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ANALYTICAL REPORT

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

Laboratory Job ID: 240-134654-1
Client Project/Site: Ford LTP Off-Site

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

Attn: Kristoffer Hinskey

Authorized for release by:
8/21/2020 10:32:57 AM

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Definitions/Glossary

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

Job ID: 240-134654-1

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
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 240-134654-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Off-Site

Report Number: 240-134654-1

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 8/7/2020 9:20 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.5º C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-134654-1), MW-84_080520 (240-134654-2), MW-84S_080520 (240-134654-3), MW-78S_080520 (240-134654-4), MW-78_080520 (240-134654-5), MW-98S_080520 (240-134654-6) and MW-97S_080520 (240-134654-7) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 08/17/2020 and 08/18/2020.

cis-1,2-Dichloroethene was detected in method blank MB 240-447616/7 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

The continuing calibration verification (CCV) associated with batch 447402 recovered above the upper control limit for Vinyl Chloride. The samples associated with this CCV were non-detect for the affected analyte; therefore, the data have been reported. The associated samples are impacted: TRIP BLANK (240-134654-1), MW-84_080520 (240-134654-2), MW-78_080520 (240-134654-5), MW-98S_080520 (240-134654-6) and MW-97S_080520 (240-134654-7).

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

Job ID: 240-134654-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-84_080520 (240-134654-2), MW-84S_080520 (240-134654-3), MW-78S_080520 (240-134654-4), MW-78_080520 (240-134654-5), MW-98S_080520 (240-134654-6) and MW-97S_080520 (240-134654-7) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 08/13/2020 and 08/14/2020.

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 Off-Site

Job ID: 240-134654-1

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

Protocol References:

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

Laboratory References:

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

Sample Summary

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

Job ID: 240-134654-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-134654-1	TRIP BLANK	Water	08/05/20 00:00	08/07/20 09:20	
240-134654-2	MW-84_080520	Water	08/05/20 09:12	08/07/20 09:20	
240-134654-3	MW-84S_080520	Water	08/05/20 10:20	08/07/20 09:20	
240-134654-4	MW-78S_080520	Water	08/05/20 11:52	08/07/20 09:20	
240-134654-5	MW-78_080520	Water	08/05/20 12:40	08/07/20 09:20	
240-134654-6	MW-98S_080520	Water	08/05/20 13:48	08/07/20 09:20	
240-134654-7	MW-97S_080520	Water	08/05/20 14:53	08/07/20 09:20	

Detection Summary

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

Job ID: 240-134654-1

Client Sample ID: TRIP BLANK — Lab Sample ID: 240-134654-1

No Detections.

Client Sample ID: MW-84_080520 — Lab Sample ID: 240-134654-2

No Detections.

Client Sample ID: MW-84S_080520 — Lab Sample ID: 240-134654-3

No Detections.

Client Sample ID: MW-78S_080520 — Lab Sample ID: 240-134654-4

No Detections.

Client Sample ID: MW-78_080520 — Lab Sample ID: 240-134654-5

No Detections.

Client Sample ID: MW-98S_080520 — Lab Sample ID: 240-134654-6

No Detections.

Client Sample ID: MW-97S_080520 — Lab Sample ID: 240-134654-7

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 240-134654-1

Client Sample ID: TRIP BLANK

Date Collected: 08/05/20 00:00
Date Received: 08/07/20 09:20

Lab Sample ID: 240-134654-1

Matrix: Water

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	0.46	ug/L			08/17/20 13:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/17/20 13:34	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/17/20 13:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/17/20 13:34	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/17/20 13:34	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/17/20 13:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 130*		*08/17/20 13:34*	*1*
4-Bromofluorobenzene (Surr)	*97*		*47 - 134*		*08/17/20 13:34*	*1*
Toluene-d8 (Surr)	*100*		*69 - 122*		*08/17/20 13:34*	*1*
Dibromofluoromethane (Surr)	*115*		*78 - 129*		*08/17/20 13:34*	*1*

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

Job ID: 240-134654-1

Client Sample ID: MW-84_080520
Date Collected: 08/05/20 09:12
Date Received: 08/07/20 09:20

Lab Sample ID: 240-134654-2
Matrix: Water

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			08/14/20 13:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*70 - 133*		*08/14/20 13:17*	*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	0.46	ug/L			08/17/20 13:56	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/17/20 13:56	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/17/20 13:56	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/17/20 13:56	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/17/20 13:56	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/17/20 13:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 130*		*08/17/20 13:56*	*1*
4-Bromofluorobenzene (Surr)	*100*		*47 - 134*		*08/17/20 13:56*	*1*
Toluene-d8 (Surr)	*103*		*69 - 122*		*08/17/20 13:56*	*1*
Dibromofluoromethane (Surr)	*118*		*78 - 129*		*08/17/20 13:56*	*1*

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

Job ID: 240-134654-1

Client Sample ID: MW-84S_080520
Date Collected: 08/05/20 10:20
Date Received: 08/07/20 09:20

Lab Sample ID: 240-134654-3
Matrix: Water

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			08/13/20 13:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 133*		*08/13/20 13:32*	*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	0.46	ug/L			08/18/20 17:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/18/20 17:32	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/18/20 17:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/18/20 17:32	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/18/20 17:32	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/18/20 17:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 130*		*08/18/20 17:32*	*1*
4-Bromofluorobenzene (Surr)	*76*		*47 - 134*		*08/18/20 17:32*	*1*
Toluene-d8 (Surr)	*95*		*69 - 122*		*08/18/20 17:32*	*1*
Dibromofluoromethane (Surr)	*92*		*78 - 129*		*08/18/20 17:32*	*1*

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

Job ID: 240-134654-1

Client Sample ID: MW-78S_080520
Date Collected: 08/05/20 11:52
Date Received: 08/07/20 09:20

Lab Sample ID: 240-134654-4
Matrix: Water

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			08/13/20 13:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 133*		*08/13/20 13:57*	*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	0.46	ug/L			08/18/20 17:54	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/18/20 17:54	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/18/20 17:54	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/18/20 17:54	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/18/20 17:54	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/18/20 17:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 130*		*08/18/20 17:54*	*1*
4-Bromofluorobenzene (Surr)	*75*		*47 - 134*		*08/18/20 17:54*	*1*
Toluene-d8 (Surr)	*92*		*69 - 122*		*08/18/20 17:54*	*1*
Dibromofluoromethane (Surr)	*91*		*78 - 129*		*08/18/20 17:54*	*1*

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

Job ID: 240-134654-1

Client Sample ID: MW-78_080520
Date Collected: 08/05/20 12:40
Date Received: 08/07/20 09:20

Lab Sample ID: 240-134654-5
Matrix: Water

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			08/14/20 14:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*86*		*70 - 133*		*08/14/20 14:31*	*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	0.46	ug/L			08/17/20 15:03	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/17/20 15:03	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/17/20 15:03	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/17/20 15:03	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/17/20 15:03	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/17/20 15:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 130*		*08/17/20 15:03*	*1*
4-Bromofluorobenzene (Surr)	*102*		*47 - 134*		*08/17/20 15:03*	*1*
Toluene-d8 (Surr)	*105*		*69 - 122*		*08/17/20 15:03*	*1*
Dibromofluoromethane (Surr)	*124*		*78 - 129*		*08/17/20 15:03*	*1*

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

Job ID: 240-134654-1

Client Sample ID: MW-98S_080520
Date Collected: 08/05/20 13:48
Date Received: 08/07/20 09:20

Lab Sample ID: 240-134654-6
Matrix: Water

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			08/14/20 14:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 133*		*08/14/20 14:56*	*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	0.46	ug/L			08/17/20 15:25	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/17/20 15:25	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/17/20 15:25	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/17/20 15:25	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/17/20 15:25	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/17/20 15:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 130*		*08/17/20 15:25*	*1*
4-Bromofluorobenzene (Surr)	*104*		*47 - 134*		*08/17/20 15:25*	*1*
Toluene-d8 (Surr)	*104*		*69 - 122*		*08/17/20 15:25*	*1*
Dibromofluoromethane (Surr)	*120*		*78 - 129*		*08/17/20 15:25*	*1*

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

Job ID: 240-134654-1

Client Sample ID: MW-97S_080520
Date Collected: 08/05/20 14:53
Date Received: 08/07/20 09:20

Lab Sample ID: 240-134654-7
Matrix: Water

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			08/14/20 15:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 133*		*08/14/20 15:21*	*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	0.46	ug/L			08/17/20 15:48	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/17/20 15:48	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/17/20 15:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/17/20 15:48	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/17/20 15:48	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/17/20 15:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 130*		*08/17/20 15:48*	*1*
4-Bromofluorobenzene (Surr)	*108*		*47 - 134*		*08/17/20 15:48*	*1*
Toluene-d8 (Surr)	*109*		*69 - 122*		*08/17/20 15:48*	*1*
Dibromofluoromethane (Surr)	*126*		*78 - 129*		*08/17/20 15:48*	*1*

Surrogate Summary

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

Job ID: 240-134654-1

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 (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-134593-A-5 MS	Matrix Spike	96	95	102	92
240-134593-A-5 MSD	Matrix Spike Duplicate	92	94	100	87
240-134654-1	TRIP BLANK	96	97	100	115
240-134654-2	MW-84_080520	102	100	103	118
240-134654-2 MS	MW-84-MS_080520	93	92	94	114
240-134654-2 MSD	MW-84-MSD_080520	100	96	101	120
240-134654-3	MW-84S_080520	108	76	95	92
240-134654-4	MW-78S_080520	106	75	92	91
240-134654-5	MW-78_080520	102	102	105	124
240-134654-6	MW-98S_080520	101	104	104	120
240-134654-7	MW-97S_080520	103	108	109	126
LCS 240-447402/4	Lab Control Sample	104	105	109	124
LCS 240-447616/4	Lab Control Sample	97	97	100	91
MB 240-447402/6	Method Blank	104	106	108	121
MB 240-447616/7	Method Blank	102	79	94	89

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 (70-133)
240-134649-E-4 MS	Matrix Spike	92
240-134649-E-4 MSD	Matrix Spike Duplicate	89
240-134654-2	MW-84_080520	84
240-134654-2 MS	MW-84-MS_080520	88
240-134654-2 MSD	MW-84-MSD_080520	83
240-134654-3	MW-84S_080520	89
240-134654-4	MW-78S_080520	90
240-134654-5	MW-78_080520	86
240-134654-6	MW-98S_080520	88
240-134654-7	MW-97S_080520	88
LCS 240-446903/4	Lab Control Sample	88
LCS 240-447208/4	Lab Control Sample	87
MB 240-446903/5	Method Blank	84
MB 240-447208/5	Method Blank	88

Surrogate Legend

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

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

Lab Sample ID: MB 240-447402/6
Matrix: Water
Analysis Batch: 447402

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	0.46	ug/L			08/17/20 10:35	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/17/20 10:35	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/17/20 10:35	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/17/20 10:35	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/17/20 10:35	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/17/20 10:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 130*		*08/17/20 10:35*	*1*
4-Bromofluorobenzene (Surr)	*106*		*47 - 134*		*08/17/20 10:35*	*1*
Toluene-d8 (Surr)	*108*		*69 - 122*		*08/17/20 10:35*	*1*
Dibromofluoromethane (Surr)	*121*		*78 - 129*		*08/17/20 10:35*	*1*

Lab Sample ID: LCS 240-447402/4
Matrix: Water
Analysis Batch: 447402

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	11.8		ug/L		118	73 - 129
cis-1,2-Dichloroethene	10.0	11.5		ug/L		115	75 - 124
Tetrachloroethene	10.0	11.0		ug/L		110	70 - 125
trans-1,2-Dichloroethene	10.0	11.5		ug/L		115	74 - 130
Trichloroethene	10.0	10.8		ug/L		108	71 - 121
Vinyl chloride	10.0	11.5		ug/L		115	61 - 134

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 130*
4-Bromofluorobenzene (Surr)	*105*		*47 - 134*
Toluene-d8 (Surr)	*109*		*69 - 122*
Dibromofluoromethane (Surr)	*124*		*78 - 129*

Lab Sample ID: 240-134654-2 MS
Matrix: Water
Analysis Batch: 447402

Client Sample ID: MW-84-MS_080520
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	10.4		ug/L		104	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	11.1		ug/L		111	68 - 121
Tetrachloroethene	1.0	U	10.0	9.97		ug/L		100	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	11.0		ug/L		110	69 - 126
Trichloroethene	1.0	U	10.0	10.3		ug/L		103	56 - 124
Vinyl chloride	1.0	U	10.0	10.7		ug/L		107	49 - 136

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 130*
4-Bromofluorobenzene (Surr)	*92*		*47 - 134*
Toluene-d8 (Surr)	*94*		*69 - 122*

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

Lab Sample ID: 240-134654-2 MS
Matrix: Water
Analysis Batch: 447402

Client Sample ID: MW-84-MS_080520
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	*114*		*78 - 129*

Lab Sample ID: 240-134654-2 MSD
Matrix: Water
Analysis Batch: 447402

Client Sample ID: MW-84-MSD_080520
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	11.2		ug/L		112	64 - 132	8	35
cis-1,2-Dichloroethene	1.0	U	10.0	11.3		ug/L		113	68 - 121	2	35
Tetrachloroethene	1.0	U	10.0	10.8		ug/L		108	52 - 129	8	35
trans-1,2-Dichloroethene	1.0	U	10.0	11.3		ug/L		113	69 - 126	3	35
Trichloroethene	1.0	U	10.0	11.3		ug/L		113	56 - 124	9	35
Vinyl chloride	1.0	U	10.0	12.2		ug/L		122	49 - 136	13	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 130*
4-Bromofluorobenzene (Surr)	*96*		*47 - 134*
Toluene-d8 (Surr)	*101*		*69 - 122*
Dibromofluoromethane (Surr)	*120*		*78 - 129*

Lab Sample ID: MB 240-447616/7
Matrix: Water
Analysis Batch: 447616

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	0.46	ug/L			08/18/20 12:48	1
cis-1,2-Dichloroethene	0.383	J	1.0	0.38	ug/L			08/18/20 12:48	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/18/20 12:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/18/20 12:48	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/18/20 12:48	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/18/20 12:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 130*		*08/18/20 12:48*	*1*
4-Bromofluorobenzene (Surr)	*79*		*47 - 134*		*08/18/20 12:48*	*1*
Toluene-d8 (Surr)	*94*		*69 - 122*		*08/18/20 12:48*	*1*
Dibromofluoromethane (Surr)	*89*		*78 - 129*		*08/18/20 12:48*	*1*

Lab Sample ID: LCS 240-447616/4
Matrix: Water
Analysis Batch: 447616

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	9.10		ug/L		91	73 - 129
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	75 - 124
Tetrachloroethene	10.0	11.1		ug/L		111	70 - 125
trans-1,2-Dichloroethene	10.0	9.16		ug/L		92	74 - 130
Trichloroethene	10.0	9.65		ug/L		97	71 - 121

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

Lab Sample ID: LCS 240-447616/4
Matrix: Water
Analysis Batch: 447616

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Vinyl chloride			10.0	9.94		ug/L		99	61 - 134		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 130*
4-Bromofluorobenzene (Surr)	*97*		*47 - 134*
Toluene-d8 (Surr)	*100*		*69 - 122*
Dibromofluoromethane (Surr)	*91*		*78 - 129*

Lab Sample ID: 240-134593-A-5 MS
Matrix: Water
Analysis Batch: 447616

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	1000	U	10000	8580		ug/L		86	64 - 132		
cis-1,2-Dichloroethene	1000	U	10000	9110		ug/L		91	68 - 121		
Tetrachloroethene	1000	U	10000	8660		ug/L		87	52 - 129		
trans-1,2-Dichloroethene	1000	U	10000	8320		ug/L		83	69 - 126		
Trichloroethene	1000	U	10000	8370		ug/L		84	56 - 124		
Vinyl chloride	1000	U	10000	9600		ug/L		96	49 - 136		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 130*
4-Bromofluorobenzene (Surr)	*95*		*47 - 134*
Toluene-d8 (Surr)	*102*		*69 - 122*
Dibromofluoromethane (Surr)	*92*		*78 - 129*

Lab Sample ID: 240-134593-A-5 MSD
Matrix: Water
Analysis Batch: 447616

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	1000	U	10000	7900		ug/L		79	64 - 132	8	35
cis-1,2-Dichloroethene	1000	U	10000	8440		ug/L		84	68 - 121	8	35
Tetrachloroethene	1000	U	10000	9510		ug/L		95	52 - 129	9	35
trans-1,2-Dichloroethene	1000	U	10000	7790		ug/L		78	69 - 126	7	35
Trichloroethene	1000	U	10000	8280		ug/L		83	56 - 124	1	35
Vinyl chloride	1000	U	10000	8220		ug/L		82	49 - 136	16	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*75 - 130*
4-Bromofluorobenzene (Surr)	*94*		*47 - 134*
Toluene-d8 (Surr)	*100*		*69 - 122*
Dibromofluoromethane (Surr)	*87*		*78 - 129*

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

Lab Sample ID: MB 240-446903/5
Matrix: Water
Analysis Batch: 446903

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			08/13/20 04:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*70 - 133*		*08/13/20 04:27*	*1*

Lab Sample ID: LCS 240-446903/4
Matrix: Water
Analysis Batch: 446903

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	9.21		ug/L		92	80 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 133*

Lab Sample ID: 240-134649-E-4 MS
Matrix: Water
Analysis Batch: 446903

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	2.0	U	10.0	8.95		ug/L		89	46 - 170		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 133*

Lab Sample ID: 240-134649-E-4 MSD
Matrix: Water
Analysis Batch: 446903

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
1,4-Dioxane	2.0	U	10.0	8.79		ug/L		88	46 - 170	2	26

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 133*

Lab Sample ID: MB 240-447208/5
Matrix: Water
Analysis Batch: 447208

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			08/14/20 12:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 133*		*08/14/20 12:26*	*1*

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

Lab Sample ID: LCS 240-447208/4
Matrix: Water
Analysis Batch: 447208

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	10.6		ug/L		106	80 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*87*		*70 - 133*

Lab Sample ID: 240-134654-2 MS
Matrix: Water
Analysis Batch: 447208

Client Sample ID: MW-84-MS_080520
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane	2.0	U	10.0	10.3		ug/L		103	46 - 170		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 133*

Lab Sample ID: 240-134654-2 MSD
Matrix: Water
Analysis Batch: 447208

Client Sample ID: MW-84-MSD_080520
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	10.1		ug/L		101	46 - 170	3	26

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*83*		*70 - 133*

GC/MS VOA

Analysis Batch: 446903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134654-3	MW-84S_080520	Total/NA	Water	8260B SIM	
240-134654-4	MW-78S_080520	Total/NA	Water	8260B SIM	
MB 240-446903/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-446903/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-134649-E-4 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-134649-E-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 447208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134654-2	MW-84_080520	Total/NA	Water	8260B SIM	
240-134654-5	MW-78_080520	Total/NA	Water	8260B SIM	
240-134654-6	MW-98S_080520	Total/NA	Water	8260B SIM	
240-134654-7	MW-97S_080520	Total/NA	Water	8260B SIM	
MB 240-447208/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-447208/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-134654-2 MS	MW-84-MS_080520	Total/NA	Water	8260B SIM	
240-134654-2 MSD	MW-84-MSD_080520	Total/NA	Water	8260B SIM	

Analysis Batch: 447402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134654-1	TRIP BLANK	Total/NA	Water	8260B	
240-134654-2	MW-84_080520	Total/NA	Water	8260B	
240-134654-5	MW-78_080520	Total/NA	Water	8260B	
240-134654-6	MW-98S_080520	Total/NA	Water	8260B	
240-134654-7	MW-97S_080520	Total/NA	Water	8260B	
MB 240-447402/6	Method Blank	Total/NA	Water	8260B	
LCS 240-447402/4	Lab Control Sample	Total/NA	Water	8260B	
240-134654-2 MS	MW-84-MS_080520	Total/NA	Water	8260B	
240-134654-2 MSD	MW-84-MSD_080520	Total/NA	Water	8260B	

Analysis Batch: 447616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134654-3	MW-84S_080520	Total/NA	Water	8260B	
240-134654-4	MW-78S_080520	Total/NA	Water	8260B	
MB 240-447616/7	Method Blank	Total/NA	Water	8260B	
LCS 240-447616/4	Lab Control Sample	Total/NA	Water	8260B	
240-134593-A-5 MS	Matrix Spike	Total/NA	Water	8260B	
240-134593-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-134654-1

Client Sample ID: TRIP BLANK
Lab Sample ID: 240-134654-1
Date Collected: 08/05/20 00:00
Matrix: Water
Date Received: 08/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	447402	08/17/20 13:34	LEE	TAL CAN

Client Sample ID: MW-84_080520
Lab Sample ID: 240-134654-2
Date Collected: 08/05/20 09:12
Matrix: Water
Date Received: 08/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	447402	08/17/20 13:56	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	447208	08/14/20 13:17	SAM	TAL CAN

Client Sample ID: MW-84S_080520
Lab Sample ID: 240-134654-3
Date Collected: 08/05/20 10:20
Matrix: Water
Date Received: 08/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	447616	08/18/20 17:32	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	446903	08/13/20 13:32	TJL2	TAL CAN

Client Sample ID: MW-78S_080520
Lab Sample ID: 240-134654-4
Date Collected: 08/05/20 11:52
Matrix: Water
Date Received: 08/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	447616	08/18/20 17:54	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	446903	08/13/20 13:57	TJL2	TAL CAN

Client Sample ID: MW-78_080520
Lab Sample ID: 240-134654-5
Date Collected: 08/05/20 12:40
Matrix: Water
Date Received: 08/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	447402	08/17/20 15:03	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	447208	08/14/20 14:31	SAM	TAL CAN

Client Sample ID: MW-98S_080520
Lab Sample ID: 240-134654-6
Date Collected: 08/05/20 13:48
Matrix: Water
Date Received: 08/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	447402	08/17/20 15:25	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	447208	08/14/20 14:56	SAM	TAL CAN

Lab Chronicle

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

Job ID: 240-134654-1

Client Sample ID: MW-97S_080520

Date Collected: 08/05/20 14:53
Date Received: 08/07/20 09:20

Lab Sample ID: 240-134654-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	447402	08/17/20 15:48	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	447208	08/14/20 15:21	SAM	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 Off-Site

Job ID: 240-134654-1

Laboratory: Eurofins TestAmerica, Canton

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

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

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

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				
Company Name: Arcadis	Client Project Manager: Kris Hinskey	Site Contact: Julia McClafferty	Lab Contact: Mike DelMonico	COC No:
Address: 28550 Cabot Drive, Suite 500	Telephone: 248-994-2240	Telephone: 734-644-5131	Telephone: 330-497-9396	1 of 1 COCs
City/State/Zip: Novi, MI, 48377	Email: kristoffer.hinskey@arcadis.com	Analysis Turnaround Time		
Phone: 248-994-2240	Sampler Name: CHRISTINA WEAVER	TAT if different from below: 10 day; ☐ 3 weeks [✓ 2 weeks] ☐ 1 week ☐ 2 days ☐ 1 day		240-134654 Chain of Custody
Project Name: Ford LTP Off-Site	Method of Shipment/Carrier:			
Project Number: 30050315.402.04	Shipping/Tracking No:			
PO # 30050315.402.04				

Sample Identification	Sample Date	Sample Time	Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other:	Filtered Sample (Y / N)	Composite=C / Grab=G	1,1-DCE 8260B	cis-1,2-DCE 8260B	Trans-1,2-DCE 8260B	PCE 8260B	TCE 8260B	Vinyl Chloride 8260B	1,4-Dioxane 8260B SIM	Sample Specific Notes / Special Instructions:
TRIP BLANK	8/5/20	—		X						1					N	G	X	X	X	X	X	X	X	"1 TRIP BLANK"
MW-84_080520	8/5/20	0912		X						~~18~~ 6					N	G	X	X	X	X	X	X	X	"9 VOAS FOR 8260B, 9 VOAS FOR 8260SIM, MS/MSD"
MW-84S_080520	8/5/20	1020		X						6					N	G	X	X	X	X	X	X	X	"3 VOAS FOR 8260B, 3 VOAS FOR 8260SIM"
MW-78S_080520	8/5/20	1152		X						6					N	G	X	X	X	X	X	X	X	" "
MW-78_080520	8/5/20	1240		X						6					N	G	X	X	X	X	X	X	X	
MW-98S_080520	8/5/20	1348		X						6					N	G	X	X	X	X	X	X	X	
MW-97S_080520	8/5/20	1453		X						6					N	G	X	X	X	X	X	X	X	
MW-~~84S~~ 84-MSD_080520	8/5/20	0912		X						6					N	G	X	X	X	X	X	X	X	MS/MSD belongs to MW-84_080520
MW-~~84S~~ 84-MS_080520	8/5/20	0912		X						6					N	G	X	X	X	X	X	X	X	↓

Possible Hazard Identification
[✓ Non-Hazard] ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client [✓ Disposal By Lab] ☐ Archive For ____ Months

Special Instructions/QC Requirements & Comments:

Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203631
Level IV Reporting requested.

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[illegible]	ARCADIS	8/5/20/1600	NOVI COLD STORAGE	ARCADIS	8/5/20 /1600
[illegible]	Arcadis	8/6/20 /1245	[illegible]	ETA MI	8/6/20 1250
[illegible]	ETA MI	8/6/20 13:00	Received in Laboratory by: [illegible]	ETAC	8-7-20 920

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** 134654

Canton Facility

Client Arcadis Site Name

Cooler unpacked by:

Cooler Received on 8-7-20 Opened on 8-7-20

FedEx: 1st ~~Grd~~ Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

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

TestAmerica Cooler # NA 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-10 (CF **+0.7** °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C
   IR GUN #IR-11 (CF **+0.9**°C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 4 ~~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# HC911298
13. Were VOAs on the COC? ~~Yes~~ No
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this. Yes ~~No~~ NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # NA ~~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: _____

WI-NC-099

Login # : 134654

Eurofins TestAmerica Canton Sample Receipt Multiple Cooler Form

This Lot only →

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
TA Client Box Other	IR-10 IR-11	3.1	4.0	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11	1.2	2.2	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11	1.3	2.2	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11	1.6	2.5	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

WI-NC-099 Cooler Receipt Form Page 2 - Multiple Coolers