

ANALYTICAL REPORT

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

Laboratory Job ID: 240-149105-1
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:
5/25/2021 2:24:03 PM

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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: 240-149105-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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 - On Site

Job ID: 240-149105-1

Job ID: 240-149105-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-149105-1

Comments

No additional comments.

Receipt

The samples were received on 5/11/2021 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.3° C and 2.5° 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: 240-149105-1

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 - On Site

Job ID: 240-149105-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-149105-1	TRIP BLANK_37	Water	05/07/21 00:00	05/11/21 09:30	
240-149105-2	MW-46_050721	Water	05/07/21 10:40	05/11/21 09:30	
240-149105-3	MW-21_050721	Water	05/07/21 11:50	05/11/21 09:30	
240-149105-4	MW-49_050721	Water	05/07/21 14:45	05/11/21 09:30	

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- 13
- 14

Detection Summary

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

Job ID: 240-149105-1

Client Sample ID: TRIP BLANK_37

Lab Sample ID: 240-149105-1

No Detections.

Client Sample ID: MW-46_050721

Lab Sample ID: 240-149105-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.2		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	2.3		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.27	J	1.0	0.19	ug/L	1		8260B	Total/NA
Vinyl chloride	15		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-21_050721

Lab Sample ID: 240-149105-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	36		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	2900		100	16	ug/L	100		8260B	Total/NA
trans-1,2-Dichloroethene	20	J	100	19	ug/L	100		8260B	Total/NA
Trichloroethene	59	J	100	10	ug/L	100		8260B	Total/NA
Vinyl chloride	2500		100	20	ug/L	100		8260B	Total/NA

Client Sample ID: MW-49_050721

Lab Sample ID: 240-149105-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	54		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	42000		1300	200	ug/L	1250		8260B	Total/NA
Vinyl chloride	10000		1300	250	ug/L	1250		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 - On Site

Job ID: 240-149105-1

Client Sample ID: TRIP BLANK_37

Lab Sample ID: 240-149105-1

Date Collected: 05/07/21 00:00

Matrix: Water

Date Received: 05/11/21 09:30

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			05/18/21 21:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/18/21 21:07	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/18/21 21:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/18/21 21:07	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/18/21 21:07	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/18/21 21:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		75 - 130		05/18/21 21:07	1
4-Bromofluorobenzene (Surr)	109		47 - 134		05/18/21 21:07	1
Toluene-d8 (Surr)	103		69 - 122		05/18/21 21:07	1
Dibromofluoromethane (Surr)	105		78 - 129		05/18/21 21:07	1

Client Sample Results

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

Job ID: 240-149105-1

Client Sample ID: MW-46_050721

Lab Sample ID: 240-149105-2

Date Collected: 05/07/21 10:40

Matrix: Water

Date Received: 05/11/21 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.2		2.0	0.86	ug/L			05/12/21 22:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 133					05/12/21 22:29	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			05/18/21 21:30	1
cis-1,2-Dichloroethene	2.3		1.0	0.16	ug/L			05/18/21 21:30	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/18/21 21:30	1
trans-1,2-Dichloroethene	0.27	J	1.0	0.19	ug/L			05/18/21 21:30	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/18/21 21:30	1
Vinyl chloride	15		1.0	0.20	ug/L			05/18/21 21:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		75 - 130					05/18/21 21:30	1
4-Bromofluorobenzene (Surr)	112		47 - 134					05/18/21 21:30	1
Toluene-d8 (Surr)	103		69 - 122					05/18/21 21:30	1
Dibromofluoromethane (Surr)	108		78 - 129					05/18/21 21:30	1

Client Sample Results

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

Job ID: 240-149105-1

Client Sample ID: MW-21_050721

Lab Sample ID: 240-149105-3

Date Collected: 05/07/21 11:50

Matrix: Water

Date Received: 05/11/21 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	36		2.0	0.86	ug/L			05/12/21 22:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 133					05/12/21 22:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	100	U	100	19	ug/L			05/18/21 21:54	100
cis-1,2-Dichloroethene	2900		100	16	ug/L			05/18/21 21:54	100
Tetrachloroethene	100	U	100	15	ug/L			05/18/21 21:54	100
trans-1,2-Dichloroethene	20	J	100	19	ug/L			05/18/21 21:54	100
Trichloroethene	59	J	100	10	ug/L			05/18/21 21:54	100
Vinyl chloride	2500		100	20	ug/L			05/18/21 21:54	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		75 - 130					05/18/21 21:54	100
4-Bromofluorobenzene (Surr)	112		47 - 134					05/18/21 21:54	100
Toluene-d8 (Surr)	102		69 - 122					05/18/21 21:54	100
Dibromofluoromethane (Surr)	106		78 - 129					05/18/21 21:54	100

Client Sample Results

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

Job ID: 240-149105-1

Client Sample ID: MW-49_050721

Lab Sample ID: 240-149105-4

Date Collected: 05/07/21 14:45

Matrix: Water

Date Received: 05/11/21 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	54		2.0	0.86	ug/L			05/12/21 23:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	73		70 - 133					05/12/21 23:18	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1300	U	1300	240	ug/L			05/18/21 22:18	1250
cis-1,2-Dichloroethene	42000		1300	200	ug/L			05/18/21 22:18	1250
Tetrachloroethene	1300	U	1300	190	ug/L			05/18/21 22:18	1250
trans-1,2-Dichloroethene	1300	U	1300	240	ug/L			05/18/21 22:18	1250
Trichloroethene	1300	U	1300	130	ug/L			05/18/21 22:18	1250
Vinyl chloride	10000		1300	250	ug/L			05/18/21 22:18	1250
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		75 - 130					05/18/21 22:18	1250
4-Bromofluorobenzene (Surr)	108		47 - 134					05/18/21 22:18	1250
Toluene-d8 (Surr)	104		69 - 122					05/18/21 22:18	1250
Dibromofluoromethane (Surr)	106		78 - 129					05/18/21 22:18	1250

Surrogate Summary

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

Job ID: 240-149105-1

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
		(75-130)	(47-134)	(69-122)	(78-129)
190-25888-H-1 MS	Matrix Spike	98	112	106	114
190-25888-I-1 MSD	Matrix Spike Duplicate	98	112	104	113
240-149105-1	TRIP BLANK_37	101	109	103	105
240-149105-2	MW-46_050721	100	112	103	108
240-149105-3	MW-21_050721	98	112	102	106
240-149105-4	MW-49_050721	99	108	104	106
LCS 240-486324/4	Lab Control Sample	99	111	105	113
MB 240-486324/7	Method Blank	96	109	103	104

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)
240-149042-H-2 MS	Matrix Spike	84
240-149042-N-2 MSD	Matrix Spike Duplicate	83
240-149105-2	MW-46_050721	87
240-149105-3	MW-21_050721	86
240-149105-4	MW-49_050721	73
LCS 240-485384/4	Lab Control Sample	84
MB 240-485384/5	Method Blank	82

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-149105-1

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

Lab Sample ID: MB 240-486324/7
Matrix: Water
Analysis Batch: 486324

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	0.19	ug/L			05/18/21 14:25	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/18/21 14:25	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/18/21 14:25	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/18/21 14:25	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/18/21 14:25	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/18/21 14:25	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	96		75 - 130		05/18/21 14:25	1
4-Bromofluorobenzene (Surr)	109		47 - 134		05/18/21 14:25	1
Toluene-d8 (Surr)	103		69 - 122		05/18/21 14:25	1
Dibromofluoromethane (Surr)	104		78 - 129		05/18/21 14:25	1

Lab Sample ID: LCS 240-486324/4
Matrix: Water
Analysis Batch: 486324

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	11.9		ug/L		119	73 - 129
cis-1,2-Dichloroethene	10.0	11.2		ug/L		112	75 - 124
Tetrachloroethene	10.0	10.5		ug/L		105	70 - 125
trans-1,2-Dichloroethene	10.0	11.2		ug/L		112	74 - 130
Trichloroethene	10.0	11.3		ug/L		113	71 - 121
Vinyl chloride	10.0	11.1		ug/L		111	61 - 134

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	99		75 - 130
4-Bromofluorobenzene (Surr)	111		47 - 134
Toluene-d8 (Surr)	105		69 - 122
Dibromofluoromethane (Surr)	113		78 - 129

Lab Sample ID: 190-25888-H-1 MS
Matrix: Water
Analysis Batch: 486324

Client Sample ID: Matrix Spike
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	10.0	12.7		ug/L		127	64 - 132
cis-1,2-Dichloroethene	1.0	U F1	10.0	12.4	F1	ug/L		124	68 - 121
Tetrachloroethene	1.0	U	10.0	11.4		ug/L		114	52 - 129
trans-1,2-Dichloroethene	1.0	U F1	10.0	12.7	F1	ug/L		127	69 - 126
Trichloroethene	1.0	U	10.0	12.0		ug/L		120	56 - 124
Vinyl chloride	1.0	U	10.0	12.0		ug/L		120	49 - 136

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	98		75 - 130
4-Bromofluorobenzene (Surr)	112		47 - 134
Toluene-d8 (Surr)	106		69 - 122

QC Sample Results

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

Job ID: 240-149105-1

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

Lab Sample ID: 190-25888-H-1 MS
Matrix: Water
Analysis Batch: 486324

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

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

Lab Sample ID: 190-25888-I-1 MSD
Matrix: Water
Analysis Batch: 486324

Client Sample ID: Matrix Spike Duplicate
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	10.0	12.9		ug/L		129	64 - 132	2	35	
cis-1,2-Dichloroethene	1.0	U F1	10.0	12.5	F1	ug/L		125	68 - 121	1	35	
Tetrachloroethene	1.0	U	10.0	10.8		ug/L		108	52 - 129	5	35	
trans-1,2-Dichloroethene	1.0	U F1	10.0	12.3		ug/L		123	69 - 126	3	35	
Trichloroethene	1.0	U	10.0	11.8		ug/L		118	56 - 124	2	35	
Vinyl chloride	1.0	U	10.0	12.3		ug/L		123	49 - 136	3	35	

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	98		75 - 130
4-Bromofluorobenzene (Surr)	112		47 - 134
Toluene-d8 (Surr)	104		69 - 122
Dibromofluoromethane (Surr)	113		78 - 129

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

Lab Sample ID: MB 240-485384/5
Matrix: Water
Analysis Batch: 485384

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			05/12/21 14:38	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	82		70 - 133		05/12/21 14:38	1

Lab Sample ID: LCS 240-485384/4
Matrix: Water
Analysis Batch: 485384

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	10.5		ug/L		105	80 - 135

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

Lab Sample ID: 240-149042-H-2 MS
Matrix: Water
Analysis Batch: 485384

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

Analyte	Sample	Sample	Spike	MS MS		Unit	D	%Rec	%Rec.
	Result	Qualifier		Result	Qualifier				
1,4-Dioxane	2.0	U	10.0	10.6		ug/L		106	46 - 170

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-149105-1

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

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

Lab Sample ID: 240-149042-N-2 MSD
Matrix: Water
Analysis Batch: 485384

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

<u>Analyte</u>	<u>Sample</u> <u>Result</u>	<u>Sample</u> <u>Qualifier</u>	<u>Spike</u> <u>Added</u>	<u>MSD</u> <u>Result</u>	<u>MSD</u> <u>Qualifier</u>	<u>Unit</u>	<u>D</u>	<u>%Rec</u>	<u>%Rec.</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>Limit</u>
1,4-Dioxane	2.0	U	10.0	10.1		ug/L		101	46 - 170	5	26

<u>Surrogate</u>	<u>MSD</u> <u>%Recovery</u>	<u>MSD</u> <u>Qualifier</u>	<u>Limits</u>
1,2-Dichloroethane-d4 (Surr)	83		70 - 133

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- 14

QC Association Summary

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

Job ID: 240-149105-1

GC/MS VOA

Analysis Batch: 485384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-149105-2	MW-46_050721	Total/NA	Water	8260B SIM	
240-149105-3	MW-21_050721	Total/NA	Water	8260B SIM	
240-149105-4	MW-49_050721	Total/NA	Water	8260B SIM	
MB 240-485384/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-485384/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-149042-H-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-149042-N-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 486324

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-149105-1	TRIP BLANK_37	Total/NA	Water	8260B	
240-149105-2	MW-46_050721	Total/NA	Water	8260B	
240-149105-3	MW-21_050721	Total/NA	Water	8260B	
240-149105-4	MW-49_050721	Total/NA	Water	8260B	
MB 240-486324/7	Method Blank	Total/NA	Water	8260B	
LCS 240-486324/4	Lab Control Sample	Total/NA	Water	8260B	
190-25888-H-1 MS	Matrix Spike	Total/NA	Water	8260B	
190-25888-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-149105-1

Client Sample ID: TRIP BLANK_37

Lab Sample ID: 240-149105-1

Date Collected: 05/07/21 00:00

Matrix: Water

Date Received: 05/11/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	486324	05/18/21 21:07	LRW	TAL CAN

Client Sample ID: MW-46_050721

Lab Sample ID: 240-149105-2

Date Collected: 05/07/21 10:40

Matrix: Water

Date Received: 05/11/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	486324	05/18/21 21:30	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	485384	05/12/21 22:29	CS	TAL CAN

Client Sample ID: MW-21_050721

Lab Sample ID: 240-149105-3

Date Collected: 05/07/21 11:50

Matrix: Water

Date Received: 05/11/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	486324	05/18/21 21:54	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	485384	05/12/21 22:53	CS	TAL CAN

Client Sample ID: MW-49_050721

Lab Sample ID: 240-149105-4

Date Collected: 05/07/21 14:45

Matrix: Water

Date Received: 05/11/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1250	486324	05/18/21 22:18	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	485384	05/12/21 23:18	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 - On Site

Job ID: 240-149105-1

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	02-23-21 *
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.



Chain of Custody Record

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: Arcadis
Address: 28550 Cabot Drive, Suite 500
City/State/Zip: Novi, MI, 48377
Phone: 248-994-2240
Project Name: Ford LTP On-Site
Project Number: 30080642.401.03
PO # 30080642.401.03

Site Contact: Julia McClafferty
Telephone: 734-644-5131

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

Sampler Name: *Emma Witherspoon*
Method of Shipment/Carrier:
Shipping/Tracking No:

Sample Identification	Sample Date	Sample Time	Matrix				Containers & Preservatives				Filtered Sample (Y/N)	Composite C/Grab/G	Analyses							Sample Specific Notes / Special Instructions:						
			Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl			NaOH	NaOH Unpres	Other:	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			
TRIP BLANK 37	---	---	X																						1 Trip Blank	
MW-46_050721	5/7/21	1040	X																							3 VOAs for 8260B 3 VOAs for 8260B SIM
MW-21_050721	5/7/21	1150	X																							
MW-49_050721	5/7/21	1445	X																							



Possible Hazard Identification: Non-Hazard Flammable Irritant Poison B Unknown

Special Instructions/QC Requirements & Comments:

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

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
<i>Emma Witherspoon</i>	Arcadis	5/7/21 1515	<i>At Home</i>	Arcadis	5/7/21 1515
<i>Julie McLaughlin</i>	Arcadis	5/7/21 1600	<i>Nav Cold Storage</i>	Arcadis	5/7/21 1600
<i>Julie McLaughlin</i>	Arcadis	5/10/21 930	<i>Aracade Bathed EPA</i>		5/10/21 930

Relinquished by: *Julie McLaughlin*
Company: Arcadis
Date/Time: 5/10/21 930

Received in Laboratory by: *Aracade Bathed EPA*
Company: EPA
Date/Time: 5-11-21 930



Eurofins TestAmerica Canton Sample Receipt Form/Narrative Login # : 149105
Canton Facility

Client Arcadis Site Name _____ Cooler unpacked by: Math Snyder
Cooler Received on 5-11-21 Opened on 5-11-21
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-11 (CF +0.1 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °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 _____ 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

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# HC022887
14. Were VOAs on the COC? Yes No
15. Were air bubbles >6 mm in any VOA vials? Yes No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
17. Was a LL Hg or Me Hg trip blank present? _____ Yes No

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: _____

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