

ANALYTICAL REPORT

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Tel: (330)497-9396

Laboratory Job ID: 240-145076-1
Client Project/Site: Ford LTP - On Site

For:
ARCADIS U.S., Inc.
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Attn: Kristoffer Hinskey



Authorized for release by:
3/12/2021 4:35:07 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: 240-145076-1

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 - On Site

Job ID: 240-145076-1

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: 240-145076-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-145076-1	TRIP BLANK	Water	02/24/21 00:00	02/26/21 08:00	
240-145076-2	MW-53_022421	Water	02/24/21 10:07	02/26/21 08:00	
240-145076-3	MW-54_022421	Water	02/24/21 11:27	02/26/21 08:00	
240-145076-4	MW-54S_022421	Water	02/24/21 12:48	02/26/21 08:00	
240-145076-5	MW-122_022421	Water	02/24/21 14:35	02/26/21 08:00	

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

Detection Summary

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

Job ID: 240-145076-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-145076-1

No Detections.

Client Sample ID: MW-53_022421

Lab Sample ID: 240-145076-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.22	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-54_022421

Lab Sample ID: 240-145076-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.74	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-54S_022421

Lab Sample ID: 240-145076-4

No Detections.

Client Sample ID: MW-122_022421

Lab Sample ID: 240-145076-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	2.0		1.0	0.20	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 - On Site

Job ID: 240-145076-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-145076-1

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			03/02/21 14:22	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/02/21 14:22	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/02/21 14:22	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/02/21 14:22	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/02/21 14:22	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/02/21 14:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		75 - 130		03/02/21 14:22	1
4-Bromofluorobenzene (Surr)	113		47 - 134		03/02/21 14:22	1
Toluene-d8 (Surr)	102		69 - 122		03/02/21 14:22	1
Dibromofluoromethane (Surr)	94		78 - 129		03/02/21 14:22	1

Client Sample Results

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

Job ID: 240-145076-1

Client Sample ID: MW-53_022421

Lab Sample ID: 240-145076-2

Date Collected: 02/24/21 10:07

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			03/02/21 13:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 133		03/02/21 13:41	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			03/02/21 14:44	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/02/21 14:44	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/02/21 14:44	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/02/21 14:44	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/02/21 14:44	1
Vinyl chloride	0.22	J	1.0	0.20	ug/L			03/02/21 14:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		75 - 130		03/02/21 14:44	1
4-Bromofluorobenzene (Surr)	112		47 - 134		03/02/21 14:44	1
Toluene-d8 (Surr)	103		69 - 122		03/02/21 14:44	1
Dibromofluoromethane (Surr)	95		78 - 129		03/02/21 14:44	1

Client Sample Results

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

Job ID: 240-145076-1

Client Sample ID: MW-54_022421

Lab Sample ID: 240-145076-3

Date Collected: 02/24/21 11:27

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 20:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 133		03/01/21 20:34	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			03/02/21 15:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/02/21 15:07	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/02/21 15:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/02/21 15:07	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/02/21 15:07	1
Vinyl chloride	0.74	J	1.0	0.20	ug/L			03/02/21 15:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		75 - 130		03/02/21 15:07	1
4-Bromofluorobenzene (Surr)	111		47 - 134		03/02/21 15:07	1
Toluene-d8 (Surr)	102		69 - 122		03/02/21 15:07	1
Dibromofluoromethane (Surr)	93		78 - 129		03/02/21 15:07	1

Client Sample Results

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

Job ID: 240-145076-1

Client Sample ID: MW-54S_022421

Lab Sample ID: 240-145076-4

Date Collected: 02/24/21 12:48

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 20:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 133		03/01/21 20:59	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			03/02/21 15:30	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/02/21 15:30	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/02/21 15:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/02/21 15:30	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/02/21 15:30	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/02/21 15:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		75 - 130		03/02/21 15:30	1
4-Bromofluorobenzene (Surr)	117		47 - 134		03/02/21 15:30	1
Toluene-d8 (Surr)	106		69 - 122		03/02/21 15:30	1
Dibromofluoromethane (Surr)	98		78 - 129		03/02/21 15:30	1

Client Sample Results

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

Job ID: 240-145076-1

Client Sample ID: MW-122_022421

Lab Sample ID: 240-145076-5

Date Collected: 02/24/21 14:35

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 21:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 133		03/01/21 21:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/02/21 15:52	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/02/21 15:52	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/02/21 15:52	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/02/21 15:52	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/02/21 15:52	1
Vinyl chloride	2.0		1.0	0.20	ug/L			03/02/21 15:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		75 - 130		03/02/21 15:52	1
4-Bromofluorobenzene (Surr)	114		47 - 134		03/02/21 15:52	1
Toluene-d8 (Surr)	102		69 - 122		03/02/21 15:52	1
Dibromofluoromethane (Surr)	93		78 - 129		03/02/21 15:52	1

Surrogate Summary

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

Job ID: 240-145076-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-145076-1	TRIP BLANK	99	113	102	94
240-145076-2	MW-53_022421	99	112	103	95
240-145076-2 MS	MW-53-MS_022421	95	115	104	92
240-145076-2 MSD	MW-53-MSD_022421	94	115	103	94
240-145076-3	MW-54_022421	98	111	102	93
240-145076-4	MW-54S_022421	103	117	106	98
240-145076-5	MW-122_022421	97	114	102	93
LCS 240-475041/5	Lab Control Sample	96	116	104	94
MB 240-475041/8	Method Blank	97	111	102	92

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (10-150)	BFB (10-150)	TOL (10-150)	DBFM (10-150)
MRL 240-475041/9	Lab Control Sample	98	114	102	95

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (70-133)
240-144807-J-4 MS	Matrix Spike	90
240-144807-J-4 MSD	Matrix Spike Duplicate	88
240-145076-2	MW-53_022421	92
240-145076-2 MS	MW-53-MS_022421	94
240-145076-2 MSD	MW-53-MSD_022421	91
240-145076-3	MW-54_022421	99
240-145076-4	MW-54S_022421	89
240-145076-5	MW-122_022421	95
LCS 240-474842/4	Lab Control Sample	90
LCS 240-475052/4	Lab Control Sample	88
MB 240-474842/5	Method Blank	86
MB 240-475052/5	Method Blank	87

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

QC Sample Results

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

Job ID: 240-145076-1

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

Lab Sample ID: MB 240-475041/8
Matrix: Water
Analysis Batch: 475041

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			03/02/21 12:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/02/21 12:08	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/02/21 12:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/02/21 12:08	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/02/21 12:08	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/02/21 12:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		75 - 130		03/02/21 12:08	1
4-Bromofluorobenzene (Surr)	111		47 - 134		03/02/21 12:08	1
Toluene-d8 (Surr)	102		69 - 122		03/02/21 12:08	1
Dibromofluoromethane (Surr)	92		78 - 129		03/02/21 12:08	1

Lab Sample ID: LCS 240-475041/5
Matrix: Water
Analysis Batch: 475041

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	20.0	17.4		ug/L		87	73 - 129
cis-1,2-Dichloroethene	20.0	17.2		ug/L		86	75 - 124
Tetrachloroethene	20.0	19.5		ug/L		98	70 - 125
trans-1,2-Dichloroethene	20.0	17.7		ug/L		89	74 - 130
Trichloroethene	20.0	18.2		ug/L		91	71 - 121
Vinyl chloride	20.0	15.9		ug/L		80	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		75 - 130
4-Bromofluorobenzene (Surr)	116		47 - 134
Toluene-d8 (Surr)	104		69 - 122
Dibromofluoromethane (Surr)	94		78 - 129

Lab Sample ID: MRL 240-475041/9
Matrix: Water
Analysis Batch: 475041

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	0.00250	0.00197		ng/uL		79	10 - 150
cis-1,2-Dichloroethene	0.00250	0.00195		ng/uL		78	10 - 150
Tetrachloroethene	0.00250	0.00209		ng/uL		84	10 - 150
trans-1,2-Dichloroethene	0.00250	0.00198		ng/uL		79	10 - 150
Trichloroethene	0.00250	0.00209		ng/uL		84	10 - 150
Vinyl chloride	0.00250	0.00179		ng/uL		72	10 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		10 - 150
4-Bromofluorobenzene (Surr)	114		10 - 150
Toluene-d8 (Surr)	102		10 - 150

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QC Sample Results

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

Job ID: 240-145076-1

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

Lab Sample ID: MRL 240-475041/9
Matrix: Water
Analysis Batch: 475041

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

<i>Surrogate</i>	<i>%Recovery</i>	<i>MRL MRL Qualifier</i>	<i>Limits</i>
<i>Dibromofluoromethane (Surr)</i>	95		10 - 150

Lab Sample ID: 240-145076-2 MS
Matrix: Water
Analysis Batch: 475041

Client Sample ID: MW-53-MS_022421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	20.0	16.9		ug/L		84	64 - 132
cis-1,2-Dichloroethene	1.0	U	20.0	16.7		ug/L		84	68 - 121
Tetrachloroethene	1.0	U	20.0	18.3		ug/L		92	52 - 129
trans-1,2-Dichloroethene	1.0	U	20.0	16.8		ug/L		84	69 - 126
Trichloroethene	1.0	U	20.0	17.3		ug/L		87	56 - 124
Vinyl chloride	0.22	J	20.0	16.1		ug/L		79	49 - 136

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	95		75 - 130
<i>4-Bromofluorobenzene (Surr)</i>	115		47 - 134
<i>Toluene-d8 (Surr)</i>	104		69 - 122
<i>Dibromofluoromethane (Surr)</i>	92		78 - 129

Lab Sample ID: 240-145076-2 MSD
Matrix: Water
Analysis Batch: 475041

Client Sample ID: MW-53-MSD_022421
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	20.0	18.2		ug/L		91	64 - 132	8	35
cis-1,2-Dichloroethene	1.0	U	20.0	17.9		ug/L		90	68 - 121	7	35
Tetrachloroethene	1.0	U	20.0	19.0		ug/L		95	52 - 129	4	35
trans-1,2-Dichloroethene	1.0	U	20.0	18.4		ug/L		92	69 - 126	9	35
Trichloroethene	1.0	U	20.0	18.5		ug/L		93	56 - 124	7	35
Vinyl chloride	0.22	J	20.0	17.0		ug/L		84	49 - 136	6	35

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	94		75 - 130
<i>4-Bromofluorobenzene (Surr)</i>	115		47 - 134
<i>Toluene-d8 (Surr)</i>	103		69 - 122
<i>Dibromofluoromethane (Surr)</i>	94		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

QC Sample Results

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

Job ID: 240-145076-1

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

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

Client Sample ID: Method Blank
Prep Type: Total/NA

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	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

Lab Sample ID: MB 240-475052/5
Matrix: Water
Analysis Batch: 475052

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			03/02/21 12:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 133		03/02/21 12:26	1

QC Sample Results

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

Job ID: 240-145076-1

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

Lab Sample ID: LCS 240-475052/4
Matrix: Water
Analysis Batch: 475052

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	9.00		ug/L		90	80 - 135
Surrogate							
	%Recovery	Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	88		70 - 133				

Lab Sample ID: 240-145076-2 MS
Matrix: Water
Analysis Batch: 475052

Client Sample ID: MW-53-MS_022421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	9.73		ug/L		97	46 - 170
Surrogate									
	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	94		70 - 133						

Lab Sample ID: 240-145076-2 MSD
Matrix: Water
Analysis Batch: 475052

Client Sample ID: MW-53-MSD_022421
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	9.82		ug/L		98	46 - 170	1	26
Surrogate											
	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	91		70 - 133								

QC Association Summary

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

Job ID: 240-145076-1

GC/MS VOA

Analysis Batch: 474842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145076-3	MW-54_022421	Total/NA	Water	8260B SIM	
240-145076-4	MW-54S_022421	Total/NA	Water	8260B SIM	
240-145076-5	MW-122_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: 475041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145076-1	TRIP BLANK	Total/NA	Water	8260B	
240-145076-2	MW-53_022421	Total/NA	Water	8260B	
240-145076-3	MW-54_022421	Total/NA	Water	8260B	
240-145076-4	MW-54S_022421	Total/NA	Water	8260B	
240-145076-5	MW-122_022421	Total/NA	Water	8260B	
MB 240-475041/8	Method Blank	Total/NA	Water	8260B	
LCS 240-475041/5	Lab Control Sample	Total/NA	Water	8260B	
MRL 240-475041/9	Lab Control Sample	Total/NA	Water	8260B	
240-145076-2 MS	MW-53-MS_022421	Total/NA	Water	8260B	
240-145076-2 MSD	MW-53-MSD_022421	Total/NA	Water	8260B	

Analysis Batch: 475052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-145076-2	MW-53_022421	Total/NA	Water	8260B SIM	
MB 240-475052/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-475052/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-145076-2 MS	MW-53-MS_022421	Total/NA	Water	8260B SIM	
240-145076-2 MSD	MW-53-MSD_022421	Total/NA	Water	8260B SIM	

Lab Chronicle

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

Job ID: 240-145076-1

Client Sample ID: TRIP BLANK

Date Collected: 02/24/21 00:00

Date Received: 02/26/21 08:00

Lab Sample ID: 240-145076-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	475041	03/02/21 14:22	HMB	TAL CAN

Client Sample ID: MW-53_022421

Date Collected: 02/24/21 10:07

Date Received: 02/26/21 08:00

Lab Sample ID: 240-145076-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	475041	03/02/21 14:44	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	475052	03/02/21 13:41	SAM	TAL CAN

Client Sample ID: MW-54_022421

Date Collected: 02/24/21 11:27

Date Received: 02/26/21 08:00

Lab Sample ID: 240-145076-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	475041	03/02/21 15:07	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	474842	03/01/21 20:34	SAM	TAL CAN

Client Sample ID: MW-54S_022421

Date Collected: 02/24/21 12:48

Date Received: 02/26/21 08:00

Lab Sample ID: 240-145076-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	475041	03/02/21 15:30	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	474842	03/01/21 20:59	SAM	TAL CAN

Client Sample ID: MW-122_022421

Date Collected: 02/24/21 14:35

Date Received: 02/26/21 08:00

Lab Sample ID: 240-145076-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	475041	03/02/21 15:52	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	474842	03/01/21 21:24	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 - On Site

Job ID: 240-145076-1

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
Canton Facility

Login # : 240-145076

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 # 111 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# HC907861
14. Were VOAs on the COC? Yes No
15. Were air bubbles >6 mm in any VOA vials? 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: _____

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Eurofins TestAmerica Billing Sheet

Client: Arcadis

Field Personnel: Amanda Battershell

Site: _____

Date: 2/25/21

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> Pickup | <input type="checkbox"/> City Split Pickup | <input type="checkbox"/> City Split Pickup & Pour Up |
| <input type="checkbox"/> Sampling | <input type="checkbox"/> Rush TAT | <input type="checkbox"/> Same Day TAT |
| <input type="checkbox"/> Composite | <input type="checkbox"/> Grab | <input type="checkbox"/> Available CN (field) |
| <input type="checkbox"/> On Site (Hrs.) | <input type="checkbox"/> Drive Time (Hrs.) | |
| <input type="checkbox"/> Truck Fee | <input type="checkbox"/> Mileage (out of area) | |

Equipment Used

- | | |
|--|---|
| <input type="checkbox"/> ISCO/Composite Sampler | <input type="checkbox"/> Tyvek Suit |
| <input type="checkbox"/> Flow Meter | <input type="checkbox"/> SS Auger |
| <input type="checkbox"/> Tubing (Ft.) | <input type="checkbox"/> SS Shovel |
| <input type="checkbox"/> Rope (Ft.) | <input type="checkbox"/> Disposable Slot Sampler |
| <input type="checkbox"/> Coliwasa | <input type="checkbox"/> Drum Coring Bit |
| <input type="checkbox"/> pH Meter | <input type="checkbox"/> Air Comp. & Control Box |
| <input type="checkbox"/> Disposable Bailer | <input type="checkbox"/> 3ft. <input type="checkbox"/> 6ft. <input type="checkbox"/> 7ft. |
| <input type="checkbox"/> Misc. /Other Equipment: _____ | |

