

ANALYTICAL REPORT

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Laboratory Job ID: 240-144568-1
Client Project/Site: Ford LTP - Off Site

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



Authorized for release by:
3/3/2021 10:28:14 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: 240-144568-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
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: 240-144568-1

Job ID: 240-144568-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-144568-1

Comments

No additional comments.

Receipt

The samples were received on 2/17/2021 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 0.5° C.

GC/MS VOA

Method 8260B: The laboratory control sample (LCS) for analytical batch 240-474305 recovered outside control limits for the following analyte: Tetrachloroethane. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data has been reported: MW-87S_021521 (240-144568-3) and (LCS 240-474305/4).

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: 240-144568-1

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: 240-144568-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-144568-1	TRIP BLANK	Water	02/15/21 00:00	02/17/21 08:00	
240-144568-2	MW-99S_021521	Water	02/15/21 12:10	02/17/21 08:00	
240-144568-3	MW-87S_021521	Water	02/15/21 14:00	02/17/21 08:00	

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

Detection Summary

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

Job ID: 240-144568-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-144568-1

No Detections.

Client Sample ID: MW-99S_021521

Lab Sample ID: 240-144568-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.43	J	1.0	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: MW-87S_021521

Lab Sample ID: 240-144568-3

No Detections.

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: 240-144568-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-144568-1

Date Collected: 02/15/21 00:00

Matrix: Water

Date Received: 02/17/21 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			02/24/21 16:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/24/21 16:10	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/24/21 16:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/24/21 16:10	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/24/21 16:10	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/24/21 16:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		75 - 130		02/24/21 16:10	1
4-Bromofluorobenzene (Surr)	100		47 - 134		02/24/21 16:10	1
Toluene-d8 (Surr)	93		69 - 122		02/24/21 16:10	1
Dibromofluoromethane (Surr)	92		78 - 129		02/24/21 16:10	1

Client Sample Results

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

Job ID: 240-144568-1

Client Sample ID: MW-99S_021521

Lab Sample ID: 240-144568-2

Date Collected: 02/15/21 12:10

Matrix: Water

Date Received: 02/17/21 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			02/24/21 19:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		70 - 133					02/24/21 19:26	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			02/24/21 16:35	1
cis-1,2-Dichloroethene	0.43	J	1.0	0.16	ug/L			02/24/21 16:35	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/24/21 16:35	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/24/21 16:35	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/24/21 16:35	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/24/21 16:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		75 - 130					02/24/21 16:35	1
4-Bromofluorobenzene (Surr)	98		47 - 134					02/24/21 16:35	1
Toluene-d8 (Surr)	94		69 - 122					02/24/21 16:35	1
Dibromofluoromethane (Surr)	90		78 - 129					02/24/21 16:35	1

Client Sample Results

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

Job ID: 240-144568-1

Client Sample ID: MW-87S_021521

Lab Sample ID: 240-144568-3

Date Collected: 02/15/21 14:00

Matrix: Water

Date Received: 02/17/21 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			02/25/21 13:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		70 - 133					02/25/21 13:34	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			02/24/21 22:17	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/24/21 22:17	1
Tetrachloroethene	1.0	U *+	1.0	0.15	ug/L			02/24/21 22:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/24/21 22:17	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/24/21 22:17	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/24/21 22:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		75 - 130					02/24/21 22:17	1
4-Bromofluorobenzene (Surr)	63		47 - 134					02/24/21 22:17	1
Toluene-d8 (Surr)	79		69 - 122					02/24/21 22:17	1
Dibromofluoromethane (Surr)	119		78 - 129					02/24/21 22:17	1

Surrogate Summary

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

Job ID: 240-144568-1

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)
240-144568-1	TRIP BLANK	91	100	93	92
240-144568-2	MW-99S_021521	88	98	94	90
240-144568-2 MS	MW-99S-MS_021521	87	98	93	89
240-144568-2 MSD	MW-99S-MSD_021521	86	100	92	91
240-144568-3	MW-87S_021521	97	63	79	119
240-144568-3 MS	MW-87S-MS_021521	71 S1-	86	92	87
240-144568-3 MSD	MW-87S-MSD_021521	69 S1-	91	93	88
LCS 240-474305/4	Lab Control Sample	88	87	89	91
LCS 240-474307/4	Lab Control Sample	84	101	92	89
MB 240-474305/7	Method Blank	98	67	84	103
MB 240-474307/7	Method Blank	87	103	92	89

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)
240-144568-2	MW-99S_021521	84
240-144568-2 MS	MW-99S-MS_021521	81
240-144568-2 MSD	MW-99S-MSD_021521	82
240-144568-3	MW-87S_021521	81
240-144568-3 MS	MW-87S-MS_021521	79
240-144568-3 MSD	MW-87S-MSD_021521	83
LCS 240-474283/4	Lab Control Sample	84
LCS 240-474490/4	Lab Control Sample	79
MB 240-474283/5	Method Blank	86
MB 240-474490/5	Method Blank	81

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-144568-1

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

Lab Sample ID: MB 240-474305/7
Matrix: Water
Analysis Batch: 474305

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			02/24/21 14:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/24/21 14:13	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/24/21 14:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/24/21 14:13	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/24/21 14:13	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/24/21 14:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		75 - 130		02/24/21 14:13	1
4-Bromofluorobenzene (Surr)	67		47 - 134		02/24/21 14:13	1
Toluene-d8 (Surr)	84		69 - 122		02/24/21 14:13	1
Dibromofluoromethane (Surr)	103		78 - 129		02/24/21 14:13	1

Lab Sample ID: LCS 240-474305/4
Matrix: Water
Analysis Batch: 474305

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	10.8		ug/L		108	73 - 129
cis-1,2-Dichloroethene	10.0	9.69		ug/L		97	75 - 124
Tetrachloroethene	10.0	12.6	*+	ug/L		126	70 - 125
trans-1,2-Dichloroethene	10.0	11.0		ug/L		110	74 - 130
Trichloroethene	10.0	10.3		ug/L		103	71 - 121
Vinyl chloride	10.0	9.04		ug/L		90	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		75 - 130
4-Bromofluorobenzene (Surr)	87		47 - 134
Toluene-d8 (Surr)	89		69 - 122
Dibromofluoromethane (Surr)	91		78 - 129

Lab Sample ID: 240-144568-3 MS
Matrix: Water
Analysis Batch: 474305

Client Sample ID: MW-87S-MS_021521
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	10.0	9.41		ug/L		94	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	8.71		ug/L		87	68 - 121
Tetrachloroethene	1.0	U *+	10.0	11.6		ug/L		116	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	9.81		ug/L		98	69 - 126
Trichloroethene	1.0	U	10.0	9.03		ug/L		90	56 - 124
Vinyl chloride	1.0	U	10.0	8.44		ug/L		84	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	71	S1-	75 - 130
4-Bromofluorobenzene (Surr)	86		47 - 134
Toluene-d8 (Surr)	92		69 - 122

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QC Sample Results

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

Job ID: 240-144568-1

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

Lab Sample ID: 240-144568-3 MS
Matrix: Water
Analysis Batch: 474305

Client Sample ID: MW-87S-MS_021521
Prep Type: Total/NA

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

Lab Sample ID: 240-144568-3 MSD
Matrix: Water
Analysis Batch: 474305

Client Sample ID: MW-87S-MSD_021521
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	9.22		ug/L		92	64 - 132	2	35
cis-1,2-Dichloroethene	1.0	U	10.0	8.56		ug/L		86	68 - 121	2	35
Tetrachloroethene	1.0	U *+	10.0	11.0		ug/L		110	52 - 129	6	35
trans-1,2-Dichloroethene	1.0	U	10.0	9.16		ug/L		92	69 - 126	7	35
Trichloroethene	1.0	U	10.0	8.83		ug/L		88	56 - 124	2	35
Vinyl chloride	1.0	U	10.0	8.72		ug/L		87	49 - 136	3	35

Surrogate	%Recovery	MSD MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	69	S1-	75 - 130
4-Bromofluorobenzene (Surr)	91		47 - 134
Toluene-d8 (Surr)	93		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: MB 240-474307/7
Matrix: Water
Analysis Batch: 474307

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			02/24/21 14:06	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/24/21 14:06	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/24/21 14:06	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/24/21 14:06	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/24/21 14:06	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/24/21 14:06	1

Surrogate	%Recovery	MB MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		75 - 130		02/24/21 14:06	1
4-Bromofluorobenzene (Surr)	103		47 - 134		02/24/21 14:06	1
Toluene-d8 (Surr)	92		69 - 122		02/24/21 14:06	1
Dibromofluoromethane (Surr)	89		78 - 129		02/24/21 14:06	1

Lab Sample ID: LCS 240-474307/4
Matrix: Water
Analysis Batch: 474307

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	9.71		ug/L		97	73 - 129
cis-1,2-Dichloroethene	10.0	10.6		ug/L		106	75 - 124
Tetrachloroethene	10.0	9.87		ug/L		99	70 - 125
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 130
Trichloroethene	10.0	9.93		ug/L		99	71 - 121

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QC Sample Results

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

Job ID: 240-144568-1

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

Lab Sample ID: LCS 240-474307/4
Matrix: Water
Analysis Batch: 474307

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	11.5		ug/L		115	61 - 134
Surrogate							
	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	84		75 - 130				
4-Bromofluorobenzene (Surr)	101		47 - 134				
Toluene-d8 (Surr)	92		69 - 122				
Dibromofluoromethane (Surr)	89		78 - 129				

Lab Sample ID: 240-144568-2 MS
Matrix: Water
Analysis Batch: 474307

Client Sample ID: MW-99S-MS_021521
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	10.0	9.77		ug/L		98	64 - 132
cis-1,2-Dichloroethene	0.43	J	10.0	10.1		ug/L		97	68 - 121
Tetrachloroethene	1.0	U	10.0	9.57		ug/L		96	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	9.78		ug/L		98	69 - 126
Trichloroethene	1.0	U	10.0	9.70		ug/L		97	56 - 124
Vinyl chloride	1.0	U	10.0	11.4		ug/L		114	49 - 136
Surrogate									
	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	87		75 - 130						
4-Bromofluorobenzene (Surr)	98		47 - 134						
Toluene-d8 (Surr)	93		69 - 122						
Dibromofluoromethane (Surr)	89		78 - 129						

Lab Sample ID: 240-144568-2 MSD
Matrix: Water
Analysis Batch: 474307

Client Sample ID: MW-99S-MSD_021521
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	9.63		ug/L		96	64 - 132	1	35
cis-1,2-Dichloroethene	0.43	J	10.0	10.2		ug/L		98	68 - 121	1	35
Tetrachloroethene	1.0	U	10.0	8.84		ug/L		88	52 - 129	8	35
trans-1,2-Dichloroethene	1.0	U	10.0	9.59		ug/L		96	69 - 126	2	35
Trichloroethene	1.0	U	10.0	9.53		ug/L		95	56 - 124	2	35
Vinyl chloride	1.0	U	10.0	11.7		ug/L		117	49 - 136	2	35
Surrogate											
	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	86		75 - 130								
4-Bromofluorobenzene (Surr)	100		47 - 134								
Toluene-d8 (Surr)	92		69 - 122								
Dibromofluoromethane (Surr)	91		78 - 129								

QC Sample Results

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

Job ID: 240-144568-1

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

Lab Sample ID: MB 240-474283/5
Matrix: Water
Analysis Batch: 474283

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			02/24/21 11:01	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 133					02/24/21 11:01	1

Lab Sample ID: LCS 240-474283/4
Matrix: Water
Analysis Batch: 474283

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)	84		70 - 133				

Lab Sample ID: 240-144568-2 MS
Matrix: Water
Analysis Batch: 474283

Client Sample ID: MW-99S-MS_021521
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	9.90		ug/L		99	46 - 170
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	81		70 - 133						

Lab Sample ID: 240-144568-2 MSD
Matrix: Water
Analysis Batch: 474283

Client Sample ID: MW-99S-MSD_021521
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	9.89		ug/L		99	46 - 170	0	26
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	82		70 - 133								

Lab Sample ID: MB 240-474490/5
Matrix: Water
Analysis Batch: 474490

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			02/25/21 12:43	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		70 - 133					02/25/21 12:43	1

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-144568-1

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

Lab Sample ID: LCS 240-474490/4
Matrix: Water
Analysis Batch: 474490

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	10.7		ug/L		107	80 - 135
Surrogate							
	%Recovery	LCS Qualifier	LCS Limits				
1,2-Dichloroethane-d4 (Surr)	79		70 - 133				

Lab Sample ID: 240-144568-3 MS
Matrix: Water
Analysis Batch: 474490

Client Sample ID: MW-87S-MS_021521
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	10.2		ug/L		102	46 - 170
Surrogate									
	%Recovery	MS Qualifier	MS Limits						
1,2-Dichloroethane-d4 (Surr)	79		70 - 133						

Lab Sample ID: 240-144568-3 MSD
Matrix: Water
Analysis Batch: 474490

Client Sample ID: MW-87S-MSD_021521
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	10.2		ug/L		102	46 - 170	0	26
Surrogate											
	%Recovery	MSD Qualifier	MSD Limits								
1,2-Dichloroethane-d4 (Surr)	83		70 - 133								

QC Association Summary

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

Job ID: 240-144568-1

GC/MS VOA

Analysis Batch: 474283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144568-2	MW-99S_021521	Total/NA	Water	8260B SIM	
MB 240-474283/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-474283/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-144568-2 MS	MW-99S-MS_021521	Total/NA	Water	8260B SIM	
240-144568-2 MSD	MW-99S-MSD_021521	Total/NA	Water	8260B SIM	

Analysis Batch: 474305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144568-3	MW-87S_021521	Total/NA	Water	8260B	
MB 240-474305/7	Method Blank	Total/NA	Water	8260B	
LCS 240-474305/4	Lab Control Sample	Total/NA	Water	8260B	
240-144568-3 MS	MW-87S-MS_021521	Total/NA	Water	8260B	
240-144568-3 MSD	MW-87S-MSD_021521	Total/NA	Water	8260B	

Analysis Batch: 474307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144568-1	TRIP BLANK	Total/NA	Water	8260B	
240-144568-2	MW-99S_021521	Total/NA	Water	8260B	
MB 240-474307/7	Method Blank	Total/NA	Water	8260B	
LCS 240-474307/4	Lab Control Sample	Total/NA	Water	8260B	
240-144568-2 MS	MW-99S-MS_021521	Total/NA	Water	8260B	
240-144568-2 MSD	MW-99S-MSD_021521	Total/NA	Water	8260B	

Analysis Batch: 474490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144568-3	MW-87S_021521	Total/NA	Water	8260B SIM	
MB 240-474490/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-474490/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-144568-3 MS	MW-87S-MS_021521	Total/NA	Water	8260B SIM	
240-144568-3 MSD	MW-87S-MSD_021521	Total/NA	Water	8260B SIM	

Lab Chronicle

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

Job ID: 240-144568-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-144568-1

Date Collected: 02/15/21 00:00

Matrix: Water

Date Received: 02/17/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	474307	02/24/21 16:10	LRW	TAL CAN

Client Sample ID: MW-99S_021521

Lab Sample ID: 240-144568-2

Date Collected: 02/15/21 12:10

Matrix: Water

Date Received: 02/17/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	474307	02/24/21 16:35	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	474283	02/24/21 19:26	SAM	TAL CAN

Client Sample ID: MW-87S_021521

Lab Sample ID: 240-144568-3

Date Collected: 02/15/21 14:00

Matrix: Water

Date Received: 02/17/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	474305	02/24/21 22:17	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	474490	02/25/21 13:34	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: 240-144568-1

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.




0-4165

Chain of Custody Record

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

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Client Contact Company Name: Arcadis Address: 26550 Cabot Drive, Suite 500 City/State/Zip: Novi, MI, 48377 Phone: 248-994-2240 Project Name: Ford LTP Off-Site Project Number: 30050315-402.04 PO # 30050315.402.04		Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other		Client Project Manager: Kris Hinskey Telephone: 248-994-2240 Email: krisstoffer.hinskey@arcadis.com		Site Contact: Julia McClafferty Telephone: 734-644-5131		Lab Contact: Mike DeMonico Telephone: 330-497-9396		TestAmerica Laboratories, Inc. COC No.: 1 of 1 COCs For lab use only Walk-in client Lab sampling Job/SDG No.:			
Sampler Name: ALINSON HARTZ		Analysis Turnaround Time: TAT if different from below 10 day <input type="checkbox"/> 3 weeks <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		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		Containers & Preservatives H2SO4 HNO3 HCl NaOH ZnAc Laps Other:		Matrix Air Aqueous Sediment Solid Other:		Sample Identification Sample Date Sample Time		Sample Specific Notes / Special Instructions: 1 TRIP BLANK 3 VOCAS FOR 8260B 3 VOCAS FOR 8260B SIM RUN MS MSD RUN MS MSD RUN MS MSD RUN MS MSD	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Corrosive <input type="checkbox"/> Irritant <input type="checkbox"/> Unknown		Sample Disposal (A fee may be assessed) <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal											
Special Instructions/QC Requirements & Comments: Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203631 Level IV Reporting requested.													
Relinquished by: ADL Date/Time: 2/15/21 15:30 Company: Arcadis		Received by: Novi CID Storage Date/Time: 2/16/21 10:09 Company: Arcadis		Relinquished by: Cheryl Heger Date/Time: 2/15/21 12:10 Company: ARCADIS		Received by: Amanda Battushel Date/Time: 2/16/21 12:40 Company: ETA		Relinquished by: Amanda Battushel Date/Time: 2/17/21 15:30 Company: ETA		Received by: ETA Date/Time: 2/17/21 15:30 Company: ETA			

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Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : i44568

Client Arcadis Site Name _____
 Cooler Received on 2-17-21 Opened on 2-17-21
 FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Cooler unpacked by:
Math Smg

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. 0.4 °C Corrected Cooler Temp. 0.5 °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 NA
 -Were tamper/custody seals intact and uncompromised? Yes No NA

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

3. Shippers' packing slip attached to the cooler(s)? Yes No
 4. Did custody papers accompany the sample(s)? Yes No
 5. Were the custody papers relinquished & signed in the appropriate place? Yes No
 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
 7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No
 9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? Yes No
 10. Were correct bottle(s) used for the test(s) indicated? Yes No
 11. Sufficient quantity received to perform indicated analyses? Yes No
 12. Are these work share samples and all listed on the COC? Yes No

If yes, Questions 13-17 have been checked at the originating laboratory.
 13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC907861
 14. Were VOAs on the COC? Yes No
 15. Were air bubbles >6 mm in any VOA vials? Yes Larger than this.
 16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
 17. Was a LL Hg or Me Hg trip blank present? Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

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: _____