

## ANALYTICAL REPORT

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Laboratory Job ID: 460-197778-1  
Client Project/Site: Ford LTP Off-Site

For:  
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Attn: Kristoffer Hinskey



Authorized for release by:  
12/12/2019 4:06:06 PM

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*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: 460-197778-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
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)

# Case Narrative

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

Job ID: 460-197778-1

**Job ID: 460-197778-1**

**Laboratory: Eurofins TestAmerica, Edison**

## Narrative

### CASE NARRATIVE

**Client: ARCADIS U.S., Inc.**

**Project: Ford LTP Off-Site**

**Report Number: 460-197778-1**

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 11/27/2019 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.8° C.

### **VOLATILE ORGANIC COMPOUNDS (GCMS)**

Samples Trip Blank (460-197778-1), MW-84S\_112519 (460-197778-2), MW-84\_112519 (460-197778-3), MW-86S\_112519 (460-197778-4) and MW-86\_112519 (460-197778-5) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 12/07/2019 and 12/08/2019.

1,1-Dichloroethene and trans-1,2-Dichloroethene failed the recovery criteria high for LCSD 460-660692/4. Refer to the QC report for details.

The laboratory control sample duplicate (LCSD) for analytical batch 460-660692 recovered outside control limits for the following analytes: 1,1-Dichloroethene and trans-1,2-Dichloroethene. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

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 MW-84S\_112519 (460-197778-2), MW-84\_112519 (460-197778-3), MW-86S\_112519 (460-197778-4) and MW-86\_112519

# Case Narrative

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

Job ID: 460-197778-1

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## Job ID: 460-197778-1 (Continued)

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### Laboratory: Eurofins TestAmerica, Edison (Continued)

(460-197778-5) were analyzed for Volatile organic compounds (GC/MS) in accordance with SW-846 Method 8260C SIM. The samples were analyzed on 12/06/2019.

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

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## Detection Summary

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

Job ID: 460-197778-1

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**Client Sample ID: Trip Blank** **Lab Sample ID: 460-197778-1**

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No Detections.

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**Client Sample ID: MW-84S\_112519** **Lab Sample ID: 460-197778-2**

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No Detections.

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**Client Sample ID: MW-84\_112519** **Lab Sample ID: 460-197778-3**

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No Detections.

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**Client Sample ID: MW-86S\_112519** **Lab Sample ID: 460-197778-4**

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No Detections.

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**Client Sample ID: MW-86\_112519** **Lab Sample ID: 460-197778-5**

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No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Edison



# Client Sample Results

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

Job ID: 460-197778-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 460-197778-1**

Date Collected: 11/25/19 14:15

Matrix: Water

Date Received: 11/27/19 10:30

**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	-		12/07/19 22:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L	-		12/07/19 22:12	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L	-		12/07/19 22:12	1
trans-1,2-Dichloroethene	1.0	U *	1.0	0.24	ug/L	-		12/07/19 22:12	1
Trichloroethene	1.0	U	1.0	0.31	ug/L	-		12/07/19 22:12	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L	-		12/07/19 22:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		74 - 132		12/07/19 22:12	1
Toluene-d8 (Surr)	104		80 - 120		12/07/19 22:12	1
Dibromofluoromethane (Surr)	107		72 - 131		12/07/19 22:12	1
4-Bromofluorobenzene	108		77 - 124		12/07/19 22:12	1

**Client Sample ID: MW-84S\_112519**

**Lab Sample ID: 460-197778-2**

Date Collected: 11/25/19 10:15

Matrix: Water

Date Received: 11/27/19 10:30

**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	-		12/06/19 18:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	85		72 - 133		12/06/19 18:57	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	-		12/08/19 00:51	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L	-		12/08/19 00:51	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L	-		12/08/19 00:51	1
trans-1,2-Dichloroethene	1.0	U *	1.0	0.24	ug/L	-		12/08/19 00:51	1
Trichloroethene	1.0	U	1.0	0.31	ug/L	-		12/08/19 00:51	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L	-		12/08/19 00:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		74 - 132		12/08/19 00:51	1
Toluene-d8 (Surr)	106		80 - 120		12/08/19 00:51	1
Dibromofluoromethane (Surr)	111		72 - 131		12/08/19 00:51	1
4-Bromofluorobenzene	109		77 - 124		12/08/19 00:51	1

**Client Sample ID: MW-84\_112519**

**Lab Sample ID: 460-197778-3**

Date Collected: 11/25/19 11:15

Matrix: Water

Date Received: 11/27/19 10:30

**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	-		12/06/19 19:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	89		72 - 133		12/06/19 19:22	1

# Client Sample Results

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

Job ID: 460-197778-1

**Client Sample ID: MW-84\_112519**

**Lab Sample ID: 460-197778-3**

**Date Collected: 11/25/19 11:15**

**Matrix: Water**

**Date Received: 11/27/19 10:30**

**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	-		12/08/19 01:17	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L	-		12/08/19 01:17	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L	-		12/08/19 01:17	1
trans-1,2-Dichloroethene	1.0	U *	1.0	0.24	ug/L	-		12/08/19 01:17	1
Trichloroethene	1.0	U	1.0	0.31	ug/L	-		12/08/19 01:17	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L	-		12/08/19 01:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		74 - 132		12/08/19 01:17	1
Toluene-d8 (Surr)	103		80 - 120		12/08/19 01:17	1
Dibromofluoromethane (Surr)	110		72 - 131		12/08/19 01:17	1
4-Bromofluorobenzene	107		77 - 124		12/08/19 01:17	1

**Client Sample ID: MW-86S\_112519**

**Lab Sample ID: 460-197778-4**

**Date Collected: 11/25/19 13:05**

**Matrix: Water**

**Date Received: 11/27/19 10:30**

**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	-		12/06/19 19:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	92		72 - 133		12/06/19 19:47	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	-		12/08/19 01:43	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L	-		12/08/19 01:43	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L	-		12/08/19 01:43	1
trans-1,2-Dichloroethene	1.0	U *	1.0	0.24	ug/L	-		12/08/19 01:43	1
Trichloroethene	1.0	U	1.0	0.31	ug/L	-		12/08/19 01:43	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L	-		12/08/19 01:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		74 - 132		12/08/19 01:43	1
Toluene-d8 (Surr)	101		80 - 120		12/08/19 01:43	1
Dibromofluoromethane (Surr)	108		72 - 131		12/08/19 01:43	1
4-Bromofluorobenzene	106		77 - 124		12/08/19 01:43	1

**Client Sample ID: MW-86\_112519**

**Lab Sample ID: 460-197778-5**

**Date Collected: 11/25/19 14:15**

**Matrix: Water**

**Date Received: 11/27/19 10:30**

**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	-		12/06/19 20:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	92		72 - 133		12/06/19 20:12	1



# Client Sample Results

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

Job ID: 460-197778-1

**Client Sample ID: MW-86\_112519**

**Lab Sample ID: 460-197778-5**

**Date Collected: 11/25/19 14:15**

**Matrix: Water**

**Date Received: 11/27/19 10:30**

**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			12/08/19 02:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/08/19 02:10	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L			12/08/19 02:10	1
trans-1,2-Dichloroethene	1.0	U *	1.0	0.24	ug/L			12/08/19 02:10	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/08/19 02:10	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/08/19 02:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		74 - 132		12/08/19 02:10	1
Toluene-d8 (Surr)	104		80 - 120		12/08/19 02:10	1
Dibromofluoromethane (Surr)	111		72 - 131		12/08/19 02:10	1
4-Bromofluorobenzene	111		77 - 124		12/08/19 02:10	1

# Surrogate Summary

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

Job ID: 460-197778-1

## 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)
460-197778-1	Trip Blank	97	104	107	108
460-197778-2	MW-84S_112519	102	106	111	109
460-197778-3	MW-84_112519	99	103	110	107
460-197778-4	MW-86S_112519	97	101	108	106
460-197778-5	MW-86_112519	101	104	111	111
LCS 460-660692/3	Lab Control Sample	103	104	107	109
LCSD 460-660692/4	Lab Control Sample Dup	104	106	108	114
MB 460-660692/7	Method Blank	101	103	108	110

#### 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)
460-197778-2	MW-84S_112519	85
460-197778-3	MW-84_112519	89
460-197778-4	MW-86S_112519	92
460-197778-5	MW-86_112519	92
LCS 460-660399/4	Lab Control Sample	88
LCSD 460-660399/5	Lab Control Sample Dup	91
MB 460-660399/9	Method Blank	92

#### Surrogate Legend

BFB = 4-Bromofluorobenzene

# QC Sample Results

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

Job ID: 460-197778-1

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

**Lab Sample ID: MB 460-660692/7**  
**Matrix: Water**  
**Analysis Batch: 660692**

**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			12/07/19 19:52	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/07/19 19:52	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L			12/07/19 19:52	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/07/19 19:52	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/07/19 19:52	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/07/19 19:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		74 - 132		12/07/19 19:52	1
Toluene-d8 (Surr)	103		80 - 120		12/07/19 19:52	1
Dibromofluoromethane (Surr)	108		72 - 131		12/07/19 19:52	1
4-Bromofluorobenzene	110		77 - 124		12/07/19 19:52	1

**Lab Sample ID: LCS 460-660692/3**  
**Matrix: Water**  
**Analysis Batch: 660692**

**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	24.5		ug/L		122	74 - 123
cis-1,2-Dichloroethene	20.0	19.9		ug/L		100	80 - 120
Tetrachloroethene	20.0	20.9		ug/L		104	78 - 122
trans-1,2-Dichloroethene	20.0	23.4		ug/L		117	79 - 120
Trichloroethene	20.0	21.6		ug/L		108	77 - 120
Vinyl chloride	20.0	19.4		ug/L		97	62 - 138

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		74 - 132
Toluene-d8 (Surr)	104		80 - 120
Dibromofluoromethane (Surr)	107		72 - 131
4-Bromofluorobenzene	109		77 - 124

**Lab Sample ID: LCSD 460-660692/4**  
**Matrix: Water**  
**Analysis Batch: 660692**

**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	25.2	*	ug/L		126	74 - 123	3	30
cis-1,2-Dichloroethene	20.0	20.7		ug/L		103	80 - 120	4	30
Tetrachloroethene	20.0	21.7		ug/L		109	78 - 122	4	30
trans-1,2-Dichloroethene	20.0	24.6	*	ug/L		123	79 - 120	5	30
Trichloroethene	20.0	22.3		ug/L		111	77 - 120	3	30
Vinyl chloride	20.0	19.9		ug/L		100	62 - 138	3	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		74 - 132
Toluene-d8 (Surr)	106		80 - 120
Dibromofluoromethane (Surr)	108		72 - 131

# QC Sample Results

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

Job ID: 460-197778-1

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

Lab Sample ID: LCSD 460-660692/4  
Matrix: Water  
Analysis Batch: 660692

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

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	114		77 - 124

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

Lab Sample ID: MB 460-660399/9  
Matrix: Water  
Analysis Batch: 660399

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.33	ug/L			12/06/19 14:21	1
Surrogate	MB	MB	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	92		72 - 133					12/06/19 14:21	1

Lab Sample ID: LCS 460-660399/4  
Matrix: Water  
Analysis Batch: 660399

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

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
	Added	Result	Qualifier					
1,4-Dioxane	5.00	4.59		ug/L		92	66 - 135	
Surrogate	LCS	LCS	Limits					
4-Bromofluorobenzene	88		72 - 133					

Lab Sample ID: LCSD 460-660399/5  
Matrix: Water  
Analysis Batch: 660399

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

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	Limits	RPD	RPD
	Added	Result	Qualifier						Limit	
1,4-Dioxane	5.00	5.02		ug/L		100	66 - 135	9	30	
Surrogate	LCSD	LCSD	Limits							
4-Bromofluorobenzene	91		72 - 133							

# QC Association Summary

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

Job ID: 460-197778-1

## GC/MS VOA

### Analysis Batch: 660399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-197778-2	MW-84S_112519	Total/NA	Water	8260C SIM	
460-197778-3	MW-84_112519	Total/NA	Water	8260C SIM	
460-197778-4	MW-86S_112519	Total/NA	Water	8260C SIM	
460-197778-5	MW-86_112519	Total/NA	Water	8260C SIM	
MB 460-660399/9	Method Blank	Total/NA	Water	8260C SIM	
LCS 460-660399/4	Lab Control Sample	Total/NA	Water	8260C SIM	
LCSD 460-660399/5	Lab Control Sample Dup	Total/NA	Water	8260C SIM	

### Analysis Batch: 660692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-197778-1	Trip Blank	Total/NA	Water	8260C	
460-197778-2	MW-84S_112519	Total/NA	Water	8260C	
460-197778-3	MW-84_112519	Total/NA	Water	8260C	
460-197778-4	MW-86S_112519	Total/NA	Water	8260C	
460-197778-5	MW-86_112519	Total/NA	Water	8260C	
MB 460-660692/7	Method Blank	Total/NA	Water	8260C	
LCS 460-660692/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 460-660692/4	Lab Control Sample Dup	Total/NA	Water	8260C	

# Lab Chronicle

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

Job ID: 460-197778-1

## Client Sample ID: Trip Blank

Date Collected: 11/25/19 14:15

Date Received: 11/27/19 10:30

## Lab Sample ID: 460-197778-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	660692	12/07/19 22:12	KLB	TAL EDI

## Client Sample ID: MW-84S\_112519

Date Collected: 11/25/19 10:15

Date Received: 11/27/19 10:30

## Lab Sample ID: 460-197778-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	660692	12/08/19 00:51	KLB	TAL EDI
Total/NA	Analysis	8260C SIM		1	660399	12/06/19 18:57	MZS	TAL EDI

## Client Sample ID: MW-84\_112519

Date Collected: 11/25/19 11:15

Date Received: 11/27/19 10:30

## Lab Sample ID: 460-197778-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	660692	12/08/19 01:17	KLB	TAL EDI
Total/NA	Analysis	8260C SIM		1	660399	12/06/19 19:22	MZS	TAL EDI

## Client Sample ID: MW-86S\_112519

Date Collected: 11/25/19 13:05

Date Received: 11/27/19 10:30

## Lab Sample ID: 460-197778-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	660692	12/08/19 01:43	KLB	TAL EDI
Total/NA	Analysis	8260C SIM		1	660399	12/06/19 19:47	MZS	TAL EDI

## Client Sample ID: MW-86\_112519

Date Collected: 11/25/19 14:15

Date Received: 11/27/19 10:30

## Lab Sample ID: 460-197778-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	660692	12/08/19 02:10	KLB	TAL EDI
Total/NA	Analysis	8260C SIM		1	660399	12/06/19 20:12	MZS	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 Off-Site

Job ID: 460-197778-1

## 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	M-NJ312	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 Off-Site

Job ID: 460-197778-1

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 Off-Site

Job ID: 460-197778-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
460-197778-1	Trip Blank	Water	11/25/19 14:15	11/27/19 10:30	
460-197778-2	MW-84S_112519	Water	11/25/19 10:15	11/27/19 10:30	
460-197778-3	MW-84_112519	Water	11/25/19 11:15	11/27/19 10:30	
460-197778-4	MW-86S_112519	Water	11/25/19 13:05	11/27/19 10:30	
460-197778-5	MW-86_112519	Water	11/25/19 14:15	11/27/19 10:30	

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Company Name: Arcadis		Client Contact		Regulatory program:		Site Contact: Rachel Biak		Lab Contact: Mike DeIacono	
Address: 28550 Cabot Drive, Suite 500		Client Project Manager: Kris Hinskey		DW		Telephone: 248-946-6331		Telephone: 330-997-9396	
City/State/Zip: Novi, MI, 48377		Telephone: 248-994-2240		NPDES		Email: kris@arcadis.com		ANALYSES	
Phone: 248-994-2240		Sampler Name: S. Johnson		RCRA		TAT if different from below		1,1-DCE 8260B	
Project Name: Ford LTP Off-Site		Method of Shipment/Carrier:		Other		10 day		cis-1,2-DCE 8260B	
Project Number: 30016346.0002B		Shipping/Tracking No:		Unpres		1 week		Trans-1,2-DCE 8260B	
PO # 30016346.0002B		Sample Date		Other:		2 days		PCE 8260B	
Sample Identification		Sample Time		Matrix:		1 day		TCE 8260B	
TRIP BLANK		---		Air		Containers & Preservatives		Vinyl Chloride 8260B	
MW-845-112519		1/25/19 1015		Aqueous		Filtered Sample (Y/N)		1,4-Dioxane 8260B SIM	
MW-84-112519		1/25/19 1115		Sediment		Composite=C/ Grab=G			
MW-865-112519		1/25/19 1305		Solid		1,1-DCE 8260B			
MW-86-112519		1/25/19 1415		Other:		cis-1,2-DCE 8260B			
				H2SO4		Trans-1,2-DCE 8260B			
				HNO3		PCE 8260B			
				HCl		TCE 8260B			
				NaOH		Vinyl Chloride 8260B			
				ZnAc		1,4-Dioxane 8260B SIM			
				NaOH					
				Unpres					
				Other:					



Possible Hazard Identification  
 Non-Hazard  Flammable  Irritant  Poison B  Unknown

Special Instructions/QC Requirements & Comments:  
 Submit all results through Cadena at jim.tomalia@cadenalabs.com. Cadena #E203631  
 Level IV Reporting requested.

Requisitioned by: Mary Catherine Blum  
 Date/Time: 11/25/19 14:33  
 Company: Arcadis

Received by: Mary Catherine Blum  
 Date/Time: 11/25/19 15:30  
 Company: Arcadis

Requisitioned by: Rachel Biak  
 Date/Time: 11/26/19 11:00  
 Company: Arcadis

Received in Laboratory by: Rachel Biak  
 Date/Time: 11/26/19 11:00  
 Company: Arcadis

Requisitioned by: Elizabeth Johnson  
 Date/Time: 11/27/19 10:30  
 Company: Arcadis

Received in Laboratory by: Elizabeth Johnson  
 Date/Time: 11/27/19 10:30  
 Company: Arcadis

Requisitioned by: Elizabeth Johnson  
 Date/Time: 11/27/19 10:30  
 Company: Arcadis

Received in Laboratory by: Elizabeth Johnson  
 Date/Time: 11/27/19 10:30  
 Company: Arcadis

**Eurofins TestAmerica Edison**  
**Receipt Temperature and pH Log**

Job Number: 190928

Number of Coolers:	IR Gun #		Cooler Temperatures								
	RAW	CORRECTED	RAW	CORRECTED	RAW	CORRECTED	RAW	CORRECTED	RAW	CORRECTED	
1			Cooler #1: 2.5 °C	Cooler #2: 3.8 °C	Cooler #3: °C	Cooler #4: °C	Cooler #5: °C	Cooler #6: °C	Cooler #7: °C	Cooler #8: °C	Cooler #9: °C

TALS Sample Number	(pH<2)	(pH<2)	(pH<2)	(pH<2)	(pH<2)	(pH<2)	(pH 5-9)	(pH<2)	(pH<2)	(pH<2)	(pH>9)	(pH<2)	(pH<2)	(pH<2)	(pH>12)	(pH<2)	Total Ammonia	Total Phos	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.

## Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 460-197778-1

**Login Number: 197778**

**List Source: Eurofins TestAmerica, Edison**

**List Number: 1**

**Creator: DiGuardia, Joseph L**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	CS# 1194016
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	