

ANALYTICAL REPORT

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

Laboratory Job ID: 240-159141-1
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:
11/17/2021 10:51:48 AM

Michael DelMonico, Project Manager I
(330)497-9396
Michael.DelMonico@Eurofinset.com

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



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Definitions/Glossary

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

Job ID: 240-159141-1

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.
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: 240-159141-1

Job ID: 240-159141-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-159141-1

Comments

No additional comments.

Receipt

The samples were received on 11/3/2021 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 0.2° 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 - Off-Site

Job ID: 240-159141-1

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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- 13
- 14

Sample Summary

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

Job ID: 240-159141-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-159141-1	TRIP BLANK_02	Water	11/01/21 00:00	11/03/21 08:00
240-159141-2	MW-108S_110121	Water	11/01/21 11:15	11/03/21 08:00
240-159141-3	MW-85SR_110121	Water	11/01/21 13:20	11/03/21 08:00
240-159141-4	MW-85_110121	Water	11/01/21 14:40	11/03/21 08:00
240-159141-5	DUP-06	Water	11/01/21 00:00	11/03/21 08:00

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- 13
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Detection Summary

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

Job ID: 240-159141-1

Client Sample ID: TRIP BLANK_02

Lab Sample ID: 240-159141-1

No Detections.

Client Sample ID: MW-108S_110121

Lab Sample ID: 240-159141-2

No Detections.

Client Sample ID: MW-85SR_110121

Lab Sample ID: 240-159141-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.69	J	1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: MW-85_110121

Lab Sample ID: 240-159141-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	4.8		1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: DUP-06

Lab Sample ID: 240-159141-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.0	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	5.6		1.0	0.45	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

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

Job ID: 240-159141-1

Client Sample ID: TRIP BLANK_02

Lab Sample ID: 240-159141-1

Date Collected: 11/01/21 00:00

Matrix: Water

Date Received: 11/03/21 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			11/11/21 05:11	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/11/21 05:11	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/11/21 05:11	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/11/21 05:11	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/11/21 05:11	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/11/21 05:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		62 - 137		11/11/21 05:11	1
4-Bromofluorobenzene (Surr)	74		56 - 136		11/11/21 05:11	1
Toluene-d8 (Surr)	103		78 - 122		11/11/21 05:11	1
Dibromofluoromethane (Surr)	91		73 - 120		11/11/21 05:11	1

Client Sample Results

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

Job ID: 240-159141-1

Client Sample ID: MW-108S_110121

Lab Sample ID: 240-159141-2

Date Collected: 11/01/21 11:15

Matrix: Water

Date Received: 11/03/21 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			11/04/21 23:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		66 - 120		11/04/21 23:37	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			11/11/21 05:33	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/11/21 05:33	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/11/21 05:33	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/11/21 05:33	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/11/21 05:33	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/11/21 05:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		62 - 137		11/11/21 05:33	1
4-Bromofluorobenzene (Surr)	84		56 - 136		11/11/21 05:33	1
Toluene-d8 (Surr)	105		78 - 122		11/11/21 05:33	1
Dibromofluoromethane (Surr)	93		73 - 120		11/11/21 05:33	1

Client Sample Results

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

Job ID: 240-159141-1

Client Sample ID: MW-85SR_110121

Lab Sample ID: 240-159141-3

Date Collected: 11/01/21 13:20

Matrix: Water

Date Received: 11/03/21 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			11/05/21 00:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		66 - 120		11/05/21 00:00	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			11/11/21 05:55	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/11/21 05:55	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/11/21 05:55	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/11/21 05:55	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/11/21 05:55	1
Vinyl chloride	0.69	J	1.0	0.45	ug/L			11/11/21 05:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		62 - 137		11/11/21 05:55	1
4-Bromofluorobenzene (Surr)	75		56 - 136		11/11/21 05:55	1
Toluene-d8 (Surr)	107		78 - 122		11/11/21 05:55	1
Dibromofluoromethane (Surr)	92		73 - 120		11/11/21 05:55	1

Client Sample Results

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

Job ID: 240-159141-1

Client Sample ID: MW-85_110121

Lab Sample ID: 240-159141-4

Date Collected: 11/01/21 14:40

Matrix: Water

Date Received: 11/03/21 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			11/05/21 00:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		66 - 120		11/05/21 00:24	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			11/11/21 06:18	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/11/21 06:18	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/11/21 06:18	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/11/21 06:18	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/11/21 06:18	1
Vinyl chloride	4.8		1.0	0.45	ug/L			11/11/21 06:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		62 - 137		11/11/21 06:18	1
4-Bromofluorobenzene (Surr)	74		56 - 136		11/11/21 06:18	1
Toluene-d8 (Surr)	96		78 - 122		11/11/21 06:18	1
Dibromofluoromethane (Surr)	88		73 - 120		11/11/21 06:18	1

Client Sample Results

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

Job ID: 240-159141-1

Client Sample ID: DUP-06
Date Collected: 11/01/21 00:00
Date Received: 11/03/21 08:00

Lab Sample ID: 240-159141-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.0	J	2.0	0.86	ug/L			11/05/21 00:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		66 - 120					11/05/21 00:48	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	0.49	ug/L			11/11/21 06:40	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			11/11/21 06:40	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/11/21 06:40	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/11/21 06:40	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			11/11/21 06:40	1
Vinyl chloride	5.6		1.0	0.45	ug/L			11/11/21 06:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		62 - 137					11/11/21 06:40	1
4-Bromofluorobenzene (Surr)	81		56 - 136					11/11/21 06:40	1
Toluene-d8 (Surr)	107		78 - 122					11/11/21 06:40	1
Dibromofluoromethane (Surr)	98		73 - 120					11/11/21 06:40	1

Surrogate Summary

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

Job ID: 240-159141-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (62-137)	BFB (56-136)	TOL (78-122)	DBFM (73-120)
240-159141-1	TRIP BLANK_02	90	74	103	91
240-159141-2	MW-108S_110121	93	84	105	93
240-159141-3	MW-85SR_110121	93	75	107	92
240-159141-4	MW-85_110121	87	74	96	88
240-159141-5	DUP-06	98	81	107	98
240-159143-E-3 MSD	Matrix Spike Duplicate	94	97	117	95
240-159143-H-3 MS	Matrix Spike	90	88	108	92
LCS 240-512327/4	Lab Control Sample	88	84	107	90
MB 240-512327/6	Method Blank	92	78	103	91

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (66-120)
240-159141-2	MW-108S_110121	92
240-159141-3	MW-85SR_110121	91
240-159141-4	MW-85_110121	93
240-159141-5	DUP-06	95
240-159143-G-3 MS	Matrix Spike	91
240-159143-M-3 MSD	Matrix Spike Duplicate	89
LCS 240-511462/4	Lab Control Sample	89
MB 240-511462/5	Method Blank	93

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-159141-1

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

Lab Sample ID: MB 240-512327/6
Matrix: Water
Analysis Batch: 512327

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			11/10/21 23:58	1
cis-1,2-Dichloroethene	0.541	J	1.0	0.46	ug/L			11/10/21 23:58	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			11/10/21 23:58	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			11/10/21 23:58	1
Trichloroethene	0.468	J	1.0	0.44	ug/L			11/10/21 23:58	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			11/10/21 23:58	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	92		62 - 137		11/10/21 23:58	1
4-Bromofluorobenzene (Surr)	78		56 - 136		11/10/21 23:58	1
Toluene-d8 (Surr)	103		78 - 122		11/10/21 23:58	1
Dibromofluoromethane (Surr)	91		73 - 120		11/10/21 23:58	1

Lab Sample ID: LCS 240-512327/4
Matrix: Water
Analysis Batch: 512327

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	10.4		ug/L		104	63 - 134
cis-1,2-Dichloroethene	10.0	10.7		ug/L		107	77 - 123
Tetrachloroethene	10.0	10.6		ug/L		106	76 - 123
trans-1,2-Dichloroethene	10.0	10.0		ug/L		100	75 - 124
Trichloroethene	10.0	9.37		ug/L		94	70 - 122
Vinyl chloride	10.0	8.92		ug/L		89	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	88		62 - 137
4-Bromofluorobenzene (Surr)	84		56 - 136
Toluene-d8 (Surr)	107		78 - 122
Dibromofluoromethane (Surr)	90		73 - 120

Lab Sample ID: 240-159143-E-3 MSD
Matrix: Water
Analysis Batch: 512327

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

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier		Result	Qualifier						
1,1-Dichloroethene	1.0	U	10.0	9.21		ug/L		92	56 - 135	1	26
cis-1,2-Dichloroethene	1.0	U	10.0	9.70		ug/L		97	66 - 128	4	14
Tetrachloroethene	1.0	U	10.0	8.77		ug/L		88	62 - 131	10	20
trans-1,2-Dichloroethene	1.0	U	10.0	9.34		ug/L		93	56 - 136	4	15
Trichloroethene	1.0	U	10.0	7.92		ug/L		79	61 - 124	6	15
Vinyl chloride	1.0	U	10.0	10.1		ug/L		101	43 - 157	6	24

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	94		62 - 137
4-Bromofluorobenzene (Surr)	97		56 - 136
Toluene-d8 (Surr)	117		78 - 122

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QC Sample Results

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

Job ID: 240-159141-1

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

Lab Sample ID: 240-159143-E-3 MSD
Matrix: Water
Analysis Batch: 512327

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Dibromofluoromethane (Surr)	95		73 - 120

Lab Sample ID: 240-159143-H-3 MS
Matrix: Water
Analysis Batch: 512327

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	9.32		ug/L		93	56 - 135
cis-1,2-Dichloroethene	1.0	U	10.0	9.36		ug/L		94	66 - 128
Tetrachloroethene	1.0	U	10.0	7.97		ug/L		80	62 - 131
trans-1,2-Dichloroethene	1.0	U	10.0	8.94		ug/L		89	56 - 136
Trichloroethene	1.0	U	10.0	7.46		ug/L		75	61 - 124
Vinyl chloride	1.0	U	10.0	9.56		ug/L		96	43 - 157

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	90		62 - 137
4-Bromofluorobenzene (Surr)	88		56 - 136
Toluene-d8 (Surr)	108		78 - 122
Dibromofluoromethane (Surr)	92		73 - 120

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

Lab Sample ID: MB 240-511462/5
Matrix: Water
Analysis Batch: 511462

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			11/04/21 15:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		66 - 120		11/04/21 15:32	1

Lab Sample ID: LCS 240-511462/4
Matrix: Water
Analysis Batch: 511462

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	9.58		ug/L		96	80 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	89		66 - 120

Lab Sample ID: 240-159143-G-3 MS
Matrix: Water
Analysis Batch: 511462

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	9.25		ug/L		92	51 - 153

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-159141-1

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)	91		66 - 120

Lab Sample ID: 240-159143-M-3 MSD
Matrix: Water
Analysis Batch: 511462

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

<i>Analyte</i>	<i>Sample</i> <i>Result</i>	<i>Sample</i> <i>Qualifier</i>	<i>Spike</i> <i>Added</i>	<i>MSD</i> <i>Result</i>	<i>MSD</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec.</i> <i>Limits</i>	<i>RPD</i>	<i>RPD</i> <i>Limit</i>
1,4-Dioxane	2.0	U	10.0	9.63		ug/L		96	51 - 153	4	16

<i>Surrogate</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	89		66 - 120

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

QC Association Summary

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

Job ID: 240-159141-1

GC/MS VOA

Analysis Batch: 511462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159141-2	MW-108S_110121	Total/NA	Water	8260B SIM	
240-159141-3	MW-85SR_110121	Total/NA	Water	8260B SIM	
240-159141-4	MW-85_110121	Total/NA	Water	8260B SIM	
240-159141-5	DUP-06	Total/NA	Water	8260B SIM	
MB 240-511462/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-511462/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-159143-G-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-159143-M-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 512327

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159141-1	TRIP BLANK_02	Total/NA	Water	8260B	
240-159141-2	MW-108S_110121	Total/NA	Water	8260B	
240-159141-3	MW-85SR_110121	Total/NA	Water	8260B	
240-159141-4	MW-85_110121	Total/NA	Water	8260B	
240-159141-5	DUP-06	Total/NA	Water	8260B	
MB 240-512327/6	Method Blank	Total/NA	Water	8260B	
LCS 240-512327/4	Lab Control Sample	Total/NA	Water	8260B	
240-159143-E-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
240-159143-H-3 MS	Matrix Spike	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-159141-1

Client Sample ID: TRIP BLANK_02

Date Collected: 11/01/21 00:00

Date Received: 11/03/21 08:00

Lab Sample ID: 240-159141-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	512327	11/11/21 05:11	LEE	TAL CAN

Client Sample ID: MW-108S_110121

Date Collected: 11/01/21 11:15

Date Received: 11/03/21 08:00

Lab Sample ID: 240-159141-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	512327	11/11/21 05:33	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	511462	11/04/21 23:37	CS	TAL CAN

Client Sample ID: MW-85SR_110121

Date Collected: 11/01/21 13:20

Date Received: 11/03/21 08:00

Lab Sample ID: 240-159141-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	512327	11/11/21 05:55	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	511462	11/05/21 00:00	CS	TAL CAN

Client Sample ID: MW-85_110121

Date Collected: 11/01/21 14:40

Date Received: 11/03/21 08:00

Lab Sample ID: 240-159141-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	512327	11/11/21 06:18	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	511462	11/05/21 00:24	CS	TAL CAN

Client Sample ID: DUP-06

Date Collected: 11/01/21 00:00

Date Received: 11/03/21 08:00

Lab Sample ID: 240-159141-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	512327	11/11/21 06:40	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	511462	11/05/21 00:48	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: 240-159141-1

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

Chain of Custody Record

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

Client Contact Company Name: Arcadis		Regulatory program DW NPDES RCRA Other		Site Contact: Mike DeMontico Lab Contact: Mike DeMontico Telephone: 330-497-9396		TestAmerica Laboratories, Inc. COC No: 1 of 1 COCs for lab use only	
Client Project Manager: Kris Hinskey Telephone: 248-994-2240 Email: kristoffer.hinskey@arcadis.com		Site Contact: Julia McClafferty Telephone: 734-644-5131		Analyses		Walk-in client Lab sampling Job/SDG No:	
Sampler Name: CHRISTINA WEAVER SCAMMER GUY, SAM HENDON Method of Shipment/Carrier: Shipping/Tracking No:		TAT, if different from below 10 day 3 weeks 2 weeks 1 week 2 days 1 day		1-4-Dioxane 8260B SIM Vinyl Chloride 8260B TCE 8260B PCE 8260B Trans-1,2-DCE 8260B cis-1,2-DCE 8260B 1,1-DCE 8260B Compos(C/Grb/G		Sample Specific Notes / Special Instructions: 1 Trip Blank 3 VOAs for 8260B 3 VOAs for 8260B SIM	
Sample Date		Sample Time		Filtered Sample (Y/N)		Sample Specific Notes / Special Instructions:	
TRIP BLANK_02		---		NG		1 Trip Blank	
MW-1085-110121		1115		NG		3 VOAs for 8260B 3 VOAs for 8260B SIM	
MW-85SR-110121		1320		NG			
MW 85-110121		1440		NG			
DUP-06		---		NG			
Sample Identification		Sample Time		Containers & Preservatives		Sample Specific Notes / Special Instructions:	
				H2SO4 HNO3 HCl NaOH ZnAc/NaOH Other			
				Matrix			
				Air Aqueous Sediment Solid Other			
Possible Hazard Identification		Prison B		Unknown		Sample Disposal (X fee may be assessed)	
Non-Hazard		Irritant		Toxic		Return to Client Disposal	
Special Instructions/QC Requirements & Comments:		240-159141 Chain of Custody		ve cur		Months	
Submit all results through Cadena at: jromal a@cadenaco.com Cadena #E20363		Level IV Reporting requested					
Reinquished by: [Signature]		Company: ARCADIS		Date/Time: 11/01/21 1700		Received by: [Signature]	
Reinquished by: [Signature]		Company: Arcadis		Date/Time: 11/21/21 1250		Received by: [Signature]	
Reinquished by: [Signature]		Company: GA		Date/Time: 11/21/21 1250		Received by: [Signature]	
						Company: ARCADIS	
						Company: GA	
						Company: CTR	

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 159141

Client ARCADIS Site Name _____ Cooler unpacked by Matthew Suma
 Cooler Received on 11/3/21 Opened on 11/3/21
 FedEx 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

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

TestAmerica Cooler # 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 0.1 °C Corrected Cooler Temp. 0.2 °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 _____
 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)? Yes No
- 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 ← Larger than this. Yes No NA
- 16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 01042016 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 _____

trip blank does not receive 8260 SIM

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 _____