

ANALYTICAL REPORT

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

Laboratory Job ID: 240-140445-1
Client Project/Site: Ford LTP - Off Site

For:
ARCADIS U.S., Inc.
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Attn: Kristoffer Hinskey



Authorized for release by:
12/2/2020 9:20:56 AM

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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 - Off Site

Job ID: 240-140445-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

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

Job ID: 240-140445-1

Job ID: 240-140445-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP - Off Site

Report Number: 240-140445-1

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

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

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

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

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

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

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

RECEIPT

The samples were received on 11/18/2020 9:40 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.2° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-140445-1), MW-99S_111620 (240-140445-2), MW-74S_111620 (240-140445-3), MW-74_111620 (240-140445-4), DUP-11 (240-140445-5) and MW-100S_111620 (240-140445-6) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 11/25/2020 and 11/27/2020.

cis-1,2-Dichloroethene was detected in method blank MB 240-462825/7 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

cis-1,2-Dichloroethene was detected in method blank MB 240-463028/7 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

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

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Case Narrative

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

Job ID: 240-140445-1

Job ID: 240-140445-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

Samples MW-99S_111620 (240-140445-2), MW-74S_111620 (240-140445-3), MW-74_111620 (240-140445-4), DUP-11 (240-140445-5) and MW-100S_111620 (240-140445-6) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 11/24/2020.

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 - Off Site

Job ID: 240-140445-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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



Sample Summary

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

Job ID: 240-140445-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-140445-1	TRIP BLANK	Water	11/16/20 00:00	11/18/20 09:40	
240-140445-2	MW-99S_111620	Water	11/16/20 10:00	11/18/20 09:40	
240-140445-3	MW-74S_111620	Water	11/16/20 11:27	11/18/20 09:40	
240-140445-4	MW-74_111620	Water	11/16/20 12:55	11/18/20 09:40	
240-140445-5	DUP-11	Water	11/16/20 00:00	11/18/20 09:40	
240-140445-6	MW-100S_111620	Water	11/16/20 14:35	11/18/20 09:40	

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Detection Summary

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

Job ID: 240-140445-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-140445-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.39	J B	1.0	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: MW-99S_111620

Lab Sample ID: 240-140445-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.91	J	1.0	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: MW-74S_111620

Lab Sample ID: 240-140445-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.2	B	1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.25	J	1.0	0.19	ug/L	1		8260B	Total/NA

Client Sample ID: MW-74_111620

Lab Sample ID: 240-140445-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.7	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.71	J B	1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	4.1		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: DUP-11

Lab Sample ID: 240-140445-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.7	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.35	J	1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	3.2		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-100S_111620

Lab Sample ID: 240-140445-6

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

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

Job ID: 240-140445-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-140445-1

Date Collected: 11/16/20 00:00

Matrix: Water

Date Received: 11/18/20 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/25/20 23:02	1
cis-1,2-Dichloroethene	0.39	J B	1.0	0.16	ug/L			11/25/20 23:02	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/25/20 23:02	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/25/20 23:02	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/25/20 23:02	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/25/20 23:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		75 - 130		11/25/20 23:02	1
4-Bromofluorobenzene (Surr)	101		47 - 134		11/25/20 23:02	1
Toluene-d8 (Surr)	77		69 - 122		11/25/20 23:02	1
Dibromofluoromethane (Surr)	89		78 - 129		11/25/20 23:02	1

Client Sample Results

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

Job ID: 240-140445-1

Client Sample ID: MW-99S_111620

Lab Sample ID: 240-140445-2

Date Collected: 11/16/20 10:00

Matrix: Water

Date Received: 11/18/20 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			11/24/20 15:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 133		11/24/20 15:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/27/20 19:17	1
cis-1,2-Dichloroethene	0.91	J	1.0	0.16	ug/L			11/27/20 19:17	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/27/20 19:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/27/20 19:17	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/27/20 19:17	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/27/20 19:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 130		11/27/20 19:17	1
4-Bromofluorobenzene (Surr)	70		47 - 134		11/27/20 19:17	1
Toluene-d8 (Surr)	84		69 - 122		11/27/20 19:17	1
Dibromofluoromethane (Surr)	102		78 - 129		11/27/20 19:17	1

Client Sample Results

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

Job ID: 240-140445-1

Client Sample ID: MW-74S_111620

Lab Sample ID: 240-140445-3

Date Collected: 11/16/20 11:27

Matrix: Water

Date Received: 11/18/20 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			11/24/20 17:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 133		11/24/20 17:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/27/20 17:43	1
cis-1,2-Dichloroethene	1.2	B	1.0	0.16	ug/L			11/27/20 17:43	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/27/20 17:43	1
trans-1,2-Dichloroethene	0.25	J	1.0	0.19	ug/L			11/27/20 17:43	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/27/20 17:43	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/27/20 17:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		75 - 130		11/27/20 17:43	1
4-Bromofluorobenzene (Surr)	102		47 - 134		11/27/20 17:43	1
Toluene-d8 (Surr)	81		69 - 122		11/27/20 17:43	1
Dibromofluoromethane (Surr)	87		78 - 129		11/27/20 17:43	1

Client Sample Results

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

Job ID: 240-140445-1

Client Sample ID: MW-74_111620

Lab Sample ID: 240-140445-4

Date Collected: 11/16/20 12:55

Matrix: Water

Date Received: 11/18/20 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.7	J	2.0	0.86	ug/L			11/24/20 17:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 133					11/24/20 17:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/27/20 18:08	1
cis-1,2-Dichloroethene	0.71	J B	1.0	0.16	ug/L			11/27/20 18:08	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/27/20 18:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/27/20 18:08	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/27/20 18:08	1
Vinyl chloride	4.1		1.0	0.20	ug/L			11/27/20 18:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		75 - 130					11/27/20 18:08	1
4-Bromofluorobenzene (Surr)	103		47 - 134					11/27/20 18:08	1
Toluene-d8 (Surr)	79		69 - 122					11/27/20 18:08	1
Dibromofluoromethane (Surr)	87		78 - 129					11/27/20 18:08	1

Client Sample Results

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

Job ID: 240-140445-1

Client Sample ID: DUP-11

Lab Sample ID: 240-140445-5

Date Collected: 11/16/20 00:00

Matrix: Water

Date Received: 11/18/20 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.7	J	2.0	0.86	ug/L			11/24/20 17:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 133					11/24/20 17:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/27/20 19:41	1
cis-1,2-Dichloroethene	0.35	J	1.0	0.16	ug/L			11/27/20 19:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/27/20 19:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/27/20 19:41	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/27/20 19:41	1
Vinyl chloride	3.2		1.0	0.20	ug/L			11/27/20 19:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 130					11/27/20 19:41	1
4-Bromofluorobenzene (Surr)	69		47 - 134					11/27/20 19:41	1
Toluene-d8 (Surr)	83		69 - 122					11/27/20 19:41	1
Dibromofluoromethane (Surr)	107		78 - 129					11/27/20 19:41	1

Client Sample Results

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

Job ID: 240-140445-1

Client Sample ID: MW-100S_111620

Lab Sample ID: 240-140445-6

Date Collected: 11/16/20 14:35

Matrix: Water

Date Received: 11/18/20 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			11/24/20 18:18	1
Surrogate									
	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 133					11/24/20 18:18	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	0.19	ug/L			11/27/20 20:04	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/27/20 20:04	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/27/20 20:04	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/27/20 20:04	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/27/20 20:04	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/27/20 20:04	1
Surrogate									
	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		75 - 130					11/27/20 20:04	1
4-Bromofluorobenzene (Surr)	72		47 - 134					11/27/20 20:04	1
Toluene-d8 (Surr)	86		69 - 122					11/27/20 20:04	1
Dibromofluoromethane (Surr)	101		78 - 129					11/27/20 20:04	1

Surrogate Summary

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

Job ID: 240-140445-1

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)
240-140391-K-3 MS	Matrix Spike	87	107	80	87
240-140391-L-3 MSD	Matrix Spike Duplicate	86	103	81	87
240-140444-G-4 MS	Matrix Spike	85	110	79	91
240-140444-H-4 MSD	Matrix Spike Duplicate	83	108	77	89
240-140445-1	TRIP BLANK	85	101	77	89
240-140445-2	MW-99S_111620	95	70	84	102
240-140445-2 MS	MW-99S-MS_111620	78	89	91	87
240-140445-2 MSD	MW-99S-MSD_111620	79	95	93	89
240-140445-3	MW-74S_111620	86	102	81	87
240-140445-4	MW-74_111620	88	103	79	87
240-140445-5	DUP-11	95	69	83	107
240-140445-6	MW-100S_111620	96	72	86	101
240-140445-6 MS	MW-100S-MS_111620	78	91	92	87
240-140445-6 MSD	MW-100S-MSD_111620	80	88	91	88
LCS 240-462825/4	Lab Control Sample	84	112	79	86
LCS 240-463025/4	Lab Control Sample	86	91	97	95
LCS 240-463028/4	Lab Control Sample	85	106	83	89
MB 240-462825/7	Method Blank	87	103	77	88
MB 240-463025/7	Method Blank	88	70	84	96
MB 240-463028/7	Method Blank	88	98	78	84

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)
240-140445-2	MW-99S_111620	108
240-140445-2 MS	MW-99S-MS_111620	108
240-140445-2 MSD	MW-99S-MSD_111620	108
240-140445-3	MW-74S_111620	109
240-140445-4	MW-74_111620	108
240-140445-5	DUP-11	113
240-140445-6	MW-100S_111620	109
240-140445-6 MS	MW-100S-MS_111620	112
240-140445-6 MSD	MW-100S-MSD_111620	113
LCS 240-462583/4	Lab Control Sample	95
MB 240-462583/5	Method Blank	99

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-140445-1

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

Lab Sample ID: MB 240-462825/7
Matrix: Water
Analysis Batch: 462825

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	0.19	ug/L			11/25/20 15:17	1
cis-1,2-Dichloroethene	0.437	J	1.0	0.16	ug/L			11/25/20 15:17	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/25/20 15:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/25/20 15:17	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/25/20 15:17	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/25/20 15:17	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	87		75 - 130		11/25/20 15:17	1
4-Bromofluorobenzene (Surr)	103		47 - 134		11/25/20 15:17	1
Toluene-d8 (Surr)	77		69 - 122		11/25/20 15:17	1
Dibromofluoromethane (Surr)	88		78 - 129		11/25/20 15:17	1

Lab Sample ID: LCS 240-462825/4
Matrix: Water
Analysis Batch: 462825

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	10.9		ug/L		109	73 - 129
cis-1,2-Dichloroethene	10.0	11.2		ug/L		112	75 - 124
Tetrachloroethene	10.0	9.97		ug/L		100	70 - 125
trans-1,2-Dichloroethene	10.0	10.6		ug/L		106	74 - 130
Trichloroethene	10.0	10.9		ug/L		109	71 - 121
Vinyl chloride	10.0	11.8		ug/L		118	61 - 134

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	84		75 - 130
4-Bromofluorobenzene (Surr)	112		47 - 134
Toluene-d8 (Surr)	79		69 - 122
Dibromofluoromethane (Surr)	86		78 - 129

Lab Sample ID: 240-140444-G-4 MS
Matrix: Water
Analysis Batch: 462825

Client Sample ID: Matrix Spike
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	10.0	10.0		ug/L		100	64 - 132
cis-1,2-Dichloroethene	0.30	J B	10.0	10.2		ug/L		99	68 - 121
Tetrachloroethene	1.0	U	10.0	8.55		ug/L		86	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	9.29		ug/L		93	69 - 126
Trichloroethene	1.0	U	10.0	9.63		ug/L		96	56 - 124
Vinyl chloride	1.0	U	10.0	11.4		ug/L		114	49 - 136

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	85		75 - 130
4-Bromofluorobenzene (Surr)	110		47 - 134
Toluene-d8 (Surr)	79		69 - 122

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-140445-1

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

Lab Sample ID: 240-140444-G-4 MS
Matrix: Water
Analysis Batch: 462825

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

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	91		78 - 129

Lab Sample ID: 240-140444-H-4 MSD
Matrix: Water
Analysis Batch: 462825

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	64 - 132	4	35
cis-1,2-Dichloroethene	0.30	J B	10.0	10.8		ug/L		105	68 - 121	7	35
Tetrachloroethene	1.0	U	10.0	8.79		ug/L		88	52 - 129	3	35
trans-1,2-Dichloroethene	1.0	U	10.0	10.0		ug/L		100	69 - 126	8	35
Trichloroethene	1.0	U	10.0	10.4		ug/L		104	56 - 124	8	35
Vinyl chloride	1.0	U	10.0	11.1		ug/L		111	49 - 136	2	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		75 - 130
4-Bromofluorobenzene (Surr)	108		47 - 134
Toluene-d8 (Surr)	77		69 - 122
Dibromofluoromethane (Surr)	89		78 - 129

Lab Sample ID: MB 240-463025/7
Matrix: Water
Analysis Batch: 463025

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/27/20 16:06	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/27/20 16:06	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/27/20 16:06	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/27/20 16:06	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/27/20 16:06	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/27/20 16:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		75 - 130		11/27/20 16:06	1
4-Bromofluorobenzene (Surr)	70		47 - 134		11/27/20 16:06	1
Toluene-d8 (Surr)	84		69 - 122		11/27/20 16:06	1
Dibromofluoromethane (Surr)	96		78 - 129		11/27/20 16:06	1

Lab Sample ID: LCS 240-463025/4
Matrix: Water
Analysis Batch: 463025

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.5		ug/L		105	73 - 129
cis-1,2-Dichloroethene	10.0	10.0		ug/L		100	75 - 124
Tetrachloroethene	10.0	10.8		ug/L		108	70 - 125
trans-1,2-Dichloroethene	10.0	10.4		ug/L		104	74 - 130
Trichloroethene	10.0	9.39		ug/L		94	71 - 121

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-140445-1

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

Lab Sample ID: LCS 240-463025/4
Matrix: Water
Analysis Batch: 463025

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	8.26		ug/L		83	61 - 134
Surrogate							
	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	86		75 - 130				
4-Bromofluorobenzene (Surr)	91		47 - 134				
Toluene-d8 (Surr)	97		69 - 122				
Dibromofluoromethane (Surr)	95		78 - 129				

Lab Sample ID: 240-140445-2 MS
Matrix: Water
Analysis Batch: 463025

Client Sample ID: MW-99S-MS_111620
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	9.57		ug/L		96	64 - 132
cis-1,2-Dichloroethene	0.91	J	10.0	10.2		ug/L		93	68 - 121
Tetrachloroethene	1.0	U	10.0	9.60		ug/L		96	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	10.4		ug/L		104	69 - 126
Trichloroethene	1.0	U	10.0	8.67		ug/L		87	56 - 124
Vinyl chloride	1.0	U	10.0	7.17		ug/L		72	49 - 136
Surrogate									
	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	78		75 - 130						
4-Bromofluorobenzene (Surr)	89		47 - 134						
Toluene-d8 (Surr)	91		69 - 122						
Dibromofluoromethane (Surr)	87		78 - 129						

Lab Sample ID: 240-140445-2 MSD
Matrix: Water
Analysis Batch: 463025

Client Sample ID: MW-99S-MSD_111620
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	9.58		ug/L		96	64 - 132	0	35
cis-1,2-Dichloroethene	0.91	J	10.0	10.3		ug/L		94	68 - 121	1	35
Tetrachloroethene	1.0	U	10.0	9.80		ug/L		98	52 - 129	2	35
trans-1,2-Dichloroethene	1.0	U	10.0	10.3		ug/L		103	69 - 126	0	35
Trichloroethene	1.0	U	10.0	9.05		ug/L		90	56 - 124	4	35
Vinyl chloride	1.0	U	10.0	7.84		ug/L		78	49 - 136	9	35
Surrogate											
	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	79		75 - 130								
4-Bromofluorobenzene (Surr)	95		47 - 134								
Toluene-d8 (Surr)	93		69 - 122								
Dibromofluoromethane (Surr)	89		78 - 129								

QC Sample Results

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

Job ID: 240-140445-1

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

Lab Sample ID: 240-140445-6 MS
Matrix: Water
Analysis Batch: 463025

Client Sample ID: MW-100S-MS_111620
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	9.52		ug/L		95	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	9.54		ug/L		95	68 - 121
Tetrachloroethene	1.0	U	10.0	9.66		ug/L		97	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	10.1		ug/L		101	69 - 126
Trichloroethene	1.0	U	10.0	8.56		ug/L		86	56 - 124
Vinyl chloride	1.0	U	10.0	8.13		ug/L		81	49 - 136

Surrogate	MS %Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	78		75 - 130
4-Bromofluorobenzene (Surr)	91		47 - 134
Toluene-d8 (Surr)	92		69 - 122
Dibromofluoromethane (Surr)	87		78 - 129

Lab Sample ID: 240-140445-6 MSD
Matrix: Water
Analysis Batch: 463025

Client Sample ID: MW-100S-MSD_111620
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	9.65		ug/L		97	64 - 132	1	35
cis-1,2-Dichloroethene	1.0	U	10.0	9.48		ug/L		95	68 - 121	1	35
Tetrachloroethene	1.0	U	10.0	9.08		ug/L		91	52 - 129	6	35
trans-1,2-Dichloroethene	1.0	U	10.0	9.97		ug/L		100	69 - 126	1	35
Trichloroethene	1.0	U	10.0	8.89		ug/L		89	56 - 124	4	35
Vinyl chloride	1.0	U	10.0	8.07		ug/L		81	49 - 136	1	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
1,2-Dichloroethane-d4 (Surr)	80		75 - 130
4-Bromofluorobenzene (Surr)	88		47 - 134
Toluene-d8 (Surr)	91		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: MB 240-463028/7
Matrix: Water
Analysis Batch: 463028

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/27/20 16:03	1
cis-1,2-Dichloroethene	0.376	J	1.0	0.16	ug/L			11/27/20 16:03	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/27/20 16:03	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/27/20 16:03	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/27/20 16:03	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/27/20 16:03	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		75 - 130		11/27/20 16:03	1
4-Bromofluorobenzene (Surr)	98		47 - 134		11/27/20 16:03	1
Toluene-d8 (Surr)	78		69 - 122		11/27/20 16:03	1

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-140445-1

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

Lab Sample ID: MB 240-463028/7
Matrix: Water
Analysis Batch: 463028

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

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Dibromofluoromethane (Surr)	84		78 - 129		11/27/20 16:03	1

Lab Sample ID: LCS 240-463028/4
Matrix: Water
Analysis Batch: 463028

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
1,1-Dichloroethene	10.0	10.1		ug/L		101	73 - 129	
cis-1,2-Dichloroethene	10.0	10.6		ug/L		106	75 - 124	
Tetrachloroethene	10.0	9.47		ug/L		95	70 - 125	
trans-1,2-Dichloroethene	10.0	10.0		ug/L		100	74 - 130	
Trichloroethene	10.0	10.1		ug/L		101	71 - 121	
Vinyl chloride	10.0	11.1		ug/L		111	61 - 134	

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	85		75 - 130
4-Bromofluorobenzene (Surr)	106		47 - 134
Toluene-d8 (Surr)	83		69 - 122
Dibromofluoromethane (Surr)	89		78 - 129

Lab Sample ID: 240-140391-K-3 MS
Matrix: Water
Analysis Batch: 463028

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
1,1-Dichloroethene	1.0	U	10.0	10.1		ug/L		101	64 - 132	
cis-1,2-Dichloroethene	0.45	J B	10.0	9.73		ug/L		93	68 - 121	
Tetrachloroethene	1.0	U	10.0	8.75		ug/L		87	52 - 129	
trans-1,2-Dichloroethene	1.0	U	10.0	8.95		ug/L		90	69 - 126	
Trichloroethene	1.0	U	10.0	9.54		ug/L		95	56 - 124	
Vinyl chloride	1.0	U	10.0	10.5		ug/L		105	49 - 136	

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	87		75 - 130
4-Bromofluorobenzene (Surr)	107		47 - 134
Toluene-d8 (Surr)	80		69 - 122
Dibromofluoromethane (Surr)	87		78 - 129

Lab Sample ID: 240-140391-L-3 MSD
Matrix: Water
Analysis Batch: 463028

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	
											RPD	Limit
1,1-Dichloroethene	1.0	U	10.0	9.65		ug/L		96	64 - 132	5	35	
cis-1,2-Dichloroethene	0.45	J B	10.0	10.0		ug/L		96	68 - 121	3	35	
Tetrachloroethene	1.0	U	10.0	9.01		ug/L		90	52 - 129	3	35	
trans-1,2-Dichloroethene	1.0	U	10.0	9.15		ug/L		92	69 - 126	2	35	
Trichloroethene	1.0	U	10.0	9.79		ug/L		98	56 - 124	3	35	

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-140445-1

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

Lab Sample ID: 240-140391-L-3 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 463028

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl chloride	1.0	U	10.0	10.9		ug/L		109	49 - 136	3	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
1,2-Dichloroethane-d4 (Surr)	86		75 - 130
4-Bromofluorobenzene (Surr)	103		47 - 134
Toluene-d8 (Surr)	81		69 - 122
Dibromofluoromethane (Surr)	87		78 - 129

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

Lab Sample ID: MB 240-462583/5

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 462583

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			11/24/20 11:41	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 133		11/24/20 11:41	1

Lab Sample ID: LCS 240-462583/4

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 462583

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	9.66		ug/L		97	80 - 135

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

Lab Sample ID: 240-140445-2 MS

Client Sample ID: MW-99S-MS_111620

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 462583

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	9.36		ug/L		94	46 - 170

Surrogate	MS %Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	108		70 - 133

Lab Sample ID: 240-140445-2 MSD

Client Sample ID: MW-99S-MSD_111620

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 462583

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	9.77		ug/L		98	46 - 170	4	26

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QC Sample Results

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

Job ID: 240-140445-1

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

Lab Sample ID: 240-140445-2 MSD
Matrix: Water
Analysis Batch: 462583

Client Sample ID: MW-99S-MSD_111620
Prep Type: Total/NA

	<i>MSD</i>	<i>MSD</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	108		70 - 133

Lab Sample ID: 240-140445-6 MS
Matrix: Water
Analysis Batch: 462583

Client Sample ID: MW-100S-MS_111620
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	10.0		ug/L		100	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)	112		70 - 133

Lab Sample ID: 240-140445-6 MSD
Matrix: Water
Analysis Batch: 462583

Client Sample ID: MW-100S-MSD_111620
Prep Type: Total/NA

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
1,4-Dioxane	2.0	U	10.0	10.2		ug/L		102	46 - 170	2	26

	<i>MSD</i>	<i>MSD</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	113		70 - 133

QC Association Summary

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

Job ID: 240-140445-1

GC/MS VOA

Analysis Batch: 462583

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-140445-2	MW-99S_111620	Total/NA	Water	8260B SIM	
240-140445-3	MW-74S_111620	Total/NA	Water	8260B SIM	
240-140445-4	MW-74_111620	Total/NA	Water	8260B SIM	
240-140445-5	DUP-11	Total/NA	Water	8260B SIM	
240-140445-6	MW-100S_111620	Total/NA	Water	8260B SIM	
MB 240-462583/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-462583/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-140445-2 MS	MW-99S-MS_111620	Total/NA	Water	8260B SIM	
240-140445-2 MSD	MW-99S-MSD_111620	Total/NA	Water	8260B SIM	
240-140445-6 MS	MW-100S-MS_111620	Total/NA	Water	8260B SIM	
240-140445-6 MSD	MW-100S-MSD_111620	Total/NA	Water	8260B SIM	

Analysis Batch: 462825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-140445-1	TRIP BLANK	Total/NA	Water	8260B	
MB 240-462825/7	Method Blank	Total/NA	Water	8260B	
LCS 240-462825/4	Lab Control Sample	Total/NA	Water	8260B	
240-140444-G-4 MS	Matrix Spike	Total/NA	Water	8260B	
240-140444-H-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 463025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-140445-2	MW-99S_111620	Total/NA	Water	8260B	
240-140445-5	DUP-11	Total/NA	Water	8260B	
240-140445-6	MW-100S_111620	Total/NA	Water	8260B	
MB 240-463025/7	Method Blank	Total/NA	Water	8260B	
LCS 240-463025/4	Lab Control Sample	Total/NA	Water	8260B	
240-140445-2 MS	MW-99S-MS_111620	Total/NA	Water	8260B	
240-140445-2 MSD	MW-99S-MSD_111620	Total/NA	Water	8260B	
240-140445-6 MS	MW-100S-MS_111620	Total/NA	Water	8260B	
240-140445-6 MSD	MW-100S-MSD_111620	Total/NA	Water	8260B	

Analysis Batch: 463028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-140445-3	MW-74S_111620	Total/NA	Water	8260B	
240-140445-4	MW-74_111620	Total/NA	Water	8260B	
MB 240-463028/7	Method Blank	Total/NA	Water	8260B	
LCS 240-463028/4	Lab Control Sample	Total/NA	Water	8260B	
240-140391-K-3 MS	Matrix Spike	Total/NA	Water	8260B	
240-140391-L-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-140445-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-140445-1

Date Collected: 11/16/20 00:00

Matrix: Water

Date Received: 11/18/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	462825	11/25/20 23:02	LRW	TAL CAN

Client Sample ID: MW-99S_111620

Lab Sample ID: 240-140445-2

Date Collected: 11/16/20 10:00

Matrix: Water

Date Received: 11/18/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	463025	11/27/20 19:17	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	462583	11/24/20 15:49	SAM	TAL CAN

Client Sample ID: MW-74S_111620

Lab Sample ID: 240-140445-3

Date Collected: 11/16/20 11:27

Matrix: Water

Date Received: 11/18/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	463028	11/27/20 17:43	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	462583	11/24/20 17:04	SAM	TAL CAN

Client Sample ID: MW-74_111620

Lab Sample ID: 240-140445-4

Date Collected: 11/16/20 12:55

Matrix: Water

Date Received: 11/18/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	463028	11/27/20 18:08	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	462583	11/24/20 17:28	SAM	TAL CAN

Client Sample ID: DUP-11

Lab Sample ID: 240-140445-5

Date Collected: 11/16/20 00:00

Matrix: Water

Date Received: 11/18/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	463025	11/27/20 19:41	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	462583	11/24/20 17:53	SAM	TAL CAN

Client Sample ID: MW-100S_111620

Lab Sample ID: 240-140445-6

Date Collected: 11/16/20 14:35

Matrix: Water

Date Received: 11/18/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	463025	11/27/20 20:04	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	462583	11/24/20 18:18	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 - Off Site

Job ID: 240-140445-1

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

Chain of Custody Record

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

Regulatory program: DW NPDES RCRA Other

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

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

Company Name: Arcadis
 Address: 26550 Cabot Drive, Suite 500
 City/State/Zip: Novi, MI, 48377

Project Name: Ford LTP Off-Site
 Project Number: 30050315.402.04
 PO # 30050315.402.04

Client Contact
 Company Name: Arcadis
 Address: 26550 Cabot Drive, Suite 500
 City/State/Zip: Novi, MI, 48377
 Phone: 248-994-2240
 Project Name: Ford LTP Off-Site
 Project Number: 30050315.402.04
 PO # 30050315.402.04

Sample Identification

Sample Date: — | Sample Time: —

Matrix: Air, Aqueous, Sediment, Solid, Other

Containers & Preservatives: HCl, NaOH, NaOH, Unpres, Other

Analysis Turnaround Time: 10 day

Filtered Sample (Y/N): N

Composite=C/Grab=G

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	Analyses	Sample Specific Notes / Special Instructions:
TRIP BLANK	—	—	—	—	N	G	X	X	X	X	X	X	X		1 trip blank
MW-99S-111620	11/14/20	10:00	G	G	N	G	X	X	X	X	X	X	X		3 VOAS for 8260B 3 VOAS for 8260B SIM
MW-99S-MS-111620	11/16/20	10:00	G	G	N	G	X	X	X	X	X	X	X		RUN MS/MSD
MW-99S-MSD-111620	11/16/20	10:00	G	G	N	G	X	X	X	X	X	X	X		RUN MS/MSD
MW-74S-111620	11/14/20	11:27	G	G	N	G	X	X	X	X	X	X	X		RUN MS/MSD
MW-74-111620	11/14/20	12:55	G	G	N	G	X	X	X	X	X	X	X		RUN MS/MSD
DUP-11	11/14/20	—	G	G	N	G	X	X	X	X	X	X	X		RUN MS/MSD
MW-100S-111620	11/16/20	14:35	G	G	N	G	X	X	X	X	X	X	X		RUN MS/MSD
MW-100S-MS-111620	11/16/20	14:35	G	G	N	G	X	X	X	X	X	X	X		RUN MS/MSD
MW-100S-MSD-111620	11/16/20	14:35	G	G	N	G	X	X	X	X	X	X	X		RUN MS/MSD



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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): Return to Client, Disposal By Lab, Archive For _____ Months

Special Instructions/QC Requirements & Comments:
 Submit all results through Cadena at jomalia@cadenaco.com, Cadena #E203631
 Level IV Reporting requested.


Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
<i>Julia McClafferty</i>	Arcadis	11/16/20 16:30	Novi Cold Storage	ARCADIS	11/16/20 16:30
<i>Julia McClafferty</i>	Arcadis	11/17/20 11:40	<i>Paul Lam</i>	ETA	11/17/20 11:40
<i>Paul Lam</i>	ETA	11/17/20 17:00	<i>Paul Lam</i>	ETA	11-18-10 946



Client Arcadis Site Name _____ Cooler unpacked by: _____
 Cooler Received on 11-18-20 Opened on 11-18-20
 FedEx: 1st Grd UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

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

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____
 Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-11 (CF +0.9 °C) Observed Cooler Temp. 0.3 °C Corrected Cooler Temp. 1.2 °C
 IR GUN #IR-12 (CF +0.5 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?
10. Were correct bottle(s) used for the test(s) indicated? Yes No
11. Sufficient quantity received to perform indicated analyses? Yes No
12. Are these work share samples and all listed on the COC? Yes No
 If yes, Questions 13-17 have been checked at the originating laboratory.
13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC907861
14. Were VOAs on the COC? Yes No
15. Were air bubbles >6 mm in any VOA vials? Yes No NA  ← Larger than this.
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
17. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
 Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES additional next page Samples processed by: _____

19. SAMPLE CONDITION
 Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION
 Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____
 VOA Sample Preservation - Date/Time VOAs Frozen: _____