

ANALYTICAL REPORT

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

Laboratory Job ID: 240-114503-1

Client Project/Site: Ford LTP Livonia MI - E203728

For:

ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
6/27/2019 11:27:09 AM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114503-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
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 Livonia MI - E203728

Job ID: 240-114503-1

Job ID: 240-114503-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-114503-1

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 6/15/2019 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.7° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-48_061319 (240-114503-1), MW-67_061319 (240-114503-2) and TRIP BLANK (240-114503-3) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 06/25/2019.

Sample MW-67_061319 (240-114503-2)[3.33X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-48_061319 (240-114503-1) and MW-67_061319 (240-114503-2) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 06/20/2019.

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

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114503-1

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 Livonia MI - E203728

Job ID: 240-114503-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-114503-1	MW-48_061319	Water	06/13/19 10:02	06/15/19 09:50	
240-114503-2	MW-67_061319	Water	06/13/19 12:11	06/15/19 09:50	
240-114503-3	TRIP BLANK	Water	06/13/19 00:00	06/15/19 09:50	

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- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114503-1

Client Sample ID: MW-48_061319

Lab Sample ID: 240-114503-1

No Detections.

Client Sample ID: MW-67_061319

Lab Sample ID: 240-114503-2

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-114503-3

No Detections.

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- 11
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This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114503-1

Client Sample ID: MW-48_061319

Lab Sample ID: 240-114503-1

Date Collected: 06/13/19 10:02

Matrix: Water

Date Received: 06/15/19 09:50

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	-		06/20/19 16:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		63 - 125		06/20/19 16:47	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	-		06/25/19 22:46	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		06/25/19 22:46	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		06/25/19 22:46	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		06/25/19 22:46	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		06/25/19 22:46	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		06/25/19 22:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 121		06/25/19 22:46	1
4-Bromofluorobenzene (Surr)	85		59 - 120		06/25/19 22:46	1
Toluene-d8 (Surr)	94		70 - 123		06/25/19 22:46	1
Dibromofluoromethane (Surr)	101		75 - 128		06/25/19 22:46	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114503-1

Client Sample ID: MW-67_061319

Lab Sample ID: 240-114503-2

Date Collected: 06/13/19 12:11

Matrix: Water

Date Received: 06/15/19 09:50

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			06/20/19 17:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		63 - 125		06/20/19 17:12	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	3.3	U	3.3	0.63	ug/L			06/25/19 23:12	3.33
cis-1,2-Dichloroethene	3.3	U	3.3	0.53	ug/L			06/25/19 23:12	3.33
Tetrachloroethene	3.3	U	3.3	0.50	ug/L			06/25/19 23:12	3.33
trans-1,2-Dichloroethene	3.3	U	3.3	0.63	ug/L			06/25/19 23:12	3.33
Trichloroethene	3.3	U	3.3	0.33	ug/L			06/25/19 23:12	3.33
Vinyl chloride	3.3	U	3.3	0.67	ug/L			06/25/19 23:12	3.33

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		70 - 121		06/25/19 23:12	3.33
4-Bromofluorobenzene (Surr)	97		59 - 120		06/25/19 23:12	3.33
Toluene-d8 (Surr)	81		70 - 123		06/25/19 23:12	3.33
Dibromofluoromethane (Surr)	116		75 - 128		06/25/19 23:12	3.33

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114503-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-114503-3

Date Collected: 06/13/19 00:00

Matrix: Water

Date Received: 06/15/19 09:50

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			06/25/19 23:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			06/25/19 23:37	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			06/25/19 23:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/25/19 23:37	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			06/25/19 23:37	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			06/25/19 23:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	118		70 - 121		06/25/19 23:37	1
4-Bromofluorobenzene (Surr)	91		59 - 120		06/25/19 23:37	1
Toluene-d8 (Surr)	89		70 - 123		06/25/19 23:37	1
Dibromofluoromethane (Surr)	109		75 - 128		06/25/19 23:37	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114503-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
240-114503-1	MW-48_061319	106	85	94	101
240-114503-2	MW-67_061319	115	97	81	116
240-114503-3	TRIP BLANK	118	91	89	109
240-114523-E-1 MS	Matrix Spike	114	94	75	114
240-114523-H-1 MSD	Matrix Spike Duplicate	109	90	82	116
LCS 240-388086/4	Lab Control Sample	102	87	79	102
MB 240-388086/7	Method Blank	121	88	80	109

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

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(63-125)
240-114503-1	MW-48_061319	107
240-114503-2	MW-67_061319	110
240-114521-C-3 MS	Matrix Spike	113
240-114521-C-3 MSD	Matrix Spike Duplicate	109
LCS 240-387287/4	Lab Control Sample	108
MB 240-387287/5	Method Blank	106

Surrogate Legend

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

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114503-1

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

Lab Sample ID: MB 240-388086/7
Matrix: Water
Analysis Batch: 388086

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			06/25/19 15:05	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			06/25/19 15:05	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			06/25/19 15:05	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/25/19 15:05	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			06/25/19 15:05	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			06/25/19 15:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		70 - 121		06/25/19 15:05	1
4-Bromofluorobenzene (Surr)	88		59 - 120		06/25/19 15:05	1
Toluene-d8 (Surr)	80		70 - 123		06/25/19 15:05	1
Dibromofluoromethane (Surr)	109		75 - 128		06/25/19 15:05	1

Lab Sample ID: LCS 240-388086/4
Matrix: Water
Analysis Batch: 388086

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	8.13		ug/L		81	65 - 139
cis-1,2-Dichloroethene	10.0	8.29		ug/L		83	76 - 128
Tetrachloroethene	10.0	11.8		ug/L		118	74 - 130
trans-1,2-Dichloroethene	10.0	9.04		ug/L		90	78 - 133
Trichloroethene	10.0	10.6		ug/L		106	76 - 125
Vinyl chloride	10.0	8.38		ug/L		84	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		70 - 121
4-Bromofluorobenzene (Surr)	87		59 - 120
Toluene-d8 (Surr)	79		70 - 123
Dibromofluoromethane (Surr)	102		75 - 128

Lab Sample ID: 240-114523-E-1 MS
Matrix: Water
Analysis Batch: 388086

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	11.0		ug/L		110	53 - 140
cis-1,2-Dichloroethene	2.2		10.0	13.2		ug/L		110	64 - 130
Tetrachloroethene	1.0	U	10.0	10.6		ug/L		106	51 - 136
trans-1,2-Dichloroethene	0.37	J	10.0	10.2		ug/L		99	68 - 133
Trichloroethene	1.0	U	10.0	11.6		ug/L		116	55 - 131
Vinyl chloride	0.26	J	10.0	9.96		ug/L		97	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	114		70 - 121
4-Bromofluorobenzene (Surr)	94		59 - 120
Toluene-d8 (Surr)	75		70 - 123

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114503-1

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

Lab Sample ID: 240-114523-E-1 MS
Matrix: Water
Analysis Batch: 388086

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

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	114		75 - 128

Lab Sample ID: 240-114523-H-1 MSD
Matrix: Water
Analysis Batch: 388086

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	8.01		ug/L		80	53 - 140	32	35
cis-1,2-Dichloroethene	2.2		10.0	11.2		ug/L		90	64 - 130	16	21
Tetrachloroethene	1.0	U	10.0	10.2		ug/L		102	51 - 136	4	23
trans-1,2-Dichloroethene	0.37	J	10.0	8.81		ug/L		84	68 - 133	15	24
Trichloroethene	1.0	U	10.0	10.7		ug/L		107	55 - 131	8	23
Vinyl chloride	0.26	J	10.0	8.97		ug/L		87	43 - 154	11	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	109		70 - 121
4-Bromofluorobenzene (Surr)	90		59 - 120
Toluene-d8 (Surr)	82		70 - 123
Dibromofluoromethane (Surr)	116		75 - 128

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

Lab Sample ID: MB 240-387287/5
Matrix: Water
Analysis Batch: 387287

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			06/20/19 12:10	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125		06/20/19 12:10	1

Lab Sample ID: LCS 240-387287/4
Matrix: Water
Analysis Batch: 387287

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	9.56		ug/L		96	59 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		63 - 125

Lab Sample ID: 240-114521-C-3 MS
Matrix: Water
Analysis Batch: 387287

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.5		10.0	13.9		ug/L		114	52 - 129

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114503-1

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

<i>Surrogate</i>	<i>MS</i> <i>%Recovery</i>	<i>MS</i> <i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	113		63 - 125

Lab Sample ID: 240-114521-C-3 MSD
 Matrix: Water
 Analysis Batch: 387287

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

<i>Analyte</i>	<i>Sample</i> <i>Result</i>	<i>Sample</i> <i>Qualifier</i>	<i>Spike</i> <i>Added</i>	<i>MSD</i> <i>Result</i>	<i>MSD</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec.</i> <i>Limits</i>	<i>RPD</i>	<i>RPD</i> <i>Limit</i>
1,4-Dioxane	2.5		10.0	12.9		ug/L		104	52 - 129	8	13

<i>Surrogate</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	109		63 - 125

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114503-1

GC/MS VOA

Analysis Batch: 387287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-114503-1	MW-48_061319	Total/NA	Water	8260B SIM	
240-114503-2	MW-67_061319	Total/NA	Water	8260B SIM	
MB 240-387287/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-387287/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-114521-C-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-114521-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 388086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-114503-1	MW-48_061319	Total/NA	Water	8260B	
240-114503-2	MW-67_061319	Total/NA	Water	8260B	
240-114503-3	TRIP BLANK	Total/NA	Water	8260B	
MB 240-388086/7	Method Blank	Total/NA	Water	8260B	
LCS 240-388086/4	Lab Control Sample	Total/NA	Water	8260B	
240-114523-E-1 MS	Matrix Spike	Total/NA	Water	8260B	
240-114523-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114503-1

Client Sample ID: MW-48_061319

Lab Sample ID: 240-114503-1

Date Collected: 06/13/19 10:02

Matrix: Water

Date Received: 06/15/19 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	388086	06/25/19 22:46	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	387287	06/20/19 16:47	SAM	TAL CAN

Client Sample ID: MW-67_061319

Lab Sample ID: 240-114503-2

Date Collected: 06/13/19 12:11

Matrix: Water

Date Received: 06/15/19 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		3.33	388086	06/25/19 23:12	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	387287	06/20/19 17:12	SAM	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-114503-3

Date Collected: 06/13/19 00:00

Matrix: Water

Date Received: 06/15/19 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	388086	06/25/19 23:37	LRW	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114503-1

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State		2927	02-23-20
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19 *
Florida	NELAP		E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19 *
Illinois	NELAP		004498	07-31-19
Iowa	State Program	7	421	06-01-21
Kansas	NELAP	7	E-10336	04-30-20
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19 *
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-20
New Jersey	NELAP		OH001	06-30-19
New York	NELAP	2	10975	03-31-20
New York	NELAP		10975	03-31-20
Ohio VAP	State Program	5	CL0024	06-05-21
Oregon	NELAP	10	4062	02-23-20
Oregon	NELAP		4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Pennsylvania	NELAP		68-00340	08-31-19
Texas	NELAP	6	T104704517-18-10	08-31-19 *
Texas	NELAP		T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19 *
Virginia	NELAP		010101	09-14-19
Washington	State		C971	01-12-20
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

MICHIGAN Chain of Custody Record



Client Information		Company: ARCADIS U.S. Inc		Lab PM: DelMonico, Michael		Carrier Tracking No(s):		COC No: 240-61361-26116.3	
Client Contact: Caitlin O'Neill		Address: 28550 Cabot Drive Suite 500		E-Mail: michael.delmonico@testamericainc.com		Page: Page 3 of 10		Job #:	
City: Novi		State, Zip: MI, 48377		Phone: 248-330-1760		Analysis Requested		Preservation Codes:	
Due Date Requested:		TAT Requested (days): 10 day / standard		PO #: 004-00018		Field Filtered Sample (Yes or No)		M - Hexane	
MI001454.0006.00004-		WO #: Cadena #: E203664 T2B		Project #: 24015353		Perform MS/MSD (Yes or No)		N - None	
Site: LTP		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		O - AsNaO2	
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		P - Na2O4S	
MW-48-06319		6/13/19		10:02		G		O - Na2SO3	
MW-67-06319		6/13/19		12:11		G		R - Na2S2O3	
Tap Blank		-		-		-		S - H2SO4	
								T - TSP Dodecylhydrate	
								U - Acetone	
								V - MCAA	
								W - pH 4-5	
								Z - other (specify)	
								Other:	
								Total Number of containers	
								Special Instructions/Note:	
								Barcode: 240-114503 Chain of Custody	
								Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
								<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months	
								Special Instructions/QC Requirements:	
								Method of Shipment:	
								Received by: Nov. Office cold fridge Date/Time: 06/13/19 13:32 Company: Arcadis	
								Received by: [Signature] Date/Time: 06/14/19 09:25 Company: Arcadis	
								Received by: [Signature] Date/Time: 6/15/19 09:50 Company: ETAC	
								Cooler Temperature(s) °C and Other Remarks:	
								Empty Kit Relinquished by:	
								Relinquished by: [Signature] Date: 06/13/19 13:31 Company: Arcadis	
								Relinquished by: [Signature] Date: 06/14/19 09:25 Company: Arcadis	
								Relinquished by: [Signature] Date: 6-14-19 13:15 Company: ETAC	
								Custody Seal No.: [Signature]	
								<input type="checkbox"/> Yes <input type="checkbox"/> No	

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility


Login # : 114503

Client Acadis Site Name _____
 Cooler Received on 6/15/19 Opened on 6/17/19
 FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Cooler unpacked by:
Derry Sun

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-8 (CF +0.1 °C) Observed Cooler Temp 0.6 °C Corrected Cooler Temp 0.7 °C
 IR GUN #36 (CF +0.6 °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
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
 4. Did custody papers accompany the sample(s)? Yes No
 5. Were the custody papers relinquished & signed in the appropriate place? Yes No
 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
 7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels be reconciled with the COC? Yes No
 9. Were correct bottle(s) used for the test(s) indicated? Yes No
 10. Sufficient quantity received to perform indicated analyses? Yes No
 11. Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC984738
 13. Were VOAs on the COC? Yes No
 14. Were air bubbles >6 mm in any VOA vials? Yes No NA  Larger than this.
 15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # B831701VB Yes No
 16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

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

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: _____

18. SAMPLE CONDITION

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

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____