

ANALYTICAL REPORT

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

Laboratory Job ID: 240-149971-1
Client Project/Site: Ford LTP - Off Site
Revision: 1

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

Attn: Kristoffer Hinskey



Authorized for release by:
6/22/2021 11:26:49 AM

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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 - Off Site

Job ID: 240-149971-1

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.
α	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

Case Narrative

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

Job ID: 240-149971-1

Job ID: 240-149971-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative 240-149971-1

Comments

No additional comments.

Receipt

The samples were received on 5/22/2021 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.6° C.

GC/MS VOA

Method 8260B: The MS/MSD for batch 240-488207 was not analyzed due to an instrument malfunction: TRIP BLANK_72 (240-149971-1).

Method 8260B SIM: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with analytical batch 240-488395.

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

VOA Prep

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

Method Summary

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

Job ID: 240-149971-1

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

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

Sample Summary

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

Job ID: 240-149971-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-149971-1	TRIP BLANK_72	Water	05/20/21 00:00	05/22/21 08:00	
240-149971-2	MW-101S_052021	Water	05/20/21 11:15	05/22/21 08:00	
240-149971-3	MW-100S_052021	Water	05/20/21 10:01	05/22/21 08:00	

- 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 - Off Site

Job ID: 240-149971-1

Client Sample ID: TRIP BLANK_72

Lab Sample ID: 240-149971-1

No Detections.

Client Sample ID: MW-101S_052021

Lab Sample ID: 240-149971-2

No Detections.

Client Sample ID: MW-100S_052021

Lab Sample ID: 240-149971-3

No Detections.

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

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 240-149971-1

Client Sample ID: TRIP BLANK_72

Lab Sample ID: 240-149971-1

Date Collected: 05/20/21 00:00

Matrix: Water

Date Received: 05/22/21 08:00

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			05/29/21 23:43	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/29/21 23:43	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/29/21 23:43	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/21 23:43	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/29/21 23:43	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/29/21 23:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		75 - 130		05/29/21 23:43	1
4-Bromofluorobenzene (Surr)	92		47 - 134		05/29/21 23:43	1
Toluene-d8 (Surr)	101		69 - 122		05/29/21 23:43	1
Dibromofluoromethane (Surr)	86		78 - 129		05/29/21 23:43	1

Client Sample Results

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

Job ID: 240-149971-1

Client Sample ID: MW-101S_052021

Lab Sample ID: 240-149971-2

Date Collected: 05/20/21 11:15

Matrix: Water

Date Received: 05/22/21 08:00

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			06/01/21 19:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		70 - 133					06/01/21 19:48	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			06/01/21 16:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			06/01/21 16:23	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			06/01/21 16:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/01/21 16:23	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			06/01/21 16:23	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			06/01/21 16:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		75 - 130					06/01/21 16:23	1
4-Bromofluorobenzene (Surr)	90		47 - 134					06/01/21 16:23	1
Toluene-d8 (Surr)	97		69 - 122					06/01/21 16:23	1
Dibromofluoromethane (Surr)	87		78 - 129					06/01/21 16:23	1

Client Sample Results

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

Job ID: 240-149971-1

Client Sample ID: MW-100S_052021

Lab Sample ID: 240-149971-3

Date Collected: 05/20/21 10:01

Matrix: Water

Date Received: 05/22/21 08:00

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			06/03/21 03:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		70 - 133					06/03/21 03:18	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			06/01/21 16:48	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			06/01/21 16:48	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			06/01/21 16:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/01/21 16:48	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			06/01/21 16:48	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			06/01/21 16:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	78		75 - 130					06/01/21 16:48	1
4-Bromofluorobenzene (Surr)	90		47 - 134					06/01/21 16:48	1
Toluene-d8 (Surr)	96		69 - 122					06/01/21 16:48	1
Dibromofluoromethane (Surr)	87		78 - 129					06/01/21 16:48	1

Surrogate Summary

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

Job ID: 240-149971-1

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 (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-149971-1	TRIP BLANK_72	81	92	101	86
240-149971-2	MW-101S_052021	81	90	97	87
240-149971-3	MW-100S_052021	78	90	96	87
240-149975-E-2 MS	Matrix Spike	81	95	96	86
240-149975-F-2 MSD	Matrix Spike Duplicate	81	95	98	89
LCS 240-488207/4	Lab Control Sample	79	95	97	84
LCS 240-488334/4	Lab Control Sample	79	94	98	87
MB 240-488207/7	Method Blank	78	93	102	87
MB 240-488334/7	Method Blank	79	94	98	86

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)
240-149971-2	MW-101S_052021	80
240-149971-3	MW-100S_052021	81
240-149976-J-3 MS	Matrix Spike	79
240-149976-J-3 MSD	Matrix Spike Duplicate	78
LCS 240-488395/4	Lab Control Sample	83
LCS 240-488696/4	Lab Control Sample	84
MB 240-488395/5	Method Blank	84
MB 240-488696/5	Method Blank	85

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-149971-1

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

Lab Sample ID: MB 240-488207/7
Matrix: Water
Analysis Batch: 488207

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			05/29/21 15:19	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/29/21 15:19	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/29/21 15:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/29/21 15:19	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/29/21 15:19	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/29/21 15:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	78		75 - 130		05/29/21 15:19	1
4-Bromofluorobenzene (Surr)	93		47 - 134		05/29/21 15:19	1
Toluene-d8 (Surr)	102		69 - 122		05/29/21 15:19	1
Dibromofluoromethane (Surr)	87		78 - 129		05/29/21 15:19	1

Lab Sample ID: LCS 240-488207/4
Matrix: Water
Analysis Batch: 488207

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	7.64		ug/L		76	73 - 129
cis-1,2-Dichloroethene	10.0	9.29		ug/L		93	75 - 124
Tetrachloroethene	10.0	10.6		ug/L		106	70 - 125
trans-1,2-Dichloroethene	10.0	8.73		ug/L		87	74 - 130
Trichloroethene	10.0	9.09		ug/L		91	71 - 121
Vinyl chloride	10.0	12.4		ug/L		124	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	79		75 - 130
4-Bromofluorobenzene (Surr)	95		47 - 134
Toluene-d8 (Surr)	97		69 - 122
Dibromofluoromethane (Surr)	84		78 - 129

Lab Sample ID: MB 240-488334/7
Matrix: Water
Analysis Batch: 488334

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			06/01/21 15:33	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			06/01/21 15:33	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			06/01/21 15:33	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/01/21 15:33	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			06/01/21 15:33	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			06/01/21 15:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	79		75 - 130		06/01/21 15:33	1
4-Bromofluorobenzene (Surr)	94		47 - 134		06/01/21 15:33	1
Toluene-d8 (Surr)	98		69 - 122		06/01/21 15:33	1

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QC Sample Results

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

Job ID: 240-149971-1

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

Lab Sample ID: MB 240-488334/7
Matrix: Water
Analysis Batch: 488334

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

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Dibromofluoromethane (Surr)	86		78 - 129		06/01/21 15:33	1

Lab Sample ID: LCS 240-488334/4
Matrix: Water
Analysis Batch: 488334

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

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1-Dichloroethene	10.0	7.62		ug/L		76	73 - 129
cis-1,2-Dichloroethene	10.0	9.99		ug/L		100	75 - 124
Tetrachloroethene	10.0	11.2		ug/L		112	70 - 125
trans-1,2-Dichloroethene	10.0	8.80		ug/L		88	74 - 130
Trichloroethene	10.0	9.49		ug/L		95	71 - 121
Vinyl chloride	10.0	11.3		ug/L		113	61 - 134

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	79		75 - 130
4-Bromofluorobenzene (Surr)	94		47 - 134
Toluene-d8 (Surr)	98		69 - 122
Dibromofluoromethane (Surr)	87		78 - 129

Lab Sample ID: 240-149975-E-2 MS
Matrix: Water
Analysis Batch: 488334

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
1,1-Dichloroethene	1.0	U	10.0	7.15		ug/L		72	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	9.23		ug/L		92	68 - 121
Tetrachloroethene	1.0	U	10.0	10.1		ug/L		101	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	8.39		ug/L		84	69 - 126
Trichloroethene	1.0	U	10.0	9.30		ug/L		93	56 - 124
Vinyl chloride	1.0	U	10.0	11.1		ug/L		111	49 - 136

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	81		75 - 130
4-Bromofluorobenzene (Surr)	95		47 - 134
Toluene-d8 (Surr)	96		69 - 122
Dibromofluoromethane (Surr)	86		78 - 129

Lab Sample ID: 240-149975-F-2 MSD
Matrix: Water
Analysis Batch: 488334

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
				Result	Qualifier						
1,1-Dichloroethene	1.0	U	10.0	6.94		ug/L		69	64 - 132	3	35
cis-1,2-Dichloroethene	1.0	U	10.0	9.23		ug/L		92	68 - 121	0	35
Tetrachloroethene	1.0	U	10.0	10.1		ug/L		101	52 - 129	0	35
trans-1,2-Dichloroethene	1.0	U	10.0	8.54		ug/L		85	69 - 126	2	35
Trichloroethene	1.0	U	10.0	8.76		ug/L		88	56 - 124	6	35

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QC Sample Results

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

Job ID: 240-149971-1

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

Lab Sample ID: 240-149975-F-2 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 488334

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl chloride	1.0	U	10.0	11.8		ug/L		118	49 - 136	7	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	81		75 - 130
4-Bromofluorobenzene (Surr)	95		47 - 134
Toluene-d8 (Surr)	98		69 - 122
Dibromofluoromethane (Surr)	89		78 - 129

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

Lab Sample ID: MB 240-488395/5

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 488395

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			06/01/21 15:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		70 - 133		06/01/21 15:27	1

Lab Sample ID: LCS 240-488395/4

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 488395

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	9.79		ug/L		98	80 - 135

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

Lab Sample ID: MB 240-488696/5

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 488696

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			06/02/21 18:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 133		06/02/21 18:37	1

Lab Sample ID: LCS 240-488696/4

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 488696

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.1		ug/L		101	80 - 135

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-149971-1

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

Lab Sample ID: LCS 240-488696/4
Matrix: Water
Analysis Batch: 488696

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

	LCS	LCS	
<u>Surrogate</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
1,2-Dichloroethane-d4 (Surr)	84		70 - 133

Lab Sample ID: 240-149976-J-3 MS
Matrix: Water
Analysis Batch: 488696

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

<u>Analyte</u>	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	Limits
1,4-Dioxane	2.0	U	10.0	10.0		ug/L		100	46	170
<u>Surrogate</u>	MS	MS								
1,2-Dichloroethane-d4 (Surr)	79		70 - 133							

Lab Sample ID: 240-149976-J-3 MSD
Matrix: Water
Analysis Batch: 488696

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

<u>Analyte</u>	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.		RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit	
1,4-Dioxane	2.0	U	10.0	10.3		ug/L		103	46	170	3	26
<u>Surrogate</u>	MSD	MSD										
1,2-Dichloroethane-d4 (Surr)	78		70 - 133									

QC Association Summary

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

Job ID: 240-149971-1

GC/MS VOA

Analysis Batch: 488207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-149971-1	TRIP BLANK_72	Total/NA	Water	8260B	
MB 240-488207/7	Method Blank	Total/NA	Water	8260B	
LCS 240-488207/4	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 488334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-149971-2	MW-101S_052021	Total/NA	Water	8260B	
240-149971-3	MW-100S_052021	Total/NA	Water	8260B	
MB 240-488334/7	Method Blank	Total/NA	Water	8260B	
LCS 240-488334/4	Lab Control Sample	Total/NA	Water	8260B	
240-149975-E-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-149975-F-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 488395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-149971-2	MW-101S_052021	Total/NA	Water	8260B SIM	
MB 240-488395/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-488395/4	Lab Control Sample	Total/NA	Water	8260B SIM	

Analysis Batch: 488696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-149971-3	MW-100S_052021	Total/NA	Water	8260B SIM	
MB 240-488696/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-488696/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-149976-J-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-149976-J-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Lab Chronicle

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

Job ID: 240-149971-1

Client Sample ID: TRIP BLANK_72

Lab Sample ID: 240-149971-1

Date Collected: 05/20/21 00:00

Matrix: Water

Date Received: 05/22/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	488207	05/29/21 23:43	LRW	TAL CAN

Client Sample ID: MW-101S_052021

Lab Sample ID: 240-149971-2

Date Collected: 05/20/21 11:15

Matrix: Water

Date Received: 05/22/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	488334	06/01/21 16:23	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	488395	06/01/21 19:48	CS	TAL CAN

Client Sample ID: MW-100S_052021

Lab Sample ID: 240-149971-3

Date Collected: 05/20/21 10:01

Matrix: Water

Date Received: 05/22/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	488334	06/01/21 16:48	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	488696	06/03/21 03:18	CS	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: 240-149971-1

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	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-21
Iowa	State	421	06-01-21 *
Kansas	NELAP	E-10336	04-30-21 *
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

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

Eurofins TestAmerica, Canton

Client Contact			Regulatory program:		Site Contact: Julia McClafferty		Lab Contact: Mike DeMontico		TestAmerica Laboratories, Inc. COC No:		
Company Name: Arcadis	Address: 28580 Cabot Drive, Suite 500	City/State/Zip: North, MI, 48377	Telephone: 248-994-2240	Telephone: 338-497-9396	Telephone: 734-644-5131	Analyses		COCs		Job/SDG No:	
Project Name: Ford LTP Off-Site	Project Number: 300R0642.402.04	PO # 300R0642.402.04	Sampler Name: Andrew Banta	Analysis Turnaround Time TAT, if different from below	Containers & Preservatives	Matrix		Filtered Sample (Y/N)		Walk-in client	
Method of Shipment/Carrier:			Shipping/Tracking No:	10 day	H2SO4	HNO3	HCl	NaOH	ZnAc	Other	Lab sampling
Sample Identification			Sample Date	Sample Time	Other	Other	Other	Other	Other	Other	Job/SDG No:
TRIP Blank-72			--	--	X						1 of 1 COCs
NW 1005-052021			5/20/21	1115	X						for lab use only
NW 1005-052021			5/20/21	1001	X						Walk-in client
1 Trip Blank											Lab sampling
3 VOAs for 8260B											Job/SDG No:
3 VOAs for 8260B SIM											Sample Specific Notes / Special Instructions:
											1-Trip Blank
											3 VOAs for 8260B
											3 VOAs for 8260B SIM



Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
	Return to Client	Archive For _____ Months
<input checked="" type="checkbox"/> Blammable		
Special Instruction/QC Requirements & Comments:		
Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203631 Level IV Reporting requested.		
Relinquished by: Andrew Banta	Date/Time: 5/20/21 1045	Company: Arcadis
Relinquished by: Andrew Banta	Date/Time: 5/20/21 1215	Company: Arcadis
Relinquished by: Andrew Banta	Date/Time: 5/20/21 1045	Company: Arcadis

Eurofins TestAmerica Canton Sample Receipt Form/Narrative Login #: 4907
Canton Facility

Client ARCA DIS Site Name Form LTP Cooler unpacked by: MJL
Cooler Received on 5/22/21 Opened on 5/22/21
FedEx 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____
Receipt After-hours Drop-off Date/Time _____ **Storage Location** _____

TestAmerica Cooler # _____ 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-11 (CF +0.1 °C) Observed Cooler Temp. 15 °C Corrected Cooler Temp 1.6 °C
IR GUN #IR-12 (CF +0.2°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 NA
-Were tamper/custody seals intact and uncompromised? Yes No NA

3 Shippers' packing slip attached to the cooler(s)? Yes No NA
4 Did custody papers accompany the sample(s)? Yes No NA
5 Were the custody papers relinquished & signed in the appropriate place? Yes No NA
6 Was/were the person(s) who collected the samples clearly identified on the COC? Yes No NA
7 Did all bottles arrive in good condition (Unbroken)? Yes No NA
8 Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No NA
9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? Yes No NA
10 Were correct bottle(s) used for the test(s) indicated? Yes No NA
11 Sufficient quantity received to perform indicated analyses? Yes No NA
12 Are these work share samples and all listed on the COC? Yes No NA
If yes, Questions 13-17 have been checked at the originating laboratory

13 Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC022887
14 Were VOAs on the COC? Yes No NA
15 Were air bubbles >6 mm in any VOA vials? Yes Larger than this. Yes No NA
16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # COVERED Yes No NA
17 Was a LL Hg or Me Hg trip blank present? Yes No NA

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

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

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES additional next page Samples processed by: _____

19 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)

20. 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 _____

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