

ANALYTICAL REPORT

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

Laboratory Job ID: 240-111401-1
Client Project/Site: Ford LTP Livonia MI - E203631

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

Attn: Kristoffer Hinskey



Authorized for release by:
4/30/2019 11:34:11 AM

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

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

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.

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Method Summary	5
Sample Summary	6
Detection Summary	7
Client Sample Results	8
Surrogate Summary	10
QC Sample Results	11
QC Association Summary	14
Lab Chronicle	15
Certification Summary	16
Chain of Custody	17



Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111401-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
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)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111401-1

Job ID: 240-111401-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203631

Report Number: 240-111401-1

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 4/24/2019 8:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.0° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-191S_042219 (240-111401-1) and TRIP BLANK (240-111401-2) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/28/2019.

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

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Sample MW-191S_042219 (240-111401-1) was analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The sample was analyzed on 04/26/2019.

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 - E203631

Job ID: 240-111401-1

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 - E203631

Job ID: 240-111401-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-111401-1	MW-191S_042219	Water	04/22/19 14:10	04/24/19 08:15
240-111401-2	TRIP BLANK	Water	04/22/19 00:00	04/24/19 08:15

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111401-1

Client Sample ID: MW-191S_042219

Lab Sample ID: 240-111401-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.3		1.0	0.16	ug/L	1		8260B	Total/NA
Trichloroethene	0.57	J	1.0	0.10	ug/L	1		8260B	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-111401-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton



Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111401-1

Client Sample ID: MW-191S_042219

Lab Sample ID: 240-111401-1

Date Collected: 04/22/19 14:10

Matrix: Water

Date Received: 04/24/19 08:15

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	-		04/26/19 11:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		63 - 125		04/26/19 11:58	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	-		04/28/19 18:22	1
cis-1,2-Dichloroethene	2.3		1.0	0.16	ug/L			04/28/19 18:22	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/28/19 18:22	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/28/19 18:22	1
Trichloroethene	0.57	J	1.0	0.10	ug/L			04/28/19 18:22	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/28/19 18:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 121		04/28/19 18:22	1
4-Bromofluorobenzene (Surr)	94		59 - 120		04/28/19 18:22	1
Toluene-d8 (Surr)	98		70 - 123		04/28/19 18:22	1
Dibromofluoromethane (Surr)	95		75 - 128		04/28/19 18:22	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111401-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-111401-2

Date Collected: 04/22/19 00:00

Matrix: Water

Date Received: 04/24/19 08:15

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			04/28/19 18:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/28/19 18:47	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/28/19 18:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/28/19 18:47	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/28/19 18:47	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/28/19 18:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		70 - 121		04/28/19 18:47	1
4-Bromofluorobenzene (Surr)	98		59 - 120		04/28/19 18:47	1
Toluene-d8 (Surr)	96		70 - 123		04/28/19 18:47	1
Dibromofluoromethane (Surr)	97		75 - 128		04/28/19 18:47	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111401-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
240-111166-E-2 MS	Matrix Spike	93	98	102	98
240-111166-F-2 MSD	Matrix Spike Duplicate	90	97	104	97
240-111401-1	MW-191S_042219	86	94	98	95
240-111401-2	TRIP BLANK	88	98	96	97
LCS 240-378551/4	Lab Control Sample	85	94	96	96
MB 240-378551/6	Method Blank	84	94	96	91

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)
240-111401-1	MW-191S_042219	108
240-111538-C-3 MS	Matrix Spike	102
240-111538-C-3 MSD	Matrix Spike Duplicate	105
LCS 240-378426/4	Lab Control Sample	107
MB 240-378426/5	Method Blank	102

Surrogate Legend

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

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111401-1

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

Lab Sample ID: MB 240-378551/6
Matrix: Water
Analysis Batch: 378551

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			04/28/19 14:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/28/19 14:13	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/28/19 14:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/28/19 14:13	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/28/19 14:13	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/28/19 14:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		70 - 121		04/28/19 14:13	1
4-Bromofluorobenzene (Surr)	94		59 - 120		04/28/19 14:13	1
Toluene-d8 (Surr)	96		70 - 123		04/28/19 14:13	1
Dibromofluoromethane (Surr)	91		75 - 128		04/28/19 14:13	1

Lab Sample ID: LCS 240-378551/4
Matrix: Water
Analysis Batch: 378551

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	9.84		ug/L		98	65 - 139
cis-1,2-Dichloroethene	10.0	9.26		ug/L		93	76 - 128
Tetrachloroethene	10.0	8.95		ug/L		90	74 - 130
trans-1,2-Dichloroethene	10.0	10.1		ug/L		101	78 - 133
Trichloroethene	10.0	9.50		ug/L		95	76 - 125
Vinyl chloride	10.0	9.88		ug/L		99	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	85		70 - 121
4-Bromofluorobenzene (Surr)	94		59 - 120
Toluene-d8 (Surr)	96		70 - 123
Dibromofluoromethane (Surr)	96		75 - 128

Lab Sample ID: 240-111166-E-2 MS
Matrix: Water
Analysis Batch: 378551

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	2.0	U	20.0	19.5		ug/L		97	53 - 140
cis-1,2-Dichloroethene	4.8		20.0	24.6		ug/L		99	64 - 130
Tetrachloroethene	29		20.0	44.9		ug/L		81	51 - 136
trans-1,2-Dichloroethene	2.0	U	20.0	19.2		ug/L		96	68 - 133
Trichloroethene	61		20.0	79.1		ug/L		89	55 - 131
Vinyl chloride	2.0	U	20.0	19.5		ug/L		98	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		70 - 121
4-Bromofluorobenzene (Surr)	98		59 - 120
Toluene-d8 (Surr)	102		70 - 123

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111401-1

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

Lab Sample ID: 240-111166-E-2 MS
Matrix: Water
Analysis Batch: 378551

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

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	98		75 - 128

Lab Sample ID: 240-111166-F-2 MSD
Matrix: Water
Analysis Batch: 378551

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

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier		Result	Qualifier				Limits		Limit
1,1-Dichloroethene	2.0	U	20.0	17.9		ug/L		89	53 - 140	9	35
cis-1,2-Dichloroethene	4.8		20.0	23.1		ug/L		92	64 - 130	6	21
Tetrachloroethene	29		20.0	44.8		ug/L		80	51 - 136	0	23
trans-1,2-Dichloroethene	2.0	U	20.0	17.9		ug/L		90	68 - 133	7	24
Trichloroethene	61		20.0	74.2		ug/L		64	55 - 131	6	23
Vinyl chloride	2.0	U	20.0	19.0		ug/L		95	43 - 154	3	29

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	90		70 - 121
4-Bromofluorobenzene (Surr)	97		59 - 120
Toluene-d8 (Surr)	104		70 - 123
Dibromofluoromethane (Surr)	97		75 - 128

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

Lab Sample ID: MB 240-378426/5
Matrix: Water
Analysis Batch: 378426

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/26/19 11:08	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		04/26/19 11:08	1

Lab Sample ID: LCS 240-378426/4
Matrix: Water
Analysis Batch: 378426

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

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
		Result	Qualifier				Limits
1,4-Dioxane	10.0	11.5		ug/L		115	59 - 131

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	107		63 - 125

Lab Sample ID: 240-111538-C-3 MS
Matrix: Water
Analysis Batch: 378426

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

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier		Result	Qualifier				Limits
1,4-Dioxane	1.9	J	10.0	12.8		ug/L		109	52 - 129

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111401-1

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)	102		63 - 125

Lab Sample ID: 240-111538-C-3 MSD
Matrix: Water
Analysis Batch: 378426

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	1.9	J	10.0	12.9		ug/L		110	52 - 129	0	13

<i>Surrogate</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	105		63 - 125

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111401-1

GC/MS VOA

Analysis Batch: 378426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-111401-1	MW-191S_042219	Total/NA	Water	8260B SIM	
MB 240-378426/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-378426/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-111538-C-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-111538-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 378551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-111401-1	MW-191S_042219	Total/NA	Water	8260B	
240-111401-2	TRIP BLANK	Total/NA	Water	8260B	
MB 240-378551/6	Method Blank	Total/NA	Water	8260B	
LCS 240-378551/4	Lab Control Sample	Total/NA	Water	8260B	
240-111166-E-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-111166-F-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111401-1

Client Sample ID: MW-191S_042219

Lab Sample ID: 240-111401-1

Date Collected: 04/22/19 14:10

Matrix: Water

Date Received: 04/24/19 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	378551	04/28/19 18:22	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	378426	04/26/19 11:58	SAM	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-111401-2

Date Collected: 04/22/19 00:00

Matrix: Water

Date Received: 04/24/19 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	378551	04/28/19 18:47	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.

Job ID: 240-111401-1

Project/Site: Ford LTP Livonia MI - E203631

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 Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
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	06-30-19
New York	NELAP	2	10975	03-31-20
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
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.

Eurofins TestAmerica, Canton

MICHIGAN
190

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: N.Canton — 4101 Shuffel Street NW, North Canton, OH 44720 / 330-497-9396

Regulatory program: DW NPDES RCRA Other

Client Contact
Company Name: Arcadis
Address: 28550 Cabot Drive, Suite 500
City/State/Zip: Novi, MI, 48377
Phone: 248-994-2240

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

Site Contact: Angela DeGrandis
Telephone: 734-320-0065

Lab Contact: Mike DeMonico
Telephone: 330-497-9396

TestAmerica Laboratories, Inc.
COC No: _____ of _____

For lab use only
Walk-in client
Lab sampling
Job/SDG No: _____

Sample Identification
MW-191S-042219
trip blank

Sample Date: 4/22/19 1410

Sample Time: _____

Method of Shipment/Carrier: _____

Shipping/Tracking No: _____

Matrix: Air, Aqueous, Sediment, Solid, Other: _____

Containers & Preservatives: H2SO4, HNO3, HCl, NaOH, ZnO, NaOH, Other: _____

Analysis: Filtered Sample (Y/N) NG, Composite C/Grab-G, 1,1-DCE 8260B, cis-1,2-DCE 8260B, Trans-1,2-DCE 8260B, PCE 8260B, TCE 8260B, Vinyl Chloride 8260B, 1,4-Dioxane 8260B SIM, 6 VOCs

Sample Specific Notes / Special Instructions



Possible Hazard Identification
 Non-Hazard Irritable Poison B Unknown

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

Relinquished By: [Signature]
Relinquished by: M. K. [Signature]
Relinquished by: [Signature]

Company: Arcadis
Date/Time: 4/22/19 1630
Received by: New Fringe

Company: Arcadis
Date/Time: 4/23/19 0805
Received by: [Signature]

Company: E-TAC
Date/Time: 4/23/19 1210
Received in Laboratory by: [Signature]

Company: Arcadis
Date/Time: 4/22/19 1630
Received by: [Signature]

Company: E-TAC
Date/Time: 4-22-19 985
Received in Laboratory by: [Signature]

Company: E-TAC
Date/Time: 4-24-19 815
Received in Laboratory by: [Signature]

©2004 TestAmerica Laboratories, Inc. All rights reserved. Performance & Design are trademarks of TestAmerica Laboratories, Inc.



TestAmerica Canton Sample Receipt Form/Narrative


Login # : 111401

Canton Facility

Client Arcadis Site Name _____ Cooler unpacked by: Ryan Cribley
 Cooler Received on 4-24-19 Opened on 4-24-19 815
 FedEx: 1st Grd² Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

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

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

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-8 (CF -0.2 °C) Observed Cooler Temp. 1.2 °C Corrected Cooler Temp. 1.0 °C
 IR GUN #36 (CF +0.7°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels 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 # 57160 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: RC

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: _____