

ANALYTICAL REPORT

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

Laboratory Job ID: 240-145075-1
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:
3/12/2021 4:32:44 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 - Off Site

Job ID: 240-145075-1

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

Method Summary

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

Job ID: 240-145075-1

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 - Off Site

Job ID: 240-145075-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-145075-1	TRIP BLANK	Water	02/24/21 00:00	02/26/21 08:00	
240-145075-2	MW-78_022421	Water	02/24/21 10:15	02/26/21 08:00	

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Detection Summary

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

Job ID: 240-145075-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-145075-1

No Detections.

Client Sample ID: MW-78_022421

Lab Sample ID: 240-145075-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.21	J	1.0	0.16	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 240-145075-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-145075-1

Date Collected: 02/24/21 00:00

Matrix: Water

Date Received: 02/26/21 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			03/03/21 15:33	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/03/21 15:33	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/03/21 15:33	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/03/21 15:33	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/03/21 15:33	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/03/21 15:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 130		03/03/21 15:33	1
4-Bromofluorobenzene (Surr)	76		47 - 134		03/03/21 15:33	1
Toluene-d8 (Surr)	85		69 - 122		03/03/21 15:33	1
Dibromofluoromethane (Surr)	110		78 - 129		03/03/21 15:33	1

Client Sample Results

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

Job ID: 240-145075-1

Client Sample ID: MW-78_022421

Lab Sample ID: 240-145075-2

Date Collected: 02/24/21 10:15

Matrix: Water

Date Received: 02/26/21 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			03/01/21 20:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 133					03/01/21 20:08	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			03/03/21 15:55	1
cis-1,2-Dichloroethene	0.21	J	1.0	0.16	ug/L			03/03/21 15:55	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/03/21 15:55	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/03/21 15:55	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/03/21 15:55	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/03/21 15:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		75 - 130					03/03/21 15:55	1
4-Bromofluorobenzene (Surr)	76		47 - 134					03/03/21 15:55	1
Toluene-d8 (Surr)	85		69 - 122					03/03/21 15:55	1
Dibromofluoromethane (Surr)	116		78 - 129					03/03/21 15:55	1

Surrogate Summary

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

Job ID: 240-145075-1

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)
240-144838-B-2 MS	Matrix Spike	89	98	95	107
240-144838-B-2 MSD	Matrix Spike Duplicate	85	96	93	101
240-145075-1	TRIP BLANK	94	76	85	110
240-145075-2	MW-78_022421	99	76	85	116
LCS 240-475239/4	Lab Control Sample	87	95	93	103
MB 240-475239/7	Method Blank	92	79	88	103

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)
240-144807-J-4 MS	Matrix Spike	90
240-144807-J-4 MSD	Matrix Spike Duplicate	88
240-145075-2	MW-78_022421	95
LCS 240-474842/4	Lab Control Sample	90
MB 240-474842/5	Method Blank	86

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-145075-1

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

Lab Sample ID: MB 240-475239/7
Matrix: Water
Analysis Batch: 475239

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			03/03/21 11:11	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/03/21 11:11	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/03/21 11:11	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/03/21 11:11	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/03/21 11:11	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/03/21 11:11	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	92		75 - 130		03/03/21 11:11	1
4-Bromofluorobenzene (Surr)	79		47 - 134		03/03/21 11:11	1
Toluene-d8 (Surr)	88		69 - 122		03/03/21 11:11	1
Dibromofluoromethane (Surr)	103		78 - 129		03/03/21 11:11	1

Lab Sample ID: LCS 240-475239/4
Matrix: Water
Analysis Batch: 475239

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	12.8		ug/L		128	73 - 129
cis-1,2-Dichloroethene	10.0	11.1		ug/L		111	75 - 124
Tetrachloroethene	10.0	10.5		ug/L		105	70 - 125
trans-1,2-Dichloroethene	10.0	11.0		ug/L		110	74 - 130
Trichloroethene	10.0	10.2		ug/L		102	71 - 121
Vinyl chloride	10.0	11.0		ug/L		110	61 - 134

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	87		75 - 130
4-Bromofluorobenzene (Surr)	95		47 - 134
Toluene-d8 (Surr)	93		69 - 122
Dibromofluoromethane (Surr)	103		78 - 129

Lab Sample ID: 240-144838-B-2 MS
Matrix: Water
Analysis Batch: 475239

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

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	89		75 - 130
4-Bromofluorobenzene (Surr)	98		47 - 134
Toluene-d8 (Surr)	95		69 - 122
Dibromofluoromethane (Surr)	107		78 - 129

Lab Sample ID: 240-144838-B-2 MSD
Matrix: Water
Analysis Batch: 475239

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

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	85		75 - 130

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QC Sample Results

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

Job ID: 240-145075-1

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

Lab Sample ID: 240-144838-B-2 MSD
Matrix: Water
Analysis Batch: 475239

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		47 - 134
Toluene-d8 (Surr)	93		69 - 122
Dibromofluoromethane (Surr)	101		78 - 129

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

Lab Sample ID: MB 240-474842/5
Matrix: Water
Analysis Batch: 474842

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			03/01/21 12:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 133		03/01/21 12:12	1

Lab Sample ID: LCS 240-474842/4
Matrix: Water
Analysis Batch: 474842

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	9.05		ug/L		91	80 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	90		70 - 133

Lab Sample ID: 240-144807-J-4 MS
Matrix: Water
Analysis Batch: 474842

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	8.95		ug/L		90	46 - 170

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	90		70 - 133

Lab Sample ID: 240-144807-J-4 MSD
Matrix: Water
Analysis Batch: 474842

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	9.28		ug/L		93	46 - 170	4	26

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		70 - 133

QC Association Summary

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

Job ID: 240-145075-1

GC/MS VOA

Analysis Batch: 474842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145075-2	MW-78_022421	Total/NA	Water	8260B SIM	
MB 240-474842/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-474842/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-144807-J-4 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-144807-J-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 475239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145075-1	TRIP BLANK	Total/NA	Water	8260B	
240-145075-2	MW-78_022421	Total/NA	Water	8260B	
MB 240-475239/7	Method Blank	Total/NA	Water	8260B	
LCS 240-475239/4	Lab Control Sample	Total/NA	Water	8260B	
240-144838-B-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-144838-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-145075-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-145075-1

Date Collected: 02/24/21 00:00

Matrix: Water

Date Received: 02/26/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	475239	03/03/21 15:33	LEE	TAL CAN

Client Sample ID: MW-78_022421

Lab Sample ID: 240-145075-2

Date Collected: 02/24/21 10:15

Matrix: Water

Date Received: 02/26/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	475239	03/03/21 15:55	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	474842	03/01/21 20:08	SAM	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: 240-145075-1

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	02-23-21 *
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21 *
Illinois	NELAP	004498	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	03-31-21
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.



Eurofins TestAmerica Canton Sample Receipt Form/Narrative

Login # : 240-145075

Canton Facility

Client Arcadis Site Name _____

Cooler unpacked by:
MJS **ETA CANTON**

Cooler Received on FEB 26 2021 Opened on FEB 26 2021

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

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

TestAmerica Cooler # NA 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. 1.6 °C Corrected Cooler Temp. 1.7 °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# HC207861

14. Were VOAs on the COC? Yes No

15. Were air bubbles >6 mm in any VOA vials? NA ← 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: **MJS** **ETA CANTON**

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: _____