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ANALYTICAL REPORT

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Laboratory Job ID: 460-196755-1
Client Project/Site: Ford LTP On-Site

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

Authorized for release by:
11/27/2019 11:32:43 AM

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Definitions/Glossary

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

Job ID: 460-196755-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
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.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 460-196755-1

Laboratory: Eurofins TestAmerica, Edison

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP On-Site

Report Number: 460-196755-1

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, Edison 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 11/13/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.0º C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (460-196755-1), TW-16-01_111119 (460-196755-2), TW-16-02_111119 (460-196755-3), PW-16-01_111119 (460-196755-4), MW-23_111119 (460-196755-5) and DUP-09 (460-196755-6) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 11/22/2019, 11/23/2019, 11/24/2019 and 11/25/2019.

cis-1,2-Dichloroethene and Trichloroethene were detected in method blank MB 460-657630/9 at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have 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.

trans-1,2-Dichloroethene failed the recovery criteria low for LCSD 460-657451/5. Refer to the QC report for details.

Samples TW-16-02_111119 (460-196755-3)[25X], MW-23_111119 (460-196755-5)[50X] and DUP-09 (460-196755-6)[100X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The following sample was diluted to bring the concentration of target analytes within the calibration range: TW-16-02_111119 (460-196755-3). Elevated reporting limits (RLs) are provided.

Job ID: 460-196755-1 (Continued)

Laboratory: Eurofins TestAmerica, Edison (Continued)

The method blank for analytical batch 460-657630 contained cis-1,2-Dichloroethene above the method detection limit. Associated samples were not re-analyzed because result was greater than 10X the value found in the method blank.

The laboratory control sample duplicate (LCSD) for analytical batch 460-657451 recovered outside control limits for the following analyte: trans-1,2-Dichloroethene (biased low). The associated sample data has been flagged and reported.

The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-23_111119 (460-196755-5) and DUP-09 (460-196755-6). Elevated reporting limits (RLs) are provided.

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

VOLATILE ORGANIC COMPOUNDS (GC/MS)

Samples TW-16-01_111119 (460-196755-2), TW-16-02_111119 (460-196755-3), PW-16-01_111119 (460-196755-4), MW-23_111119 (460-196755-5) and DUP-09 (460-196755-6) were analyzed for Volatile organic compounds (GC/MS) in accordance with SW-846 Method 8260C SIM. The samples were analyzed on 11/20/2019.

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

Detection Summary

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

Job ID: 460-196755-1

Client Sample ID: TRIP BLANK — Lab Sample ID: 460-196755-1

No Detections.

Client Sample ID: TW-16-01_111119 — Lab Sample ID: 460-196755-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.57	J	1.0	0.26	ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	180		1.0	0.22	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	4.9	*	1.0	0.24	ug/L	1		8260C	Total/NA
Vinyl chloride	480		1.0	0.17	ug/L	1		8260C	Total/NA

Client Sample ID: TW-16-02_111119 — Lab Sample ID: 460-196755-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.0		2.0	0.33	ug/L	1		8260C SIM	Total/NA
1,1-Dichloroethene	15	J	25	6.6	ug/L	25		8260C	Total/NA
cis-1,2-Dichloroethene	3300	B	25	5.5	ug/L	25		8260C	Total/NA
trans-1,2-Dichloroethene	48		25	5.9	ug/L	25		8260C	Total/NA
Vinyl chloride	5700		25	4.3	ug/L	25		8260C	Total/NA

Client Sample ID: PW-16-01_111119 — Lab Sample ID: 460-196755-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	67		1.0	0.22	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	3.7		1.0	0.24	ug/L	1		8260C	Total/NA
Vinyl chloride	450		1.0	0.17	ug/L	1		8260C	Total/NA

Client Sample ID: MW-23_111119 — Lab Sample ID: 460-196755-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.35	J	2.0	0.33	ug/L	1		8260C SIM	Total/NA
1,1-Dichloroethene	21	J	50	13	ug/L	50		8260C	Total/NA
cis-1,2-Dichloroethene	15000		50	11	ug/L	50		8260C	Total/NA
trans-1,2-Dichloroethene	500		50	12	ug/L	50		8260C	Total/NA
Trichloroethene	2800		50	16	ug/L	50		8260C	Total/NA
Vinyl chloride	380		50	8.6	ug/L	50		8260C	Total/NA

Client Sample ID: DUP-09 — Lab Sample ID: 460-196755-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.86	J	2.0	0.33	ug/L	1		8260C SIM	Total/NA
1,1-Dichloroethene	37	J	100	26	ug/L	100		8260C	Total/NA
cis-1,2-Dichloroethene	27000		100	22	ug/L	100		8260C	Total/NA
trans-1,2-Dichloroethene	870		100	24	ug/L	100		8260C	Total/NA
Trichloroethene	7000		100	31	ug/L	100		8260C	Total/NA
Vinyl chloride	470		100	17	ug/L	100		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TRIP BLANK

Lab Sample ID: 460-196755-1

Date Collected: 11/11/19 00:00

Matrix: Water

Date Received: 11/13/19 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L			11/22/19 13:40	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			11/22/19 13:40	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L			11/22/19 13:40	1
trans-1,2-Dichloroethene	1.0	U *	1.0	0.24	ug/L			11/22/19 13:40	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			11/22/19 13:40	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			11/22/19 13:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*74 - 132*		*11/22/19 13:40*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/22/19 13:40*	*1*
Dibromofluoromethane (Surr)	*95*		*72 - 131*		*11/22/19 13:40*	*1*
4-Bromofluorobenzene	*106*		*77 - 124*		*11/22/19 13:40*	*1*

Client Sample ID: TW-16-01_111119

Lab Sample ID: 460-196755-2

Date Collected: 11/11/19 10:42

Matrix: Water

Date Received: 11/13/19 10:00

Method: 8260C 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	0.33	ug/L			11/20/19 17:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*86*		*72 - 133*		*11/20/19 17:34*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	**0.57**	**J**	1.0	0.26	ug/L			11/22/19 14:06	1
cis-1,2-Dichloroethene	**180**		1.0	0.22	ug/L			11/22/19 14:06	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L			11/22/19 14:06	1
trans-1,2-Dichloroethene	**4.9**	*****	1.0	0.24	ug/L			11/22/19 14:06	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			11/22/19 14:06	1
Vinyl chloride	**480**		1.0	0.17	ug/L			11/22/19 14:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*74 - 132*		*11/22/19 14:06*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*11/22/19 14:06*	*1*
Dibromofluoromethane (Surr)	*90*		*72 - 131*		*11/22/19 14:06*	*1*
4-Bromofluorobenzene	*100*		*77 - 124*		*11/22/19 14:06*	*1*

Client Sample ID: TW-16-02_111119

Lab Sample ID: 460-196755-3

Date Collected: 11/11/19 11:53

Matrix: Water

Date Received: 11/13/19 10:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**2.0**		2.0	0.33	ug/L			11/20/19 17:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*85*		*72 - 133*		*11/20/19 17:57*	*1*

Client Sample ID: TW-16-02_111119

Lab Sample ID: 460-196755-3

Date Collected: 11/11/19 11:53

Matrix: Water

Date Received: 11/13/19 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	15	J	25	6.6	ug/L			11/23/19 07:30	25
cis-1,2-Dichloroethene	3300	B	25	5.5	ug/L			11/23/19 07:30	25
Tetrachloroethene	25	U	25	6.2	ug/L			11/23/19 07:30	25
trans-1,2-Dichloroethene	48		25	5.9	ug/L			11/23/19 07:30	25
Trichloroethene	25	U	25	7.9	ug/L			11/23/19 07:30	25
Vinyl chloride	5700		25	4.3	ug/L			11/23/19 07:30	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*74 - 132*		*11/23/19 07:30*	*25*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/23/19 07:30*	*25*
Dibromofluoromethane (Surr)	*99*		*72 - 131*		*11/23/19 07:30*	*25*
4-Bromofluorobenzene	*91*		*77 - 124*		*11/23/19 07:30*	*25*

Client Sample ID: PW-16-01_111119

Lab Sample ID: 460-196755-4

Date Collected: 11/11/19 13:08

Matrix: Water

Date Received: 11/13/19 10:00

Method: 8260C 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	0.33	ug/L			11/20/19 18:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*95*		*72 - 133*		*11/20/19 18:21*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L			11/24/19 21:29	1
cis-1,2-Dichloroethene	67		1.0	0.22	ug/L			11/24/19 21:29	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L			11/24/19 21:29	1
trans-1,2-Dichloroethene	3.7		1.0	0.24	ug/L			11/24/19 21:29	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			11/24/19 21:29	1
Vinyl chloride	450		1.0	0.17	ug/L			11/24/19 21:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*74 - 132*		*11/24/19 21:29*	*1*
Toluene-d8 (Surr)	*90*		*80 - 120*		*11/24/19 21:29*	*1*
Dibromofluoromethane (Surr)	*100*		*72 - 131*		*11/24/19 21:29*	*1*
4-Bromofluorobenzene	*102*		*77 - 124*		*11/24/19 21:29*	*1*

Client Sample ID: MW-23_111119

Lab Sample ID: 460-196755-5

Date Collected: 11/11/19 14:56

Matrix: Water

Date Received: 11/13/19 10:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.35	J	2.0	0.33	ug/L			11/20/19 18:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*81*		*72 - 133*		*11/20/19 18:44*	*1*

Client Sample ID: MW-23_111119

Lab Sample ID: 460-196755-5

Date Collected: 11/11/19 14:56

Matrix: Water

Date Received: 11/13/19 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	21	J	50	13	ug/L			11/25/19 14:55	50
cis-1,2-Dichloroethene	15000		50	11	ug/L			11/25/19 14:55	50
Tetrachloroethene	50	U	50	12	ug/L			11/25/19 14:55	50
trans-1,2-Dichloroethene	500		50	12	ug/L			11/25/19 14:55	50
Trichloroethene	2800		50	16	ug/L			11/25/19 14:55	50
Vinyl chloride	380		50	8.6	ug/L			11/25/19 14:55	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*74 - 132*		*11/25/19 14:55*	*50*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/25/19 14:55*	*50*
Dibromofluoromethane (Surr)	*95*		*72 - 131*		*11/25/19 14:55*	*50*
4-Bromofluorobenzene	*102*		*77 - 124*		*11/25/19 14:55*	*50*

Client Sample ID: DUP-09

Lab Sample ID: 460-196755-6

Date Collected: 11/11/19 00:00

Matrix: Water

Date Received: 11/13/19 10:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.86	J	2.0	0.33	ug/L			11/20/19 19:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*87*		*72 - 133*		*11/20/19 19:07*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	37	J	100	26	ug/L			11/25/19 15:21	100
cis-1,2-Dichloroethene	27000		100	22	ug/L			11/25/19 15:21	100
Tetrachloroethene	100	U	100	25	ug/L			11/25/19 15:21	100
trans-1,2-Dichloroethene	870		100	24	ug/L			11/25/19 15:21	100
Trichloroethene	7000		100	31	ug/L			11/25/19 15:21	100
Vinyl chloride	470		100	17	ug/L			11/25/19 15:21	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*74 - 132*		*11/25/19 15:21*	*100*
Toluene-d8 (Surr)	*95*		*80 - 120*		*11/25/19 15:21*	*100*
Dibromofluoromethane (Surr)	*94*		*72 - 131*		*11/25/19 15:21*	*100*
4-Bromofluorobenzene	*102*		*77 - 124*		*11/25/19 15:21*	*100*

Surrogate Summary

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

Job ID: 460-196755-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	DCA (74-132)	TOL (80-120)	DBFM (72-131)	BFB (77-124)
460-196755-1	TRIP BLANK	92	100	95	106
460-196755-2	TW-16-01_111119	90	96	90	100
460-196755-3	TW-16-02_111119	99	100	99	91
460-196755-4	PW-16-01_111119	93	90	100	102
460-196755-5	MW-23_111119	90	98	95	102
460-196755-6	DUP-09	88	95	94	102
LCS 460-657451/4	Lab Control Sample	87	97	93	105
LCS 460-657630/4	Lab Control Sample	105	104	105	97
LCS 460-657945/4	Lab Control Sample	95	94	103	108
LCSD 460-657451/5	Lab Control Sample Dup	89	95	92	101
LCSD 460-657630/5	Lab Control Sample Dup	106	103	99	97
LCSD 460-657945/5	Lab Control Sample Dup	90	92	100	104
MB 460-657451/9	Method Blank	87	97	93	101
MB 460-657630/9	Method Blank	105	105	105	95
MB 460-657945/9	Method Blank	95	92	100	103

Surrogate Legend

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

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	BFB (72-133)
460-196755-2	TW-16-01_111119	86
460-196755-3	TW-16-02_111119	85
460-196755-4	PW-16-01_111119	95
460-196755-5	MW-23_111119	81
460-196755-6	DUP-09	87
LCS 460-656856/3	Lab Control Sample	84
LCSD 460-656856/4	Lab Control Sample Dup	82
MB 460-656856/8	Method Blank	86

Surrogate Legend

BFB = 4-Bromofluorobenzene

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 460-657451/9
Matrix: Water
Analysis Batch: 657451

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	0.26	ug/L			11/22/19 13:14	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			11/22/19 13:14	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L			11/22/19 13:14	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			11/22/19 13:14	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			11/22/19 13:14	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			11/22/19 13:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*74 - 132*		*11/22/19 13:14*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*11/22/19 13:14*	*1*
Dibromofluoromethane (Surr)	*93*		*72 - 131*		*11/22/19 13:14*	*1*
4-Bromofluorobenzene	*101*		*77 - 124*		*11/22/19 13:14*	*1*

Lab Sample ID: LCS 460-657451/4
Matrix: Water
Analysis Batch: 657451

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	17.6		ug/L		88	74 - 123
cis-1,2-Dichloroethene	20.0	20.7		ug/L		103	80 - 120
Tetrachloroethene	20.0	20.3		ug/L		102	78 - 122
trans-1,2-Dichloroethene	20.0	17.0		ug/L		85	79 - 120
Trichloroethene	20.0	21.3		ug/L		107	77 - 120
Vinyl chloride	20.0	17.7		ug/L		89	62 - 138

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*87*		*74 - 132*
Toluene-d8 (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*72 - 131*
4-Bromofluorobenzene	*105*		*77 - 124*

Lab Sample ID: LCSD 460-657451/5
Matrix: Water
Analysis Batch: 657451

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	20.0	16.5		ug/L		83	74 - 123	6	30
cis-1,2-Dichloroethene	20.0	18.7		ug/L		93	80 - 120	10	30
Tetrachloroethene	20.0	19.3		ug/L		97	78 - 122	5	30
trans-1,2-Dichloroethene	20.0	15.5	*	ug/L		77	79 - 120	9	30
Trichloroethene	20.0	20.3		ug/L		102	77 - 120	5	30
Vinyl chloride	20.0	17.1		ug/L		85	62 - 138	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*74 - 132*
Toluene-d8 (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*92*		*72 - 131*

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

Lab Sample ID: LCSD 460-657451/5
Matrix: Water
Analysis Batch: 657451

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	*101*		*77 - 124*

Lab Sample ID: MB 460-657630/9
Matrix: Water
Analysis Batch: 657630

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	0.26	ug/L			11/23/19 01:08	1
cis-1,2-Dichloroethene	0.916	J	1.0	0.22	ug/L			11/23/19 01:08	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L			11/23/19 01:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			11/23/19 01:08	1
Trichloroethene	0.650	J	1.0	0.31	ug/L			11/23/19 01:08	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			11/23/19 01:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*105*		*74 - 132*		*11/23/19 01:08*	*1*
Toluene-d8 (Surr)	*105*		*80 - 120*		*11/23/19 01:08*	*1*
Dibromofluoromethane (Surr)	*105*		*72 - 131*		*11/23/19 01:08*	*1*
4-Bromofluorobenzene	*95*		*77 - 124*		*11/23/19 01:08*	*1*

Lab Sample ID: LCS 460-657630/4
Matrix: Water
Analysis Batch: 657630

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	17.5		ug/L		87	74 - 123
cis-1,2-Dichloroethene	20.0	21.9		ug/L		109	80 - 120
Tetrachloroethene	20.0	19.4		ug/L		97	78 - 122
trans-1,2-Dichloroethene	20.0	17.5		ug/L		88	79 - 120
Trichloroethene	20.0	22.0		ug/L		110	77 - 120
Vinyl chloride	20.0	18.2		ug/L		91	62 - 138

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*105*		*74 - 132*
Toluene-d8 (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*72 - 131*
4-Bromofluorobenzene	*97*		*77 - 124*

Lab Sample ID: LCSD 460-657630/5
Matrix: Water
Analysis Batch: 657630

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	20.0	15.7		ug/L		78	74 - 123	11	30
cis-1,2-Dichloroethene	20.0	20.2		ug/L		101	80 - 120	8	30
Tetrachloroethene	20.0	19.3		ug/L		97	78 - 122	0	30
trans-1,2-Dichloroethene	20.0	16.9		ug/L		85	79 - 120	3	30
Trichloroethene	20.0	20.6		ug/L		103	77 - 120	7	30

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

Lab Sample ID: LCSD 460-657630/5
Matrix: Water
Analysis Batch: 657630

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl chloride			20.0	16.7		ug/L		84	62 - 138	9	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*74 - 132*
Toluene-d8 (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*72 - 131*
4-Bromofluorobenzene	*97*		*77 - 124*

Lab Sample ID: MB 460-657945/9
Matrix: Water
Analysis Batch: 657945

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	0.26	ug/L			11/24/19 19:54	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			11/24/19 19:54	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L			11/24/19 19:54	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			11/24/19 19:54	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			11/24/19 19:54	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			11/24/19 19:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*74 - 132*		*11/24/19 19:54*	*1*
Toluene-d8 (Surr)	*92*		*80 - 120*		*11/24/19 19:54*	*1*
Dibromofluoromethane (Surr)	*100*		*72 - 131*		*11/24/19 19:54*	*1*
4-Bromofluorobenzene	*103*		*77 - 124*		*11/24/19 19:54*	*1*

Lab Sample ID: LCS 460-657945/4
Matrix: Water
Analysis Batch: 657945

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	21.7		ug/L		109	74 - 123
cis-1,2-Dichloroethene			20.0	19.6		ug/L		98	80 - 120
Tetrachloroethene			20.0	21.0		ug/L		105	78 - 122
trans-1,2-Dichloroethene			20.0	20.1		ug/L		100	79 - 120
Trichloroethene			20.0	19.0		ug/L		95	77 - 120
Vinyl chloride			20.0	18.0		ug/L		90	62 - 138

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*74 - 132*
Toluene-d8 (Surr)	*94*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*72 - 131*
4-Bromofluorobenzene	*108*		*77 - 124*

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

Lab Sample ID: LCSD 460-657945/5
Matrix: Water
Analysis Batch: 657945

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene			20.0	20.8		ug/L		104	74 - 123	4	30
cis-1,2-Dichloroethene			20.0	18.8		ug/L		94	80 - 120	4	30
Tetrachloroethene			20.0	20.3		ug/L		101	78 - 122	4	30
trans-1,2-Dichloroethene			20.0	19.6		ug/L		98	79 - 120	3	30
Trichloroethene			20.0	18.1		ug/L		90	77 - 120	5	30
Vinyl chloride			20.0	17.2		ug/L		86	62 - 138	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*74 - 132*
Toluene-d8 (Surr)	*92*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*72 - 131*
4-Bromofluorobenzene	*104*		*77 - 124*

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

Lab Sample ID: MB 460-656856/8
Matrix: Water
Analysis Batch: 656856

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	0.33	ug/L			11/20/19 13:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*86*		*72 - 133*		*11/20/19 13:41*	*1*

Lab Sample ID: LCS 460-656856/3
Matrix: Water
Analysis Batch: 656856

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			5.00	5.33		ug/L		107	66 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*84*		*72 - 133*

Lab Sample ID: LCSD 460-656856/4
Matrix: Water
Analysis Batch: 656856

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			5.00	4.72		ug/L		94	66 - 135	12	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*82*		*72 - 133*

QC Association Summary

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

Job ID: 460-196755-1

GC/MS VOA

Analysis Batch: 656856

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-196755-2	TW-16-01_111119	Total/NA	Water	8260C SIM	
460-196755-3	TW-16-02_111119	Total/NA	Water	8260C SIM	
460-196755-4	PW-16-01_111119	Total/NA	Water	8260C SIM	
460-196755-5	MW-23_111119	Total/NA	Water	8260C SIM	
460-196755-6	DUP-09	Total/NA	Water	8260C SIM	
MB 460-656856/8	Method Blank	Total/NA	Water	8260C SIM	
LCS 460-656856/3	Lab Control Sample	Total/NA	Water	8260C SIM	
LCSD 460-656856/4	Lab Control Sample Dup	Total/NA	Water	8260C SIM	

Analysis Batch: 657451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-196755-1	TRIP BLANK	Total/NA	Water	8260C	
460-196755-2	TW-16-01_111119	Total/NA	Water	8260C	
MB 460-657451/9	Method Blank	Total/NA	Water	8260C	
LCS 460-657451/4	Lab Control Sample	Total/NA	Water	8260C	
LCSD 460-657451/5	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 657630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-196755-3	TW-16-02_111119	Total/NA	Water	8260C	
MB 460-657630/9	Method Blank	Total/NA	Water	8260C	
LCS 460-657630/4	Lab Control Sample	Total/NA	Water	8260C	
LCSD 460-657630/5	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 657945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-196755-4	PW-16-01_111119	Total/NA	Water	8260C	
MB 460-657945/9	Method Blank	Total/NA	Water	8260C	
LCS 460-657945/4	Lab Control Sample	Total/NA	Water	8260C	
LCSD 460-657945/5	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 658110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-196755-5	MW-23_111119	Total/NA	Water	8260C	
460-196755-6	DUP-09	Total/NA	Water	8260C	

Lab Chronicle

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

Job ID: 460-196755-1

Client Sample ID: TRIP BLANK
Lab Sample ID: 460-196755-1
Date Collected: 11/11/19 00:00
Matrix: Water
Date Received: 11/13/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	657451	11/22/19 13:40	AVM	TAL EDI

Client Sample ID: TW-16-01_111119
Lab Sample ID: 460-196755-2
Date Collected: 11/11/19 10:42
Matrix: Water
Date Received: 11/13/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	657451	11/22/19 14:06	AVM	TAL EDI
Total/NA	Analysis	8260C SIM		1	656856	11/20/19 17:34	KLB	TAL EDI

Client Sample ID: TW-16-02_111119
Lab Sample ID: 460-196755-3
Date Collected: 11/11/19 11:53
Matrix: Water
Date Received: 11/13/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		25	657630	11/23/19 07:30	AVM	TAL EDI
Total/NA	Analysis	8260C SIM		1	656856	11/20/19 17:57	KLB	TAL EDI

Client Sample ID: PW-16-01_111119
Lab Sample ID: 460-196755-4
Date Collected: 11/11/19 13:08
Matrix: Water
Date Received: 11/13/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	657945	11/24/19 21:29	AVM	TAL EDI
Total/NA	Analysis	8260C SIM		1	656856	11/20/19 18:21	KLB	TAL EDI

Client Sample ID: MW-23_111119
Lab Sample ID: 460-196755-5
Date Collected: 11/11/19 14:56
Matrix: Water
Date Received: 11/13/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		50	658110	11/25/19 14:55	EMM	TAL EDI
Total/NA	Analysis	8260C SIM		1	656856	11/20/19 18:44	KLB	TAL EDI

Client Sample ID: DUP-09
Lab Sample ID: 460-196755-6
Date Collected: 11/11/19 00:00
Matrix: Water
Date Received: 11/13/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		100	658110	11/25/19 15:21	EMM	TAL EDI
Total/NA	Analysis	8260C SIM		1	656856	11/20/19 19:07	KLB	TAL EDI

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Accreditation/Certification Summary

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

Job ID: 460-196755-1

Laboratory: Eurofins TestAmerica, Edison

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

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0200	09-30-20
DE Haz. Subst. Cleanup Act (HSCA)	State	<cert No.>	12-31-21
Georgia	State	12028 (NJ)	06-30-20
Massachusetts	State Program	M-NJ312	06-30-20
New Jersey	NELAP	12028	06-30-20
New York	NELAP	11452	04-01-20
Pennsylvania	NELAP	68-00522	02-28-20
Rhode Island	State	LAO00132	12-30-19
USDA	US Federal Programs	P330-18-00135	05-03-21

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	02-23-20
Connecticut	State	PH-0590	12-31-19
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-19
Minnesota	NELAP	OH00048	12-31-19
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-20
West Virginia DEP	State	210	12-31-19

Method Summary

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

Job ID: 460-196755-1

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

Protocol References:

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

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Sample Summary

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

Job ID: 460-196755-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
460-196755-1	TRIP BLANK	Water	11/11/19 00:00	11/13/19 10:00	
460-196755-2	TW-16-01_111119	Water	11/11/19 10:42	11/13/19 10:00	
460-196755-3	TW-16-02_111119	Water	11/11/19 11:53	11/13/19 10:00	
460-196755-4	PW-16-01_111119	Water	11/11/19 13:08	11/13/19 10:00	
460-196755-5	MW-23_111119	Water	11/11/19 14:56	11/13/19 10:00	
460-196755-6	DUP-09	Water	11/11/19 00:00	11/13/19 10:00	

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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

Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc.

Client Contact	Client Project Manager: Kris Hinskey	Site Contact: Rachel Bielak	Lab Contact: Mike DelMonico	COC No:
Company Name: Arcadis	Telephone: 248-994-2240	Telephone: 248-946-6331	Telephone: 330-497-9396	1 of 1 COCs
Address: 28550 Cabot Drive, Suite 500	Email: kristoffer.hinskey@arcadis.com	Analysis Turnaround Time		For lab use only
City/State/Zip: Novi, MI, 48377	Sampler Name: Xenia Chan	TAT if different from below: ☐ 3 weeks ☑ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Walk-in client
Phone: 248-994-2240	Method of Shipment/Carrier:	10 day		Lab sampling
Project Name: Ford LTP On-Site	Shipping/Tracking No:			Job/SDG No: 196755
Project Number: 30016346.0001B				
PO # 30016346.0001B				

	Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other:	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other:	Filtered Sample (Y/N)	Composite (C) or Grab (G)	Analyses: 1,1-DCE 8260B	cis-1,2-DCE 8260B	Trans-1,2-DCE 8260B	PCE 8260B	TCE 8260B	Vinyl Chloride 8260B	1,4-Dioxane 8260B SIM	Sample Specific Notes / Special Instructions:
1	TRIP BLANK	~~11/11/19~~	—		X						X					N	G	X	X	X	X	X	X	X	1 Trip Blank
2	TW-16-01_111119	11/11/19	1042		X						X					N	G	X	X	X	X	X	X	X	3 VOAs for 8260B 3 VOAs for 8260B SIM
3	TW-16-02_111119	11/11/19	1153		X						X					N	G	X	X	X	X	X	X	X	
4	PW-16-01_111119	11/11/19	1308		X						X					N	G	X	X	X	X	X	X	X	
5	MW-23_111119	11/11/19	1456		X						X					N	G	X	X	X	X	X	X	X	
6	DUP-09	11/11/19	—		X						X					N	G	X	X	X	X	X	X	X	

460-196755 Chain of Custody

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

Sample Disposal (A fee may be assessed if sample): ☐ Return to Client ☑ Disposal By Lab ☐ Archive For ___ Months

Special Instructions/QC Requirements & Comments:

Submit all results through Cadena at jim.tomalia@cadena.com. Cadena #E203728
Level IV Reporting requested.

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Xenia Chan	Arcadis	11/11/19 1510	Julia McClafferty	Arcadis	11/11/19 1510
	Arcadis	11/11/19 1600		Arcadis	11/11/19 1600
RACHEL BIELAK	ARCADIS TA	11/12/19 1215		TA	11/12/19 1215

11/27/2019

Eurofins TestAmerica Edison
Receipt Temperature and pH Log

Job Number: 196755

Number of Coolers: 1 IR Gun # 9

Cooler Temperatures

	RAW	CORRECTED		RAW	CORRECTED		RAW	CORRECTED
Cooler #1:	3.0 ℃	3.0 ℃	Cooler #4:	℃	℃	Cooler #7:	℃	℃
Cooler #2:	℃	℃	Cooler #5:	℃	℃	Cooler #8:	℃	℃
Cooler #3:	℃	℃	Cooler #6:	℃	℃	Cooler #9:	℃	℃

TALS Sample Number	Ammonia (pH<2)	COD (pH<2)	Nitrate Nitrite (pH<2)	Metals* (pH<2)	Hardness (pH<2)	Pest (pH 5-9)	EPH or QAM (pH<2)	Phenols (pH<2)	Sulfide (pH>9)	TKN (pH<2)	TOC (pH<2)	Total Cyanide (pH>12)	Total Phos (pH<2)	Other	Other

If pH adjustments are required record the information below:

Sample No(s). adjusted: _____

Preservative Name/Conc.: _____ Volume of Preservative used (ml): _____

Lot # of Preservative(s): _____ Expiration Date: _____

The appropriate Project Manager and Department Manager should be notified about the samples which were pH adjusted.

** Samples for Metal analysis which are out of compliance must be acidified at least 24 hours prior to analysis.*

EDS-WI-038, Rev 4.1
10/22/2019

Initials: KG Date: 11/17/19

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 460-196755-1

Login Number: 196755
List Number: 1
Creator: Jara, Kelly D

List Source: Eurofins TestAmerica, Edison

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	