Relinquished by: [Signature]	Company: Arcadis	Date/Time: 8/12/20 1500	Received by: [Signature]
Relinquished by: [Signature]	Company: [Signature]	Date/Time: [Signature]	Received in Laboratory: [Signature]

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Canton Facility _____ Client Arcadis Site Name _____ Cooler unpacked by [Signature]
 Cooler Received on 8-13-20 Opened on 8-13-20

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

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

TestAmerica Cooler # NA 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 3 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# HC911298
 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 # NA 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: _____

