

ANALYTICAL REPORT

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

Laboratory Job ID: 240-149043-1
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:
5/24/2021 1:44:32 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: 240-149043-1

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 - On Site

Job ID: 240-149043-1

Job ID: 240-149043-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-149043-1

Comments

No additional comments.

Receipt

The samples were received on 5/8/2021 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.5° 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: 240-149043-1

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 - On Site

Job ID: 240-149043-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-149043-1	TRIP BLANK_12	Water	05/06/21 00:00	05/08/21 08:00	
240-149043-2	MW-57_050621	Water	05/06/21 09:55	05/08/21 08:00	
240-149043-3	MW-53_050621	Water	05/06/21 10:55	05/08/21 08:00	
240-149043-4	MW-51_050621	Water	05/06/21 12:05	05/08/21 08:00	
240-149043-5	MW-54_050621	Water	05/06/21 13:35	05/08/21 08:00	
240-149043-6	MW-54S_050621	Water	05/06/21 13:45	05/08/21 08:00	
240-149043-7	MW-23_050621	Water	05/06/21 14:50	05/08/21 08:00	

Detection Summary

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

Job ID: 240-149043-1

Client Sample ID: TRIP BLANK_12

Lab Sample ID: 240-149043-1

No Detections.

Client Sample ID: MW-57_050621

Lab Sample ID: 240-149043-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	1.6		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-53_050621

Lab Sample ID: 240-149043-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.8	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	0.65	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-51_050621

Lab Sample ID: 240-149043-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.9	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.20	J	1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	0.28	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-54_050621

Lab Sample ID: 240-149043-5

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
Vinyl chloride	1.2		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-54S_050621

Lab Sample ID: 240-149043-6

No Detections.

Client Sample ID: MW-23_050621

Lab Sample ID: 240-149043-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	26000		400	64	ug/L	400		8260B	Total/NA
trans-1,2-Dichloroethene	780		400	76	ug/L	400		8260B	Total/NA
Trichloroethene	4800		400	40	ug/L	400		8260B	Total/NA
Vinyl chloride	500		400	80	ug/L	400		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: 240-149043-1

Client Sample ID: TRIP BLANK_12

Lab Sample ID: 240-149043-1

Date Collected: 05/06/21 00:00

Matrix: Water

Date Received: 05/08/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/17/21 16:22	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/17/21 16:22	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/17/21 16:22	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/17/21 16:22	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/17/21 16:22	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/17/21 16:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		75 - 130		05/17/21 16:22	1
4-Bromofluorobenzene (Surr)	94		47 - 134		05/17/21 16:22	1
Toluene-d8 (Surr)	101		69 - 122		05/17/21 16:22	1
Dibromofluoromethane (Surr)	102		78 - 129		05/17/21 16:22	1

Client Sample Results

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

Job ID: 240-149043-1

Client Sample ID: MW-57_050621

Lab Sample ID: 240-149043-2

Date Collected: 05/06/21 09:55

Matrix: Water

Date Received: 05/08/21 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			05/11/21 22:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 133					05/11/21 22:31	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			05/17/21 19:17	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/17/21 19:17	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/17/21 19:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/17/21 19:17	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/17/21 19:17	1
Vinyl chloride	1.6		1.0	0.20	ug/L			05/17/21 19:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		75 - 130					05/17/21 19:17	1
4-Bromofluorobenzene (Surr)	95		47 - 134					05/17/21 19:17	1
Toluene-d8 (Surr)	100		69 - 122					05/17/21 19:17	1
Dibromofluoromethane (Surr)	103		78 - 129					05/17/21 19:17	1

Client Sample Results

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

Job ID: 240-149043-1

Client Sample ID: MW-53_050621

Lab Sample ID: 240-149043-3

Date Collected: 05/06/21 10:55

Matrix: Water

Date Received: 05/08/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.8	J	2.0	0.86	ug/L			05/11/21 22:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 133					05/11/21 22:56	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			05/17/21 19:42	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/17/21 19:42	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/17/21 19:42	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/17/21 19:42	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/17/21 19:42	1
Vinyl chloride	0.65	J	1.0	0.20	ug/L			05/17/21 19:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		75 - 130					05/17/21 19:42	1
4-Bromofluorobenzene (Surr)	97		47 - 134					05/17/21 19:42	1
Toluene-d8 (Surr)	102		69 - 122					05/17/21 19:42	1
Dibromofluoromethane (Surr)	105		78 - 129					05/17/21 19:42	1

Client Sample Results

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

Job ID: 240-149043-1

Client Sample ID: MW-51_050621

Lab Sample ID: 240-149043-4

Date Collected: 05/06/21 12:05

Matrix: Water

Date Received: 05/08/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.9	J	2.0	0.86	ug/L			05/11/21 23:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		70 - 133					05/11/21 23:21	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			05/17/21 20:07	1
cis-1,2-Dichloroethene	0.20	J	1.0	0.16	ug/L			05/17/21 20:07	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/17/21 20:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/17/21 20:07	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/17/21 20:07	1
Vinyl chloride	0.28	J	1.0	0.20	ug/L			05/17/21 20:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		75 - 130					05/17/21 20:07	1
4-Bromofluorobenzene (Surr)	97		47 - 134					05/17/21 20:07	1
Toluene-d8 (Surr)	101		69 - 122					05/17/21 20:07	1
Dibromofluoromethane (Surr)	111		78 - 129					05/17/21 20:07	1

Client Sample Results

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

Job ID: 240-149043-1

Client Sample ID: MW-54_050621

Lab Sample ID: 240-149043-5

Date Collected: 05/06/21 13:35

Matrix: Water

Date Received: 05/08/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.2		2.0	0.86	ug/L			05/12/21 17:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		70 - 133					05/12/21 17:07	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			05/17/21 20:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/17/21 20:32	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/17/21 20:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/17/21 20:32	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/17/21 20:32	1
Vinyl chloride	1.2		1.0	0.20	ug/L			05/17/21 20:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		75 - 130					05/17/21 20:32	1
4-Bromofluorobenzene (Surr)	99		47 - 134					05/17/21 20:32	1
Toluene-d8 (Surr)	99		69 - 122					05/17/21 20:32	1
Dibromofluoromethane (Surr)	106		78 - 129					05/17/21 20:32	1

Client Sample Results

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

Job ID: 240-149043-1

Client Sample ID: MW-54S_050621

Lab Sample ID: 240-149043-6

Date Collected: 05/06/21 13:45

Matrix: Water

Date Received: 05/08/21 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			05/12/21 17:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		70 - 133					05/12/21 17:32	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			05/17/21 20:57	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/17/21 20:57	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/17/21 20:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/17/21 20:57	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/17/21 20:57	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/17/21 20:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		75 - 130					05/17/21 20:57	1
4-Bromofluorobenzene (Surr)	94		47 - 134					05/17/21 20:57	1
Toluene-d8 (Surr)	97		69 - 122					05/17/21 20:57	1
Dibromofluoromethane (Surr)	102		78 - 129					05/17/21 20:57	1

Client Sample Results

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

Job ID: 240-149043-1

Client Sample ID: MW-23_050621

Lab Sample ID: 240-149043-7

Date Collected: 05/06/21 14:50

Matrix: Water

Date Received: 05/08/21 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			05/12/21 17:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	75		70 - 133					05/12/21 17:56	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	400	U	400	76	ug/L			05/17/21 21:22	400
cis-1,2-Dichloroethene	26000		400	64	ug/L			05/17/21 21:22	400
Tetrachloroethene	400	U	400	60	ug/L			05/17/21 21:22	400
trans-1,2-Dichloroethene	780		400	76	ug/L			05/17/21 21:22	400
Trichloroethene	4800		400	40	ug/L			05/17/21 21:22	400
Vinyl chloride	500		400	80	ug/L			05/17/21 21:22	400
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		75 - 130					05/17/21 21:22	400
4-Bromofluorobenzene (Surr)	96		47 - 134					05/17/21 21:22	400
Toluene-d8 (Surr)	102		69 - 122					05/17/21 21:22	400
Dibromofluoromethane (Surr)	113		78 - 129					05/17/21 21:22	400

Surrogate Summary

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

Job ID: 240-149043-1

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)
240-149042-L-2 MS	Matrix Spike	109	102	105	108
240-149042-Q-2 MSD	Matrix Spike Duplicate	107	101	102	105
240-149043-1	TRIP BLANK_12	111	94	101	102
240-149043-2	MW-57_050621	114	95	100	103
240-149043-3	MW-53_050621	114	97	102	105
240-149043-4	MW-51_050621	121	97	101	111
240-149043-5	MW-54_050621	110	99	99	106
240-149043-6	MW-54S_050621	110	94	97	102
240-149043-7	MW-23_050621	114	96	102	113
LCS 240-486074/5	Lab Control Sample	108	98	102	107
MB 240-486074/7	Method Blank	110	99	101	106

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)
240-149041-H-2 MS	Matrix Spike	83
240-149041-N-2 MSD	Matrix Spike Duplicate	82
240-149042-H-2 MS	Matrix Spike	84
240-149042-N-2 MSD	Matrix Spike Duplicate	83
240-149043-2	MW-57_050621	87
240-149043-3	MW-53_050621	85
240-149043-4	MW-51_050621	82
240-149043-5	MW-54_050621	84
240-149043-6	MW-54S_050621	81
240-149043-7	MW-23_050621	75
LCS 240-485164/4	Lab Control Sample	81
LCS 240-485384/4	Lab Control Sample	84
MB 240-485164/5	Method Blank	81
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: 240-149043-1

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

Lab Sample ID: MB 240-486074/7
Matrix: Water
Analysis Batch: 486074

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			05/17/21 12:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/17/21 12:10	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/17/21 12:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/17/21 12:10	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/17/21 12:10	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/17/21 12:10	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	110		75 - 130		05/17/21 12:10	1
4-Bromofluorobenzene (Surr)	99		47 - 134		05/17/21 12:10	1
Toluene-d8 (Surr)	101		69 - 122		05/17/21 12:10	1
Dibromofluoromethane (Surr)	106		78 - 129		05/17/21 12:10	1

Lab Sample ID: LCS 240-486074/5
Matrix: Water
Analysis Batch: 486074

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	25.0	28.0		ug/L		112	75 - 124
Tetrachloroethene	25.0	26.9		ug/L		108	70 - 125
trans-1,2-Dichloroethene	25.0	27.8		ug/L		111	74 - 130
Trichloroethene	25.0	26.7		ug/L		107	71 - 121
Vinyl chloride	25.0	28.1		ug/L		113	61 - 134

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	108		75 - 130
4-Bromofluorobenzene (Surr)	98		47 - 134
Toluene-d8 (Surr)	102		69 - 122
Dibromofluoromethane (Surr)	107		78 - 129

Lab Sample ID: 240-149042-L-2 MS
Matrix: Water
Analysis Batch: 486074

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

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	25.0	27.0		ug/L		108	64 - 132
cis-1,2-Dichloroethene	0.32	J	25.0	26.0		ug/L		103	68 - 121
Tetrachloroethene	1.0	U	25.0	26.1		ug/L		104	52 - 129
trans-1,2-Dichloroethene	1.0	U	25.0	25.9		ug/L		104	69 - 126
Trichloroethene	1.0	U	25.0	25.3		ug/L		101	56 - 124
Vinyl chloride	1.0	U	25.0	28.2		ug/L		113	49 - 136

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	109		75 - 130
4-Bromofluorobenzene (Surr)	102		47 - 134
Toluene-d8 (Surr)	105		69 - 122

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-149043-1

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

Lab Sample ID: 240-149042-L-2 MS
Matrix: Water
Analysis Batch: 486074

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

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	108		78 - 129

Lab Sample ID: 240-149042-Q-2 MSD
Matrix: Water
Analysis Batch: 486074

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	25.0	26.7		ug/L		107	64 - 132	1	35
cis-1,2-Dichloroethene	0.32	J	25.0	26.5		ug/L		105	68 - 121	2	35
Tetrachloroethene	1.0	U	25.0	25.9		ug/L		104	52 - 129	1	35
trans-1,2-Dichloroethene	1.0	U	25.0	26.1		ug/L		104	69 - 126	1	35
Trichloroethene	1.0	U	25.0	25.3		ug/L		101	56 - 124	0	35
Vinyl chloride	1.0	U	25.0	28.4		ug/L		113	49 - 136	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	107		75 - 130
4-Bromofluorobenzene (Surr)	101		47 - 134
Toluene-d8 (Surr)	102		69 - 122
Dibromofluoromethane (Surr)	105		78 - 129

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

Lab Sample ID: MB 240-485164/5
Matrix: Water
Analysis Batch: 485164

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			05/11/21 14:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		70 - 133		05/11/21 14:15	1

Lab Sample ID: LCS 240-485164/4
Matrix: Water
Analysis Batch: 485164

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	10.5		ug/L		105	80 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	81		70 - 133

Lab Sample ID: 240-149041-H-2 MS
Matrix: Water
Analysis Batch: 485164

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	10.1		ug/L		101	46 - 170

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-149043-1

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

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

Lab Sample ID: 240-149041-N-2 MSD
Matrix: Water
Analysis Batch: 485164

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	10.0		ug/L		100	46 - 170	1	26

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	82		70 - 133

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

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			05/12/21 14:38	1

	MB	MB		Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier	Limits			
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 Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.5		ug/L		105	80 - 135

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

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
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

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	10.1		ug/L		101	46 - 170	5	26

QC Sample Results

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

Job ID: 240-149043-1

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

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

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

<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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QC Association Summary

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

Job ID: 240-149043-1

GC/MS VOA

Analysis Batch: 485164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-149043-2	MW-57_050621	Total/NA	Water	8260B SIM	
240-149043-3	MW-53_050621	Total/NA	Water	8260B SIM	
240-149043-4	MW-51_050621	Total/NA	Water	8260B SIM	
MB 240-485164/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-485164/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-149041-H-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-149041-N-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 485384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-149043-5	MW-54_050621	Total/NA	Water	8260B SIM	
240-149043-6	MW-54S_050621	Total/NA	Water	8260B SIM	
240-149043-7	MW-23_050621	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: 486074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-149043-1	TRIP BLANK_12	Total/NA	Water	8260B	
240-149043-2	MW-57_050621	Total/NA	Water	8260B	
240-149043-3	MW-53_050621	Total/NA	Water	8260B	
240-149043-4	MW-51_050621	Total/NA	Water	8260B	
240-149043-5	MW-54_050621	Total/NA	Water	8260B	
240-149043-6	MW-54S_050621	Total/NA	Water	8260B	
240-149043-7	MW-23_050621	Total/NA	Water	8260B	
MB 240-486074/7	Method Blank	Total/NA	Water	8260B	
LCS 240-486074/5	Lab Control Sample	Total/NA	Water	8260B	
240-149042-L-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-149042-Q-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-149043-1

Client Sample ID: TRIP BLANK_12

Lab Sample ID: 240-149043-1

Date Collected: 05/06/21 00:00

Matrix: Water

Date Received: 05/08/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	486074	05/17/21 16:22	SAM	TAL CAN

Client Sample ID: MW-57_050621

Lab Sample ID: 240-149043-2

Date Collected: 05/06/21 09:55

Matrix: Water

Date Received: 05/08/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	486074	05/17/21 19:17	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	485164	05/11/21 22:31	CS	TAL CAN

Client Sample ID: MW-53_050621

Lab Sample ID: 240-149043-3

Date Collected: 05/06/21 10:55

Matrix: Water

Date Received: 05/08/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	486074	05/17/21 19:42	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	485164	05/11/21 22:56	CS	TAL CAN

Client Sample ID: MW-51_050621

Lab Sample ID: 240-149043-4

Date Collected: 05/06/21 12:05

Matrix: Water

Date Received: 05/08/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	486074	05/17/21 20:07	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	485164	05/11/21 23:21	CS	TAL CAN

Client Sample ID: MW-54_050621

Lab Sample ID: 240-149043-5

Date Collected: 05/06/21 13:35

Matrix: Water

Date Received: 05/08/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	486074	05/17/21 20:32	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	485384	05/12/21 17:07	CS	TAL CAN

Client Sample ID: MW-54S_050621

Lab Sample ID: 240-149043-6

Date Collected: 05/06/21 13:45

Matrix: Water

Date Received: 05/08/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	486074	05/17/21 20:57	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	485384	05/12/21 17:32	CS	TAL CAN

Lab Chronicle

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

Job ID: 240-149043-1

Client Sample ID: MW-23_050621

Lab Sample ID: 240-149043-7

Date Collected: 05/06/21 14:50

Matrix: Water

Date Received: 05/08/21 08:00

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Analysis	8260B		400	486074	05/17/21 21:22	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	485384	05/12/21 17:56	CS	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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Accreditation/Certification Summary

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

Job ID: 240-149043-1

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.



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

Regulatory program: DW NPDES RCRA Other

Client Contact
Company Name: 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

Client Project Manager: Kris Hinskey
Telephone: 248-994-2240
Email: kristoffer.hinskey@arcadis.com

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

Lab Contact: Mike DelMonico
Telephone: 330-497-0396

TestAmerica Laboratories, Inc.
COC No: 1 of 1 COCs

Sampler Name: **CHRISTINA WEAVER**

Method of Shipment/Carrier:

Shipping/Tracking No:

Analysis Turnaround Time
TAT if different from below:
10 day
 3 weeks
 2 weeks
 1 week
 2 days
 1 day

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-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-12	---	---	X																					1 Trip Blank
MW-57-050621	5/6/21	0955	X																					3 VOAs for 8260B 3 VOAs for 8260B SIM
MW-53-050621	5/6/21	1055	X																					" "
MW-51-050621	5/6/21	1205	X																					" "
MW-54-050621	5/6/21	1335	X																					" "
MW-545-050621	5/6/21	1345	X																					" "
MW-23-050621	5/6/21	1450	X																					" "



Possible Hazard Identification
 Non-Hazard Flammable Irritant Poison B Unknown Disposal
 Return to Client Dispose

Special Instructions/QC Requirements & Comments:
 Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203728
 Level IV Reporting requested.

Relinquished by: <i>Christina Weaver</i>	Company: ARCADIS	Date/Time: 5/6/21 / 1600	Received by: <i>[Signature]</i>	Company: ABOVE COLD STORAGE	Date/Time: 5/16/21 / 1600
Relinquished by: <i>Julia McClafferty</i>	Company: Arcadis	Date/Time: 5/7/21 920	Received by: <i>[Signature]</i>	Company: GTA	Date/Time: 5/7/21 0920
Relinquished by: <i>[Signature]</i>	Company: GTA	Date/Time: 5/7/21 1110	Received in laboratory by: <i>[Signature]</i>	Company: ETA CANTON	Date/Time: MAY 08 2021

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 149043

Client Arcadis Site Name _____
 Cooler Received on MAY 08 2021 Opened on MAY 08 2021
 FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Cooler unpacked by:
MJS ETA CANTON

Receipt After-hours: Drop-off Date/Time **Storage Location**

TestAmerica Cooler # 1A 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. 1.4 °C Corrected Cooler Temp. 1.5 °C
 IR GUN #IR-12 (CF +0.2 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -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# HC022887
 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 # NA 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: _____

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: _____