

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
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North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-159543-1
Client Project/Site: Ford LTP - On-Site

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

Attn: Kristoffer Hinskey



Authorized for release by:
11/22/2021 10:24:58 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 - On-Site

Job ID: 240-159543-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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 - On-Site

Job ID: 240-159543-1

Job ID: 240-159543-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-159543-1

Comments

No additional comments.

Receipt

The samples were received on 11/6/2021 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 0.4° C.

GC/MS VOA

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

VOA Prep

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

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Method Summary

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

Job ID: 240-159543-1

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

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- 14

Sample Summary

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

Job ID: 240-159543-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-159543-1	TRIP BLANK_34	Water	11/04/21 00:00	11/06/21 08:00
240-159543-2	MW-220S_110421	Water	11/04/21 09:18	11/06/21 08:00
240-159543-3	MW-14_110421	Water	11/04/21 12:34	11/06/21 08:00
240-159543-4	MW-09_110421	Water	11/04/21 14:33	11/06/21 08:00
240-159543-5	MW-24_110421	Water	11/04/21 15:52	11/06/21 08:00

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- 10
- 11
- 12
- 13
- 14

Detection Summary

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

Job ID: 240-159543-1

Client Sample ID: TRIP BLANK_34

Lab Sample ID: 240-159543-1

No Detections.

Client Sample ID: MW-220S_110421

Lab Sample ID: 240-159543-2

No Detections.

Client Sample ID: MW-14_110421

Lab Sample ID: 240-159543-3

No Detections.

Client Sample ID: MW-09_110421

Lab Sample ID: 240-159543-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
1,4-Dioxane	4.0		2.0	0.86	ug/L	1			8260B SIM	Total/NA
Vinyl chloride	1.8		1.0	0.45	ug/L	1			8260B	Total/NA

Client Sample ID: MW-24_110421

Lab Sample ID: 240-159543-5

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 - On-Site

Job ID: 240-159543-1

Client Sample ID: TRIP BLANK_34

Lab Sample ID: 240-159543-1

Date Collected: 11/04/21 00:00

Matrix: Water

Date Received: 11/06/21 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	0.49	ug/L			11/15/21 13:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/15/21 13:32	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/15/21 13:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/15/21 13:32	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/15/21 13:32	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/15/21 13:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	119		62 - 137		11/15/21 13:32	1
4-Bromofluorobenzene (Surr)	86		56 - 136		11/15/21 13:32	1
Toluene-d8 (Surr)	94		78 - 122		11/15/21 13:32	1
Dibromofluoromethane (Surr)	110		73 - 120		11/15/21 13:32	1

Client Sample Results

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

Job ID: 240-159543-1

Client Sample ID: MW-220S_110421

Lab Sample ID: 240-159543-2

Date Collected: 11/04/21 09:18

Matrix: Water

Date Received: 11/06/21 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			11/12/21 22:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		66 - 120		11/12/21 22:28	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	0.49	ug/L			11/15/21 15:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/15/21 15:13	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/15/21 15:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/15/21 15:13	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/15/21 15:13	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/15/21 15:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		62 - 137		11/15/21 15:13	1
4-Bromofluorobenzene (Surr)	84		56 - 136		11/15/21 15:13	1
Toluene-d8 (Surr)	97		78 - 122		11/15/21 15:13	1
Dibromofluoromethane (Surr)	108		73 - 120		11/15/21 15:13	1

Client Sample Results

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

Job ID: 240-159543-1

Client Sample ID: MW-14_110421

Lab Sample ID: 240-159543-3

Date Collected: 11/04/21 12:34

Matrix: Water

Date Received: 11/06/21 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 F1	2.0	0.86	ug/L			11/12/21 22:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		66 - 120					11/12/21 22:52	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	0.49	ug/L			11/15/21 15:38	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/15/21 15:38	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/15/21 15:38	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/15/21 15:38	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/15/21 15:38	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/15/21 15:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		62 - 137					11/15/21 15:38	1
4-Bromofluorobenzene (Surr)	85		56 - 136					11/15/21 15:38	1
Toluene-d8 (Surr)	95		78 - 122					11/15/21 15:38	1
Dibromofluoromethane (Surr)	110		73 - 120					11/15/21 15:38	1

Client Sample Results

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

Job ID: 240-159543-1

Client Sample ID: MW-09_110421

Lab Sample ID: 240-159543-4

Date Collected: 11/04/21 14:33

Matrix: Water

Date Received: 11/06/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	4.0		2.0	0.86	ug/L			11/13/21 00:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		66 - 120		11/13/21 00:03	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	0.49	ug/L			11/15/21 16:03	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/15/21 16:03	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/15/21 16:03	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/15/21 16:03	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/15/21 16:03	1
Vinyl chloride	1.8		1.0	0.45	ug/L			11/15/21 16:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	119		62 - 137		11/15/21 16:03	1
4-Bromofluorobenzene (Surr)	85		56 - 136		11/15/21 16:03	1
Toluene-d8 (Surr)	98		78 - 122		11/15/21 16:03	1
Dibromofluoromethane (Surr)	112		73 - 120		11/15/21 16:03	1

Client Sample Results

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

Job ID: 240-159543-1

Client Sample ID: MW-24_110421

Lab Sample ID: 240-159543-5

Date Collected: 11/04/21 15:52

Matrix: Water

Date Received: 11/06/21 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			11/13/21 00:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		66 - 120		11/13/21 00:27	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	0.49	ug/L			11/15/21 16:28	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/15/21 16:28	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/15/21 16:28	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/15/21 16:28	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/15/21 16:28	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/15/21 16:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	119		62 - 137		11/15/21 16:28	1
4-Bromofluorobenzene (Surr)	83		56 - 136		11/15/21 16:28	1
Toluene-d8 (Surr)	99		78 - 122		11/15/21 16:28	1
Dibromofluoromethane (Surr)	109		73 - 120		11/15/21 16:28	1

Surrogate Summary

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

Job ID: 240-159543-1

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	BFB	TOL	DBFM
		(62-137)	(56-136)	(78-122)	(73-120)
240-159543-1	TRIP BLANK_34	119	86	94	110
240-159543-2	MW-220S_110421	117	84	97	108
240-159543-3	MW-14_110421	120	85	95	110
240-159543-3 MS	MW-14-MS_110421	103	106	96	103
240-159543-3 MSD	MW-14-MSD_110421	100	100	94	100
240-159543-4	MW-09_110421	119	85	98	112
240-159543-5	MW-24_110421	119	83	99	109
LCS 240-512931/5	Lab Control Sample	107	100	96	105
MB 240-512931/7	Method Blank	121	87	95	109

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(66-120)
240-159543-2	MW-220S_110421	81
240-159543-3	MW-14_110421	82
240-159543-3 MS	MW-14-MS_110421	85
240-159543-3 MSD	MW-14-MSD_110421	83
240-159543-4	MW-09_110421	86
240-159543-5	MW-24_110421	85
LCS 240-512758/4	Lab Control Sample	83
MB 240-512758/5	Method Blank	84

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-159543-1

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

Lab Sample ID: MB 240-512931/7
Matrix: Water
Analysis Batch: 512931

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			11/15/21 12:17	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/15/21 12:17	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/15/21 12:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/15/21 12:17	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/15/21 12:17	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/15/21 12:17	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	121		62 - 137		11/15/21 12:17	1
4-Bromofluorobenzene (Surr)	87		56 - 136		11/15/21 12:17	1
Toluene-d8 (Surr)	95		78 - 122		11/15/21 12:17	1
Dibromofluoromethane (Surr)	109		73 - 120		11/15/21 12:17	1

Lab Sample ID: LCS 240-512931/5
Matrix: Water
Analysis Batch: 512931

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	25.0	25.7		ug/L		103	63 - 134
cis-1,2-Dichloroethene	25.0	24.0		ug/L		96	77 - 123
Tetrachloroethene	25.0	29.9		ug/L		120	76 - 123
trans-1,2-Dichloroethene	25.0	25.4		ug/L		101	75 - 124
Trichloroethene	25.0	25.9		ug/L		104	70 - 122
Vinyl chloride	25.0	26.9		ug/L		108	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	107		62 - 137
4-Bromofluorobenzene (Surr)	100		56 - 136
Toluene-d8 (Surr)	96		78 - 122
Dibromofluoromethane (Surr)	105		73 - 120

Lab Sample ID: 240-159543-3 MS
Matrix: Water
Analysis Batch: 512931

Client Sample ID: MW-14-MS_110421
Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
1,1-Dichloroethene	1.0	U	25.0	23.6		ug/L		95	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	22.3		ug/L		89	66 - 128
Tetrachloroethene	1.0	U	25.0	30.0		ug/L		120	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	22.6		ug/L		90	56 - 136
Trichloroethene	1.0	U	25.0	23.2		ug/L		93	61 - 124
Vinyl chloride	1.0	U	25.0	24.4		ug/L		98	43 - 157

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	103		62 - 137
4-Bromofluorobenzene (Surr)	106		56 - 136
Toluene-d8 (Surr)	96		78 - 122

QC Sample Results

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

Job ID: 240-159543-1

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

Lab Sample ID: 240-159543-3 MS
Matrix: Water
Analysis Batch: 512931

Client Sample ID: MW-14-MS_110421
Prep Type: Total/NA

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	103		73 - 120

Lab Sample ID: 240-159543-3 MSD
Matrix: Water
Analysis Batch: 512931

Client Sample ID: MW-14-MSD_110421
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD MSD		Unit	D	%Rec	%Rec.		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
1,1-Dichloroethene	1.0	U	25.0	21.3		ug/L		85	56 - 135	11	26	
cis-1,2-Dichloroethene	1.0	U	25.0	21.3		ug/L		85	66 - 128	5	14	
Tetrachloroethene	1.0	U	25.0	27.9		ug/L		112	62 - 131	7	20	
trans-1,2-Dichloroethene	1.0	U	25.0	20.9		ug/L		84	56 - 136	7	15	
Trichloroethene	1.0	U	25.0	22.0		ug/L		88	61 - 124	5	15	
Vinyl chloride	1.0	U	25.0	21.8		ug/L		87	43 - 157	11	24	

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	100		62 - 137
4-Bromofluorobenzene (Surr)	100		56 - 136
Toluene-d8 (Surr)	94		78 - 122
Dibromofluoromethane (Surr)	100		73 - 120

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

Lab Sample ID: MB 240-512758/5
Matrix: Water
Analysis Batch: 512758

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		11/12/21 16:51	1	

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	84		66 - 120		11/12/21 16:51	1

Lab Sample ID: LCS 240-512758/4
Matrix: Water
Analysis Batch: 512758

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

Analyte	Spike	LCS LCS		Unit	D	%Rec	%Rec.
		Result	Qualifier				
1,4-Dioxane	10.0	9.63		ug/L		96	80 - 122

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	83		66 - 120

Lab Sample ID: 240-159543-3 MS
Matrix: Water
Analysis Batch: 512758

Client Sample ID: MW-14-MS_110421
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS MS		Unit	D	%Rec	%Rec.
	Result	Qualifier		Result	Qualifier				
1,4-Dioxane	2.0	U F1	10.0	9.98		ug/L		100	51 - 153

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-159543-1

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)	85		66 - 120

Lab Sample ID: 240-159543-3 MSD
Matrix: Water
Analysis Batch: 512758

Client Sample ID: MW-14-MSD_110421
Prep Type: Total/NA

<i>Analyte</i>	<i>Sample</i> <i>Result</i>	<i>Sample</i> <i>Qualifier</i>	<i>Spike</i> <i>Added</i>	<i>MSD</i> <i>Result</i>	<i>MSD</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec.</i> <i>Limits</i>	<i>RPD</i>	<i>RPD</i> <i>Limit</i>
1,4-Dioxane	2.0	U F1	10.0	9.71		ug/L		97	51 - 153	3	16

<i>Surrogate</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	83		66 - 120

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QC Association Summary

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

Job ID: 240-159543-1

GC/MS VOA

Analysis Batch: 512758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159543-2	MW-220S_110421	Total/NA	Water	8260B SIM	
240-159543-3	MW-14_110421	Total/NA	Water	8260B SIM	
240-159543-4	MW-09_110421	Total/NA	Water	8260B SIM	
240-159543-5	MW-24_110421	Total/NA	Water	8260B SIM	
MB 240-512758/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-512758/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-159543-3 MS	MW-14-MS_110421	Total/NA	Water	8260B SIM	
240-159543-3 MSD	MW-14-MSD_110421	Total/NA	Water	8260B SIM	

Analysis Batch: 512931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159543-1	TRIP BLANK_34	Total/NA	Water	8260B	
240-159543-2	MW-220S_110421	Total/NA	Water	8260B	
240-159543-3	MW-14_110421	Total/NA	Water	8260B	
240-159543-4	MW-09_110421	Total/NA	Water	8260B	
240-159543-5	MW-24_110421	Total/NA	Water	8260B	
MB 240-512931/7	Method Blank	Total/NA	Water	8260B	
LCS 240-512931/5	Lab Control Sample	Total/NA	Water	8260B	
240-159543-3 MS	MW-14-MS_110421	Total/NA	Water	8260B	
240-159543-3 MSD	MW-14-MSD_110421	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-159543-1

Client Sample ID: TRIP BLANK_34

Lab Sample ID: 240-159543-1

Date Collected: 11/04/21 00:00

Matrix: Water

Date Received: 11/06/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	512931	11/15/21 13:32	SAM	TAL CAN

Client Sample ID: MW-220S_110421

Lab Sample ID: 240-159543-2

Date Collected: 11/04/21 09:18

Matrix: Water

Date Received: 11/06/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	512931	11/15/21 15:13	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	512758	11/12/21 22:28	CS	TAL CAN

Client Sample ID: MW-14_110421

Lab Sample ID: 240-159543-3

Date Collected: 11/04/21 12:34

Matrix: Water

Date Received: 11/06/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	512931	11/15/21 15:38	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	512758	11/12/21 22:52	CS	TAL CAN

Client Sample ID: MW-09_110421

Lab Sample ID: 240-159543-4

Date Collected: 11/04/21 14:33

Matrix: Water

Date Received: 11/06/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	512931	11/15/21 16:03	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	512758	11/13/21 00:03	CS	TAL CAN

Client Sample ID: MW-24_110421

Lab Sample ID: 240-159543-5

Date Collected: 11/04/21 15:52

Matrix: Water

Date Received: 11/06/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	512931	11/15/21 16:28	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	512758	11/13/21 00:27	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 - On-Site

Job ID: 240-159543-1

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	06-30-22
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-22
Iowa	State	421	06-01-23
Kansas	NELAP	E-10336	04-30-22
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-22
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-22
Texas	NELAP	T104704517-18-10	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

TestAmerica Laboratory location: Brighton --- 10448 Citation Drive, Suite 200 / Brighton, MI 48116 / 810-229-2763

Client Contact		Regulatory program:		Site Contact: Julia McClaflerty		Lab Contact: Mike DelMonico		TestAmerica Laboratories, Inc.	
Company Name: Arcadis		DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other <input type="checkbox"/>		Telephone: 248-994-2240		Telephone: 330-497-9396		COC No:	
Address: 28550 Cabot Drive, Suite 500		Email: kristoffer.hinskey@arcadis.com		TAT if different from below		Analyses		1 of 1 COCs	
City/State/Zip: Novi, MI, 48377		Sampler Name: <i>Laura Donahue</i>		10 day		1-4-Dioxane 8260B SIM		For lab use only	
Phone: 248-994-2240		Method of Shipment/Carrier:		Containers & Preservatives		TCE 8260B		Walk-in client	
Project Name: Ford LTP On-Site		Shipping/Tracking No:		Matrix		PCE 8260B		Lab sampling	
Project Number: 30080642.401.03				Air		Trans-1,2-DCE 8260B		Job/SDG No:	
PO # 30080642.401.03				Aqueous		cis-1,2-DCE 8260B		Sample Specific Notes / Special Instructions:	
				Sediment		1-1-DCE 8260B			
				Solid		Composite=C / Grab=C			
				Other:		Filtered Sample (Y / N)			
				H2SO4		NG		1 Trip Blank	
				HNO3		NG		3 VOAs for 8260B	
				HCl		NG		3 VOAs for 8260B SIM	
				Other:		NG			
				Sample Date		NG			
				Sample Time		NG			
TRIP BLANK_34		---		---		NG			
MW-220S-110421		0910		0910		NG			
MW-14-110421		1234		1234		NG			
MW-14-MS-110421		1234		1234		NG			
MW-14-MSD-110421		1234		1234		NG			
MW-09-110421		1433		1433		NG			
MW-24-110421		1552		1552		NG			

Sample	Re.	Company	Date/Time	Received by:	Company	Date/Time
240-159543 Chain of Custody		Arcadis	11/4/21 1710	Novi Cold Storage	Arcadis	11/4/21 1710
		ARCADIS	11/5/21 1435	Jeni Hol	ETA	11/5/21 1435
		ETA	11/5/21 1448	M. J. A.	ETA	11/6/21 8:00

Submit all results through Cadena at jtomalia@cadeno.com. Cadena #E203728
Level IV Reporting requested

Relinquished by: *Laura Donahue*
Relinquished by: *Charity Holman*
Relinquished by: *Jeni Hol*

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**Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility**

Login # : 159543

Client ARCADIS Site Name _____
Cooler Received on 11/6/21 Opened on 11/6/21
FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Cooler unpacked by:
Matthew Swana

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-14 (CF +0.1 °C) Observed Cooler Temp. 0.3 °C Corrected Cooler Temp. 0.4 °C
IR GUN #IR-15 (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
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 (ID/Date/Time) be reconciled with the COC? Yes No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?
10. Were correct bottle(s) used for the test(s) indicated? Yes No
11. Sufficient quantity received to perform indicated analyses? Yes No
12. Are these work share samples and all listed on the COC? Yes No
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# HC157842
14. Were VOAs on the COC? Yes No
15. Were air bubbles >6 mm in any VOA vials? Yes No NA
● ← Larger than this.
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 0104201G Yes No
17. 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 _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES additional next page Samples processed by [Signature]

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: _____