

ANALYTICAL REPORT

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

Laboratory Job ID: 240-149628-1
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:
6/1/2021 11:41:04 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: 240-149628-1

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: 240-149628-1

Job ID: 240-149628-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative 240-149628-1

Comments

No additional comments.

Receipt

The samples were received on 5/18/2021 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.7° C, 3.9° C and 4.5° C.

GC/MS VOA

Method 8260B: The matrix spike/matrix spike duplicate (MS/MSD) for samples TRIP BLANK_43 (240-149628-1) was not reported, because the analyte list for these samples did not match the analyte list for the MS/MSD parent sample.

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: 240-149628-1

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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- 11
- 12
- 13
- 14

Sample Summary

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

Job ID: 240-149628-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-149628-1	TRIP BLANK_43	Water	05/14/21 00:00	05/18/21 10:00	
240-149628-2	MW-142S_051421	Water	05/14/21 09:06	05/18/21 10:00	
240-149628-3	MW-85_051421	Water	05/14/21 10:18	05/18/21 10:00	
240-149628-4	MW-85SR_051421	Water	05/14/21 11:26	05/18/21 10:00	
240-149628-5	DUP-07	Water	05/14/21 00:00	05/18/21 10:00	

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- 2
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- 4
- 5
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- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

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

Job ID: 240-149628-1

Client Sample ID: TRIP BLANK_43

Lab Sample ID: 240-149628-1

No Detections.

Client Sample ID: MW-142S_051421

Lab Sample ID: 240-149628-2

No Detections.

Client Sample ID: MW-85_051421

Lab Sample ID: 240-149628-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	6.0		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-85SR_051421

Lab Sample ID: 240-149628-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	1.9		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: DUP-07

Lab Sample ID: 240-149628-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	1.8		1.0	0.20	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: 240-149628-1

Client Sample ID: TRIP BLANK_43

Lab Sample ID: 240-149628-1

Date Collected: 05/14/21 00:00

Matrix: Water

Date Received: 05/18/21 10:00

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			05/27/21 18:52	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/27/21 18:52	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/27/21 18:52	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/27/21 18:52	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/27/21 18:52	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/27/21 18:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		75 - 130		05/27/21 18:52	1
4-Bromofluorobenzene (Surr)	92		47 - 134		05/27/21 18:52	1
Toluene-d8 (Surr)	95		69 - 122		05/27/21 18:52	1
Dibromofluoromethane (Surr)	87		78 - 129		05/27/21 18:52	1

Client Sample Results

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

Job ID: 240-149628-1

Client Sample ID: MW-142S_051421

Lab Sample ID: 240-149628-2

Date Collected: 05/14/21 09:06

Matrix: Water

Date Received: 05/18/21 10:00

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			05/21/21 17:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		70 - 133					05/21/21 17:05	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			05/27/21 04:14	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/27/21 04:14	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/27/21 04:14	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/27/21 04:14	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/27/21 04:14	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/27/21 04:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	78		75 - 130					05/27/21 04:14	1
4-Bromofluorobenzene (Surr)	90		47 - 134					05/27/21 04:14	1
Toluene-d8 (Surr)	98		69 - 122					05/27/21 04:14	1
Dibromofluoromethane (Surr)	86		78 - 129					05/27/21 04:14	1

Client Sample Results

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

Job ID: 240-149628-1

Client Sample ID: MW-85_051421

Lab Sample ID: 240-149628-3

Date Collected: 05/14/21 10:18

Matrix: Water

Date Received: 05/18/21 10:00

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			05/21/21 17:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		70 - 133		05/21/21 17:30	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			05/27/21 04:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/27/21 04:39	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/27/21 04:39	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/27/21 04:39	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/27/21 04:39	1
Vinyl chloride	6.0		1.0	0.20	ug/L			05/27/21 04:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		75 - 130		05/27/21 04:39	1
4-Bromofluorobenzene (Surr)	90		47 - 134		05/27/21 04:39	1
Toluene-d8 (Surr)	98		69 - 122		05/27/21 04:39	1
Dibromofluoromethane (Surr)	87		78 - 129		05/27/21 04:39	1

Client Sample Results

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

Job ID: 240-149628-1

Client Sample ID: MW-85SR_051421

Lab Sample ID: 240-149628-4

Date Collected: 05/14/21 11:26

Matrix: Water

Date Received: 05/18/21 10:00

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			05/21/21 19:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		70 - 133		05/21/21 19:09	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			05/27/21 05:04	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/27/21 05:04	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/27/21 05:04	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/27/21 05:04	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/27/21 05:04	1
Vinyl chloride	1.9		1.0	0.20	ug/L			05/27/21 05:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		75 - 130		05/27/21 05:04	1
4-Bromofluorobenzene (Surr)	91		47 - 134		05/27/21 05:04	1
Toluene-d8 (Surr)	96		69 - 122		05/27/21 05:04	1
Dibromofluoromethane (Surr)	86		78 - 129		05/27/21 05:04	1

Client Sample Results

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

Job ID: 240-149628-1

Client Sample ID: DUP-07

Lab Sample ID: 240-149628-5

Date Collected: 05/14/21 00:00

Matrix: Water

Date Received: 05/18/21 10:00

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			05/21/21 19:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		70 - 133		05/21/21 19:34	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			05/27/21 05:29	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/27/21 05:29	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/27/21 05:29	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/27/21 05:29	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/27/21 05:29	1
Vinyl chloride	1.8		1.0	0.20	ug/L			05/27/21 05:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		75 - 130		05/27/21 05:29	1
4-Bromofluorobenzene (Surr)	91		47 - 134		05/27/21 05:29	1
Toluene-d8 (Surr)	98		69 - 122		05/27/21 05:29	1
Dibromofluoromethane (Surr)	86		78 - 129		05/27/21 05:29	1

Surrogate Summary

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

Job ID: 240-149628-1

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)
240-149628-1	TRIP BLANK_43	81	92	95	87
240-149628-2	MW-142S_051421	78	90	98	86
240-149628-3	MW-85_051421	80	90	98	87
240-149628-4	MW-85SR_051421	81	91	96	86
240-149628-5	DUP-07	82	91	98	86
240-149630-K-3 MS	Matrix Spike	82	95	97	87
240-149630-L-3 MSD	Matrix Spike Duplicate	78	96	97	86
LCS 240-487706/4	Lab Control Sample	79	94	98	86
LCS 240-487870/4	Lab Control Sample	77	94	96	89
MB 240-487706/7	Method Blank	80	91	98	85
MB 240-487870/7	Method Blank	78	92	97	87

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)
240-149526-H-3 MS	Matrix Spike	85
240-149526-K-3 MSD	Matrix Spike Duplicate	81
240-149628-2	MW-142S_051421	82
240-149628-3	MW-85_051421	82
240-149628-4	MW-85SR_051421	81
240-149628-5	DUP-07	82
LCS 240-486956/4	Lab Control Sample	82
MB 240-486956/5	Method Blank	80

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-149628-1

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

Lab Sample ID: MB 240-487706/7
Matrix: Water
Analysis Batch: 487706

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			05/27/21 03:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/27/21 03:24	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/27/21 03:24	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/27/21 03:24	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/27/21 03:24	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/27/21 03:24	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	80		75 - 130		05/27/21 03:24	1
4-Bromofluorobenzene (Surr)	91		47 - 134		05/27/21 03:24	1
Toluene-d8 (Surr)	98		69 - 122		05/27/21 03:24	1
Dibromofluoromethane (Surr)	85		78 - 129		05/27/21 03:24	1

Lab Sample ID: LCS 240-487706/4
Matrix: Water
Analysis Batch: 487706

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	8.40		ug/L		84	73 - 129
cis-1,2-Dichloroethene	10.0	8.78		ug/L		88	75 - 124
Tetrachloroethene	10.0	9.43		ug/L		94	70 - 125
trans-1,2-Dichloroethene	10.0	8.65		ug/L		87	74 - 130
Trichloroethene	10.0	8.56		ug/L		86	71 - 121
Vinyl chloride	10.0	10.8		ug/L		108	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)	86		78 - 129

Lab Sample ID: 240-149630-K-3 MS
Matrix: Water
Analysis Batch: 487706

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	7.72		ug/L		77	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	8.30		ug/L		83	68 - 121
Tetrachloroethene	1.0	U	10.0	8.39		ug/L		84	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	8.06		ug/L		81	69 - 126
Trichloroethene	1.0	U	10.0	7.58		ug/L		76	56 - 124
Vinyl chloride	0.24	J	10.0	10.1		ug/L		98	49 - 136

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	82		75 - 130
4-Bromofluorobenzene (Surr)	95		47 - 134
Toluene-d8 (Surr)	97		69 - 122

QC Sample Results

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

Job ID: 240-149628-1

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

Lab Sample ID: 240-149630-K-3 MS
Matrix: Water
Analysis Batch: 487706

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

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	87		78 - 129

Lab Sample ID: 240-149630-L-3 MSD
Matrix: Water
Analysis Batch: 487706

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	8.34		ug/L		83	64 - 132	8	35
cis-1,2-Dichloroethene	1.0	U	10.0	8.51		ug/L		85	68 - 121	2	35
Tetrachloroethene	1.0	U	10.0	9.16		ug/L		92	52 - 129	9	35
trans-1,2-Dichloroethene	1.0	U	10.0	8.57		ug/L		86	69 - 126	6	35
Trichloroethene	1.0	U	10.0	8.07		ug/L		81	56 - 124	6	35
Vinyl chloride	0.24	J	10.0	10.2		ug/L		99	49 - 136	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	78		75 - 130
4-Bromofluorobenzene (Surr)	96		47 - 134
Toluene-d8 (Surr)	97		69 - 122
Dibromofluoromethane (Surr)	86		78 - 129

Lab Sample ID: MB 240-487870/7
Matrix: Water
Analysis Batch: 487870

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			05/27/21 16:17	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/27/21 16:17	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/27/21 16:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/27/21 16:17	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/27/21 16:17	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/27/21 16:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	78		75 - 130		05/27/21 16:17	1
4-Bromofluorobenzene (Surr)	92		47 - 134		05/27/21 16:17	1
Toluene-d8 (Surr)	97		69 - 122		05/27/21 16:17	1
Dibromofluoromethane (Surr)	87		78 - 129		05/27/21 16:17	1

Lab Sample ID: LCS 240-487870/4
Matrix: Water
Analysis Batch: 487870

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	8.40		ug/L		84	73 - 129
cis-1,2-Dichloroethene	10.0	8.72		ug/L		87	75 - 124
Tetrachloroethene	10.0	9.34		ug/L		93	70 - 125
trans-1,2-Dichloroethene	10.0	8.39		ug/L		84	74 - 130
Trichloroethene	10.0	8.26		ug/L		83	71 - 121

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-149628-1

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

Lab Sample ID: LCS 240-487870/4
Matrix: Water
Analysis Batch: 487870

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	11.6		ug/L		116	61 - 134
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	77		75 - 130				
4-Bromofluorobenzene (Surr)	94		47 - 134				
Toluene-d8 (Surr)	96		69 - 122				
Dibromofluoromethane (Surr)	89		78 - 129				

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

Lab Sample ID: MB 240-486956/5
Matrix: Water
Analysis Batch: 486956

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			05/21/21 13:40	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		70 - 133					05/21/21 13:40	1

Lab Sample ID: LCS 240-486956/4
Matrix: Water
Analysis Batch: 486956

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.8		ug/L		108	80 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	82		70 - 133				

Lab Sample ID: 240-149526-H-3 MS
Matrix: Water
Analysis Batch: 486956

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	10.3		ug/L		103	46 - 170
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	85		70 - 133						

Lab Sample ID: 240-149526-K-3 MSD
Matrix: Water
Analysis Batch: 486956

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	10.3		ug/L		103	46 - 170	0	26

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-149628-1

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

Lab Sample ID: 240-149526-K-3 MSD
Matrix: Water
Analysis Batch: 486956

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

<i>Surrogate</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
1,2-Dichloroethane-d4 (Surr)	81		70 - 133

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

QC Association Summary

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

Job ID: 240-149628-1

GC/MS VOA

Analysis Batch: 486956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-149628-2	MW-142S_051421	Total/NA	Water	8260B SIM	
240-149628-3	MW-85_051421	Total/NA	Water	8260B SIM	
240-149628-4	MW-85SR_051421	Total/NA	Water	8260B SIM	
240-149628-5	DUP-07	Total/NA	Water	8260B SIM	
MB 240-486956/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-486956/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-149526-H-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-149526-K-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 487706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-149628-2	MW-142S_051421	Total/NA	Water	8260B	
240-149628-3	MW-85_051421	Total/NA	Water	8260B	
240-149628-4	MW-85SR_051421	Total/NA	Water	8260B	
240-149628-5	DUP-07	Total/NA	Water	8260B	
MB 240-487706/7	Method Blank	Total/NA	Water	8260B	
LCS 240-487706/4	Lab Control Sample	Total/NA	Water	8260B	
240-149630-K-3 MS	Matrix Spike	Total/NA	Water	8260B	
240-149630-L-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 487870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-149628-1	TRIP BLANK_43	Total/NA	Water	8260B	
MB 240-487870/7	Method Blank	Total/NA	Water	8260B	
LCS 240-487870/4	Lab Control Sample	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-149628-1

Client Sample ID: TRIP BLANK_43

Lab Sample ID: 240-149628-1

Date Collected: 05/14/21 00:00

Matrix: Water

Date Received: 05/18/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	487870	05/27/21 18:52	LRW	TAL CAN

Client Sample ID: MW-142S_051421

Lab Sample ID: 240-149628-2

Date Collected: 05/14/21 09:06

Matrix: Water

Date Received: 05/18/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	487706	05/27/21 04:14	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	486956	05/21/21 17:05	CS	TAL CAN

Client Sample ID: MW-85_051421

Lab Sample ID: 240-149628-3

Date Collected: 05/14/21 10:18

Matrix: Water

Date Received: 05/18/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	487706	05/27/21 04:39	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	486956	05/21/21 17:30	CS	TAL CAN

Client Sample ID: MW-85SR_051421

Lab Sample ID: 240-149628-4

Date Collected: 05/14/21 11:26

Matrix: Water

Date Received: 05/18/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	487706	05/27/21 05:04	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	486956	05/21/21 19:09	CS	TAL CAN

Client Sample ID: DUP-07

Lab Sample ID: 240-149628-5

Date Collected: 05/14/21 00:00

Matrix: Water

Date Received: 05/18/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	487706	05/27/21 05:29	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	486956	05/21/21 19:34	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: 240-149628-1

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.



Regulatory program: DW NPDES RCRA Other

Client Project Manager: **Kris Hinskey**

Site Contact: **Julia McClafferty**

Lab Contact: **Mike DeMonico**

Telephone: 248-994-2240 Telephone: 734-644-5131 Telephone: 330-497-9396

Email: kris@hinskey.com Email: julia@arcadis.com Email: mike@testamerica.com

Company Name: **Arcadis**

Address: 28550 Cabot Drive, Suite 500

City/State/Zip: Novi, MI, 48377

Phone: 248-994-2240

Project Name: **Ford LTP Off-Site**

Project Number: 30080642.402.04

PO # 30080642.402.04

Sampler Name: **Andrew Bani H**

Method of Shipment/Carrier:

Shipping/Tracking No:

Analysis Turnaround Time

TAT if different from below

3 weeks

2 weeks

1 week

2 days

1 day

10 day

Containers & Preservatives

Other: Unpres ZnOH NaOH HCl HNO3 H2SO4

Matrix

Aqueous Solid Other:

Sample Date	Sample Time	Air	Filtered Sample (Y/N)	Composite C / Grab G	1,1-DCE 8260B	cis-1,2-DCE 8260B	Trans-1,2-DCE 8260B	PCE 8260B	TCE 8260B	Vinyl Chloride 8260B	1,4-Dioxane 8260B SIM
---	---	X	N	G	X	X	X	X	X	X	X
5/14/21	0906	X	N	G	X	X	X	X	X	X	X
5/14/21	1018	X	N	G	X	X	X	X	X	X	X
5/14/21	1126	X	N	G	X	X	X	X	X	X	X
5/14/21	-	X	N	G	X	X	X	X	X	X	X

Sample Identification

Trip Blank - 43

MW-1425-051421

MW-85-051421

MW-85SR-051421

DUP-07

Possible Hazard Identification

Non-Hazard Irritant Flammable Corrosive Toxic Other

Special Instructions/OC Requirements & Comments:

Submit all results through Cadena at jtomalla@cadena.com. Cadena #E203631

Level IV Reporting requested.

Relinquished by: **Andrew Bani H**

Relinquished by: **Christina Talme**

Relinquished by: **Andrew Bani H**

Company: **Arcadis**

Company: **ARCADIS**

Company: **ETA**

Date/Time: 5/14/21 1230

Date/Time: 5/17/21

Date/Time: 5/17/21 11:31

Received by: **Novi Collet**

Received by: **Christina Talme**

Received by: **Christina Talme**

Sample Specific Notes / Special Instructions:

1 Trip Blank

3 VOAs for 8260B

3 VOAs for 8260B SIM

Company: **Arcadis**

Company: **ARCADIS**

Company: **ETA**

Date/Time: 5/14/21 1230

Date/Time: 5/17/21 9:28

Date/Time: 5-18-21 10:00

Received by: **Novi Collet**

Received by: **Christina Talme**

Received by: **Christina Talme**

Company: **Arcadis**

Company: **ARCADIS**

Company: **ETA**

Date/Time: 5/14/21 1230

Date/Time: 5/17/21

Date/Time: 5/17/21 11:31

Received by: **Novi Collet**

Received by: **Christina Talme**

Received by: **Christina Talme**

Company: **Arcadis**

Company: **ARCADIS**

Company: **ETA**

Barcode: 240-149628 Chain of Custody

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return to Client Disposal By Lab Archive For _____ Months

Company: **Arcadis**

Company: **ARCADIS**

Company: **ETA**

Date/Time: 5/14/21 1230

Date/Time: 5/17/21

Date/Time: 5/17/21 11:31

Received by: **Novi Collet**

Received by: **Christina Talme**

Received by: **Christina Talme**

Company: **Arcadis**

Company: **ARCADIS**

Company: **ETA**

Date/Time: 5/14/21 1230

Date/Time: 5/17/21

Date/Time: 5/17/21 11:31

Received by: **Novi Collet**

Received by: **Christina Talme**

Received by: **Christina Talme**

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility


Login # : 149628

Client Arcadis Site Name Ford LTP
 Cooler Received on 5-18-21 Opened on 5-18-21
 FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Cooler unpacked by: [Signature]

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 3 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? 1 on each 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
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 No NA  ← Larger than this.
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

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: _____

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: _____

