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Environment Testing America

ANALYTICAL REPORT

Eurofins Canton 180 S. Van Buren Avenue Barberton, OH 44203 Tel: (330)497-9396

Laboratory Job ID: 240-171294-1

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: 8/22/2022 4:34:14 PM Opal Johnson, Project Manager II (330)966-9279 Opal.Johnson@et.eurofinsus.com

Designee for

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

TEF

TEQ

TNTC

Toxicity Equivalent Factor (Dioxin)

Too Numerous To Count

Toxicity Equivalent Quotient (Dioxin)

GC/MS VOA Qualifier	Qualifier Description
	Indicates the analyte was analyzed for but not detected.
0	indicates the analyte was analyzed for but not detected.
Glossary	
Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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

Job ID: 240-171294-1

Laboratory: Eurofins Canton

Narrative

Job Narrative 240-171294-1

Case Narrative

Comments

No additional comments.

Receipt

The samples were received on 8/10/2022 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.0° C and 2.7° C.

GC/MS VOA

No additional analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No additional analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Job ID: 240-171294-1

Method Summary

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

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CAN
8260D SIM	Volatile Organic Compounds (GC/MS)	SW846	EET CAN
5030C	Purge and Trap	SW846	EET CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CAN = Eurofins Canton, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Sample Summary

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

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-171294-1	TRIP BLANK_86	Water	08/08/22 00:00	08/10/22 12:44
240-171294-2	MW-163S_080822	Water	08/08/22 14:00	08/10/22 12:44

Dete	ction	Summary

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

Client Sample ID: TRIP BLANK_86

No Detections.

Client Sample ID: MW-163S_080822

No Detections.

Lab Sample ID: 240-171294-1

Lab Sample ID: 240-171294-2

This Detection Summary does not include radiochemical test results.

Eurofins Canton

Client Sample ID: TRIP BLANK_86 Date Collected: 08/08/22 00:00 Date Received: 08/10/22 12:44

Lab Sample ID: 240-171294-1

Matrix: Water

5 6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			08/11/22 14:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/11/22 14:16	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/11/22 14:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/11/22 14:16	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/11/22 14:16	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/11/22 14:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		62 - 137			-		08/11/22 14:16	1
4-Bromofluorobenzene (Surr)	92		56 - 136					08/11/22 14:16	1
Toluene-d8 (Surr)	98		78 - 122					08/11/22 14:16	1
Dibromofluoromethane (Surr)	99		73 - 120					08/11/22 14:16	1

Eurofins Canton

Client Sample ID: MW-163S_080822 Date Collected: 08/08/22 14:00 Date Received: 08/10/22 12:44

Date Received: 08/10/22 12:44					
Method: 8260D SIM - Volatile	Organic Compounds (GC	:/MS)			
Analyte	Result Qualifier	RL	MDL Unit	D	Prepared

1,4-Dioxane	2.0	U	2.0	0.86	ug/L			08/15/22 02:46	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	87		66 - 120				•	08/15/22 02:46	1	
_ Method: 8260D - Volatile O	rganic Compo	unds by G	C/MS							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	8
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			08/11/22 19:47	1	
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/11/22 19:47	1	9
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/11/22 19:47	1	
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/11/22 19:47	1	
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/11/22 19:47	1	
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/11/22 19:47	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	91		62 - 137					08/11/22 19:47	1	
4-Bromofluorobenzene (Surr)	86		56 - 136					08/11/22 19:47	1	
Toluene-d8 (Surr)	94		78 - 122					08/11/22 19:47	1	
Dibromofluoromethane (Surr)	95		73 - 120					08/11/22 19:47	1	
-										

Job ID: 240-171294-1

Matrix: Water

Dil Fac

Lab Sample ID: 240-171294-2

Analyzed

Surrogate Summary

Method: 8260D - Volatile Organic Compounds by GC/MS Matrix: Water

			Pe	ercent Surre	gate Recovery (Acceptance	e Limits)
		DCA	BFB	TOL	DBFM	
Lab Sample ID	Client Sample ID	(62-137)	(56-136)	(78-122)	(73-120)	
240-171285-B-2 MS	Matrix Spike	90	95	101	96	
240-171285-D-2 MSD	Matrix Spike Duplicate	92	98	100	97	
240-171294-1	TRIP BLANK_86	95	92	98	99	
240-171294-2	MW-163S_080822	91	86	94	95	
LCS 240-538491/5	Lab Control Sample	89	92	100	95	
MB 240-538491/8	Method Blank	95	90	98	100	
Surrogate Legend						
DCA = 1,2-Dichloroeth	nane-d4 (Surr)					
BFB = 4-Bromofluorob	enzene (Surr)					
TOL = Toluene-d8 (Su	rr)					
DBFM = Dibromofluor	omethane (Surr)					
lethod: 8260D S	IM - Volatile Organic	Compoun	ds (GC/	MS)		
Atrix: Water				,		Prep Type: Total/
			D	roopt Surr	gate Recovery (Acceptance	

			reform our ogate neoovery (Acceptance Emilio)	
		DCA		13
Lab Sample ID	Client Sample ID	(66-120)		
240-171285-H-2 MSD	Matrix Spike Duplicate	89		
240-171285-I-2 MS	Matrix Spike	89		
240-171294-2	MW-163S_080822	87		
LCS 240-538770/3	Lab Control Sample	85		
MB 240-538770/4	Method Blank	86		
Currente Levend				
Surrogate Legend				

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

8/22/2022

Prep Type: Total/NA

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 240-538491/8 **Matrix: Water**

Analysis Batch: 538491

ME	MB							
Analyte Resul	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene1.0	0 U	1.0	0.49	ug/L			08/11/22 13:03	1
cis-1,2-Dichloroethene 1.0) U	1.0	0.46	ug/L			08/11/22 13:03	1
Tetrachloroethene 1.0) U	1.0	0.44	ug/L			08/11/22 13:03	1
trans-1,2-Dichloroethene 1.0) U	1.0	0.51	ug/L			08/11/22 13:03	1
Trichloroethene 1.0) U	1.0	0.44	ug/L			08/11/22 13:03	1
Vinyl chloride 1.0) U	1.0	0.45	ug/L			08/11/22 13:03	1

	MB	МВ				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		62 - 137		08/11/22 13:03	1
4-Bromofluorobenzene (Surr)	90		56 - 136		08/11/22 13:03	1
Toluene-d8 (Surr)	98		78 - 122		08/11/22 13:03	1
Dibromofluoromethane (Surr)	100		73 - 120		08/11/22 13:03	1

Lab Sample ID: LCS 240-538491/5 Matrix: Water Analysis Batch: 538491

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1,1-Dichloroethene	25.0	23.2		ug/L		93	63 - 134	
cis-1,2-Dichloroethene	25.0	22.4		ug/L		89	77 - 123	
Tetrachloroethene	25.0	28.4		ug/L		114	76 - 123	
trans-1,2-Dichloroethene	25.0	22.8		ug/L		91	75 - 124	
Trichloroethene	25.0	25.7		ug/L		103	70 - 122	
Vinyl chloride	25.0	22.0		ug/L		88	60 - 144	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	89		62 - 137
4-Bromofluorobenzene (Surr)	92		56 - 136
Toluene-d8 (Surr)	100		78 - 122
Dibromofluoromethane (Surr)	95		73 - 120

101

Lab Sample ID: 240-171285-B-2 MS **Matrix: Water** Analysis Batch: 538491

Toluene-d8 (Surr)

	Sample	Sample	Spike	MS	MS				%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
1,1-Dichloroethene	1.0	U	25.0	22.4		ug/L		90	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	22.0		ug/L		88	66 - 128
Tetrachloroethene	1.0	U	25.0	27.8		ug/L		111	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	21.8		ug/L		87	56 - 136
Trichloroethene	1.0	U	25.0	23.3		ug/L		93	61 - 124
Vinyl chloride	1.0	U	25.0	20.2		ug/L		81	43 - 157
	MS	MS							
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	90		62 - 137						
4-Bromofluorobenzene (Surr)	95		56 - 136						

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

Client Sample ID: Lab Control Sample

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Type: Total/NA

78 - 122

QC Sample Results

Job ID: 240-171294-1

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

Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Li 1,1-Uichloroethene 1.0 U 25.0 22.1 ug/L 88 66.128 0 Tetrachloroethene 1.0 U 25.0 26.8 ug/L 107 62.131 4 Tams-12-Dichloroethene 1.0 U 25.0 21.6 ug/L 86 66.126 1 Trichloroethene 1.0 U 25.0 19.7 ug/L 79 43.157 3 Surrogate %Recovery Qualifier Limits 62.137 43.157 3 1.2-Dichloroethane-d4 (Surr) 97 73.120 73 142 1 100 78.122 100 78 122 101 10 78.122 101 10 12.0 101 10 12.0 101 10 12.0 101 10 12.0 101 10.1 101	MS MS Surrogate %Recovery Qualifier Limits Dibromofluoromethane (Surr) 96 73 - 120 Lab Sample ID: 240-171285-D-2 MSD Matrix: Water Sample Spike MSD MSD Analysis Batch: 538491 Sample Sample Spike MSD MSD Analyte Result Qualifier Added Result Qualifier U 1,1-Dichloroethene 1.0 U 25.0 22.1 U U cis-1,2-Dichloroethene 1.0 U 25.0 21.6 U trans-1,2-Dichloroethene 1.0 U 25.0 23.5 U trans-1,2-Dichloroethene 1.0 U 25.0 19.7 U Trichloroethene 1.0 U 25.0 19.7 U Vinyl chloride 1.0 U 25.0 19.7 U Surrogate %Recovery Qualifier Limits 1.2 1.2 1,2-Dichloroethane-d4 (Surr) 92 62 - 137 2 2 1.2 1,2-Dichloroethane-d8 (Surr)<	Unit [ug/L ug/L ug/L ug/L ug/L	D %Rec 88 88 107 86 94 79	%Rec Limits 56 - 135 66 - 128 62 - 131 56 - 136 61 - 124 43 - 157	RPD 2 0 4 1 1 3	RPI Lim 2 1 2 1 2 1 2 2 1 2 2	
Surraget %Recovery Quelifier Limits Dibromofiuoromethane (Surr) 96 73.120 Lab Sample ID: 240-171285-D-2 MSD Matrix: Water Analysis Batch: 538491 Sample Sample Spike MSD MSD MSD Progr Type: Total/I Progr Type: Total/I Added Analyte Result Qualifier Unit D %Rec R Limits Progr Type: Total/I Progr Type: Total/I Added Recult Qualifier Unit D %Rec R Limits Progr Type: Total/I Progr Type: Total/I Added Recult Qualifier Limits Progr Type: Total/I Added Recult Qualifier Limits RPD Limits RPD Limits Recult Qualifier Limits Recult Qualifier Limits Recult Qualifier Recult Qualifier Recult Qualifier Limits Recult Qualifier Limits Recult Qualifier Recult Qualifie	Surrogate%Recovery 96QualifierLimits 73 - 120Lab Sample ID: 240-171285-D-2 MSD Matrix: Water Analysis Batch: 538491Sample Result QualifierSpike Added QualifierMSD Result QualifierMSD QualifierAnalyteResult QualifierQualifier Added QualifierAdded Result QualifierResult QualifierQualifier U UAnalyteResult QualifierQualifier QualifierAdded Result QualifierResult QualifierQualifier U UU UAnalyteNSD 25.021.9 26.8 21.9 UU 25.026.8 23.5 U UU 25.023.5 23.5 U UU UTrichloroethene1.0 1.0 UU 25.023.5 23.5 U UU U 25.019.7 USurrogate%Recovery %Recovery QualifierLimits 62 - 137 62 - 137 4-Bromofluorobenzene (Surr)98 97 73 - 12056 - 136 73 - 120Iethod: B 240-538770/4 Matrix: Water Analysis Batch: 538770Volatile Organic Compounds (GC/MS)	Unit [ug/L ug/L ug/L ug/L ug/L	D %Rec 88 88 107 86 94 79	%Rec Limits 56 - 135 66 - 128 62 - 131 56 - 136 61 - 124 43 - 157	RPD 2 0 4 1 1 3	RP Lim 2 1 2 1 2 1 2 2	
Dibromofluoromethane (Surr) 96 73-120 Lab Sample ID: 240-171285-D-2 MSD Matrix: Water Client Sample ID: Matrix Spike Duplic: Prep Type: Total/I Analysis Batch: 538491 Sample Sample Spike Analysis Batch: 538491 Result Qualifier MSD MSD Analysis Batch: 538491 Result Qualifier MSD MSD Analysis Differentiation 10 25.0 21.9 ug/L 88 66.128 0 Tetrachicroethene 1.0 U 25.0 21.6 ug/L 86 65.136 1 Trichoroethene 1.0 U 25.0 21.5 ug/L 86 65.136 1 Vinyl chloride 1.0 U 25.0 19.7 ug/L 79 43.157 3 Surrogate %Recovery Qualifier Limits 1	Dibromofluoromethane (Surr) 96 73.120 Lab Sample ID: 240-171285-D-2 MSD Matrix: Water Sample Spike MSD MSD Analysis Batch: 538491 Sample Qualifier Added Result Qualifier Added Result Qualifier U Qualifier Q	Unit [ug/L ug/L ug/L ug/L ug/L	D %Rec 88 88 107 86 94 79	%Rec Limits 56 - 135 66 - 128 62 - 131 56 - 136 61 - 124 43 - 157	RPD 2 0 4 1 1 3	RP Lim 2 1 2 1 2 1 2 2	
Lab Sample ID: 240-171285-D-2 MSD Matrix: Water Analysis Batch: 538491 Client Sample ID: Matrix Spike Duplics Prep Type: Total/I Unit QL Prep Type: Total/I Prep Type: Total/I Unit QL D %Rec Result Qualifier (Unit Second Second Second Prep Type: Total/I Unit Second Se	Lab Sample ID: 240-171285-D-2 MSD Matrix: WaterSample SampleSpike MSDMSD MSDMSDAnalysis Batch: 538491Sample ResultQualifier QualifierAdded ResultResult QualifierQualifier UUAnalyteResult ResultQualifier QualifierAdded ResultResult QualifierQualifier UUAnalyteResult ResultQualifier QualifierAdded ResultResult QualifierQualifier UU1,1-Dichloroethene1.0 UU25.0 25.021.6 UUTetrachloroethene1.0 UU25.0 25.023.5 UUTrichloroethene1.0 UU25.0 25.023.5 UUVinyl chloride1.0 U25.0 25.019.7 UUMSD MSDMSDMSDSurrogate 1,2-Dichloroethane-d4 (Surr)%Recovery 92 62 - 137 62 - 137 62 - 137 62 - 137 62 - 137 4-Bromofluorobenzene (Surr)98 97 73 - 120Method: 8260D SIM - Volatile Organic Compounds (GC/MS)Lab Sample ID: MB 240-538770/4 Matrix: Water Analysis Batch: 538770	Unit [ug/L ug/L ug/L ug/L ug/L	D %Rec 88 88 107 86 94 79	%Rec Limits 56 - 135 66 - 128 62 - 131 56 - 136 61 - 124 43 - 157	RPD 2 0 4 1 1 3	RP Lim 2 1 2 1 2 1 2 2	
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Analysis Batch: 538491 Sample Sample Sample Sample Spike MSD MSD MSD MSD %Rec R Analyte Result Qualifier 1.0 25.0 22.1 ugf. 88 66.135 2 2 1.1-Dichloroethene 1.0 U 25.0 26.8 ugf. 107 62.131 4 trans-1,2-Dichloroethene 1.0 U 25.0 21.6 ugf. 10 66 56.136 1 Tichchoroethene 1.0 U 25.0 21.6 ugf. 79 43.157 3 Surrogate %Recovery Qualifier Limits 62.137 62.137 48 66.120 12-Dichoroethane-64 (Surr) 96 73.120 79 43.157 3 Surrogate %Recovery Qualifier Limits 62.137 62.137 62.137 12-Dichoroethane-64 (Surr) 96 73.120 61.103 73.120 61.103 Lab Sample ID: MB 240-538770/4 MB MB Client Sample ID: Method Bia Prep Type: Total/I 08/14/22 20.26 </td <td>Analysis Batch: 538491AnalyteSampleSampleSpikeMSDMSD1,1-Dichloroethene1.0U25.022.1u1,1-Dichloroethene1.0U25.022.1ucis-1,2-Dichloroethene1.0U25.021.9uTetrachloroethene1.0U25.021.6utrans-1,2-Dichloroethene1.0U25.021.6uTrichloroethene1.0U25.023.5uVinyl chloride1.0U25.019.7uMSDSurrogate%RecoveryQualifierLimits1,2-Dichloroethane-d4 (Surr)9262.13762.1374-Bromofluorobenzene (Surr)9856.13610078.122Dibromofluoromethane (Surr)9773.12073.120Aethod: 8260D SIM - Volatile Organic Compounds (GC/MS)Lab Sample ID: MB 240-538770/4Matrix: Water Analysis Batch: 538770</td> <td>ug/L ug/L ug/L ug/L ug/L</td> <td></td> <td>%Rec Limits 56 - 135 66 - 128 62 - 131 56 - 136 61 - 124 43 - 157</td> <td>RPD 2 0 4 1 1 3</td> <td>RP 2 1 2 1 2 1 2 2</td>	Analysis Batch: 538491AnalyteSampleSampleSpikeMSDMSD1,1-Dichloroethene1.0U25.022.1u1,1-Dichloroethene1.0U25.022.1ucis-1,2-Dichloroethene1.0U25.021.9uTetrachloroethene1.0U25.021.6utrans-1,2-Dichloroethene1.0U25.021.6uTrichloroethene1.0U25.023.5uVinyl chloride1.0U25.019.7uMSDSurrogate%RecoveryQualifierLimits1,2-Dichloroethane-d4 (Surr)9262.13762.1374-Bromofluorobenzene (Surr)9856.13610078.122Dibromofluoromethane (Surr)9773.12073.120Aethod: 8260D SIM - Volatile Organic Compounds (GC/MS)Lab Sample ID: MB 240-538770/4Matrix: Water Analysis Batch: 538770	ug/L ug/L ug/L ug/L ug/L		%Rec Limits 56 - 135 66 - 128 62 - 131 56 - 136 61 - 124 43 - 157	RPD 2 0 4 1 1 3	RP 2 1 2 1 2 1 2 2	
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Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil I 1,2-Dichloroethane-d4 (Surr) 86 66 - 120 Client Sample ID: LCS 240-538770/3 Client Sample ID: Lab Control Samp Prep Type: Total/I Matrix: Water Analysis Batch: 538770 Spike LCS LCS LCS LCS LCS LCS Limits Prepared Analyzed Dil I Analyte Analyte Added Result Qualifier Unit D %Rec Limits			· ·				
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1,2-Dichloroethane-d4 (Surr) 85 66 - 120 Lab Sample ID: 240-171285-H-2 MSD Client Sample ID: Matrix Spike Duplica Matrix: Water Prep Type: Total/I							
Matrix: Water Prep Type: Total/I							
Matrix: Water Prep Type: Total/I	Lab Sampla ID: 240 474295 H 2 MSD	Client Carr	male ID: 1	Motrix Calles	Dural		
		Client Sam	mpie ID: N				
Analysis Batch: 538770				Prep Type	e: Tota	al/N	
	Analysis Batch: 538770			0/ 5		- -	
			_ ~_			RP	
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Method: 8260D SIM - Volatile Organic Compounds (GC/MS) (Continued)

	MSD	MSD								
Surrogate	%Recovery	Qualifier	Limits							
1,2-Dichloroethane-d4 (Surr)	89		66 - 120							
_ Lab Sample ID: 240-1712	85-I-2 MS						C	lient Sa	mple ID: Matrix	Spike
Matrix: Water									Prep Type: Tot	
Analysis Batch: 538770										
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1,4-Dioxane	2.0	U	10.0	10.5		ug/L		105	51 - 153	
	MS	MS								- 1
Surrogate	%Recovery	Qualifier	Limits							
1,2-Dichloroethane-d4 (Surr)	89		66 - 120							

Eurofins Canton

GC/MS VOA

Analysis Batch: 538491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-171294-1	TRIP BLANK_86	Total/NA	Water	8260D	
240-171294-2	MW-163S_080822	Total/NA	Water	8260D	
MB 240-538491/8	Method Blank	Total/NA	Water	8260D	
LCS 240-538491/5	Lab Control Sample	Total/NA	Water	8260D	
240-171285-B-2 MS	Matrix Spike	Total/NA	Water	8260D	
240-171285-D-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	
– Analysis Batch: 5387	70				

Analysis Batch: 538770

Lab Sample ID 240-171294-2	Client Sample ID MW-163S_080822	Prep Type Total/NA	Matrix Water	Method 8260D SIM	Prep Batch
MB 240-538770/4	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-538770/3	Lab Control Sample	Total/NA	Water	8260D SIM	
240-171285-H-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	
240-171285-I-2 MS	Matrix Spike	Total/NA	Water	8260D SIM	

Matrix: Water

Lab Sample ID: 240-171294-1

Client Sample ID: TRIP BLANK_86 Date Collected: 08/08/22 00:00 Date Received: 08/10/22 12:44

Analysis

	Batch	Batch		Dilution	Batch			Prepared	
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed	
Total/NA	Analysis	8260D		1	538491	SAM	EET CAN	08/11/22 14:16	
lient Sam	ple ID: MW	-163S 080822					Lab	Sample ID: 240-17	'1294- '
ate Collecte	d: 08/08/22 1	4:00						- Matri	x: Wate
ate Receive	d: 08/10/22 1	2:44							
-	Batch	Batch		Dilution	Batch			Prepared	
	T	Method	Run	Factor	Numbor	Analvst	Lab	or Analyzed	
Prep Type	Туре	Methoa	Null	i actor	Number	Analysi	Lab	of Analyzeu	

1

538770 CS

EET CAN

08/15/22 02:46

Laboratory References:

Total/NA

EET CAN = Eurofins Canton, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

8260D SIM

12 13

Eurofins Canton

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

Laboratory: Eurofins 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	02-27-23	
Connecticut	State	PH-0590	12-31-23	
Florida	NELAP	E87225	06-30-23	
Georgia	State	4062	02-27-23	
Illinois	NELAP	200004	07-31-23	
owa	State	421	06-01-23	
Kentucky (UST)	State	112225	02-27-23	
Kentucky (WW)	State	KY98016	12-31-22	
Minnesota	NELAP	039-999-348	12-31-22	
Minnesota (Petrofund)	State	3506	08-01-23	
New Jersey	NELAP	OH001	06-30-23	
New York	NELAP	10975	04-01-23	
Ohio	State	8303	02-23-23	
Ohio VAP	State	CL0024	02-27-23	
Oregon	NELAP	4062	02-27-23	
Pennsylvania	NELAP	68-00340	08-31-23	
Texas	NELAP	T104704517-22-17	08-31-22	
Virginia	NELAP	11570	09-14-22	
Washington	State	C971	01-12-23	
West Virginia DEP	State	210	12-31-22	

Eurofins Canton

Client Contact Company Name: Arcadis Address: 28550 Cabot Drive, Suite 500 Clity/State/Zlp: Novi, MI, 48377	TestAmerica Laboratory location: Brighton 10448 Citation D	10448 Citation Urive, Suite 2007 Brighton, MI 48115 / 810-229-2763	-223-2103	second of the line of the second state of the
90	Regulatory program: DW	NPDES RCRA Other		Tool Amongon 1 Amongon 1
40	Client Project Manager: Kris Hinskey Si	Site Contact: Christina Weaver	Lab Contact: Mike DelMonico	I USIAMERICA LABORATORIS, INC. COC No:
	Telephone: 269-832-7478	Telephone: 248-994-2329	Telephone: 330-966-9783	
	Email: Kristoffer.Hinskey@arcadis.com	Analysis Turnaround Time	Analyses	For lab use only
	Sampler Name: Court Sy Farlor Method of Shipment/Carrier:			Walk-in client Lab sampling
	Shipping/Tracking No:	(N / A) ગ	8560D E 8560D S60D	Job/SDG No:
Samula Identification	Ample Date Sample Time Sample Date Sample	Containers & Press, and Press,	.1-DCE 8260 Is-1,2-DCE 8 CE 8260D Inyl Chloride Inyl Chloride	Sample Specific Notes / Special Instructions:
				1 Trip Blank
MW-1635 0 80872-	02/06/22 M 02 6	6 WG	XXXXXXX	3 VOAs for 8260D 3 VOAs for 8260D SIM
Possible Hazard Identification > Non-Hazard Identification > Non-Hazard Identification > Non-Hazard Identification > Non-Hazard Identification > Skin pectal Instructions/OC Requirements & Commegnis- tion and the Address: The State Instructions of the Address in the Add	Possible Hazard Identification Possible Hazard Identification Possible Hazard Identification Skin Irritant Possible Hazard Identification Posson B Possible Hazard Identification Company Semple Active Konder Company Color State af Romania@cadenacc.com. Cade after after Active A	Image: Second	Id Standard Id Standard Id Standard Id Standard Id Standard	240-171294 Chain of Custody

Eurofins - Canton Sample Receipt Form/Narrative	Login # :		
Barberton Facility	Dogu # .		
Client ArcadisSite Name		Cooler u	npacked by:
Cooler Received on 8 - 10 - 22 Opened on 8 - 10 - 22		JUSI	tin H
FedEx: 1 st Grd Exp) UPS FAS Clipper Client Drop Off Eurofins Co	ourier Ot		
	Location		
Eurofins Cooler # 74 Foam Box Client Cooler Box Oth			
Packing material used: Bubble Wrap Foam Plastic Bag None	Other		
COOLANT: Weile Blue lee Dry lee Water None			
1. Cooler temperature upon receipt See Multi			
IR GUN# IR-13 (CF +0.7 °C) Observed Cooler Temp. °C Correct IR GUN #IR-15 (CF 0.0°C) Observed Cooler Temp. °C Correct	ted Cooler T	iemp	
 Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity	1	No	
-Were the seals on the outside of the cooler(s) signed & dated?	-	No NA	Tests that are not
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?		10	checked for pH by Receiving:
-Were tamper/custody seals intact and uncompromised?	Ye	NO NA	
3. Shippers' packing slip attached to the cooler(s)?		No	VOAs
4. Did custody papers accompany the sample(s)?	~	No	Oil and Grease TOC
5. Were the custody papers relinquished & signed in the appropriate place?		No	100
6. Was/were the person(s) who collected the samples clearly identified on the CO		No	
 Did all bottles arrive in good condition (Unbroken)? Could all bottle labels (ID/Date/Time) be reconciled with the COC? 		No No	
 For each sample, does the COC specify preservatives (YAN), # of containers (Y 			grab/comp()/N)?
10. Were correct bottle(s) used for the test(s) indicated?	/ ···	No	
11. Sufficient quantity received to perform indicated analyses?	Ya	No	
12. Are these work share samples and all listed on the COC?	Yes	S	
If yes, Questions 13-17 have been checked at the originating laboratory.		0	
13. Were all preserved sample(s) at the correct pH upon receipt?		· · ·	H Strip Lot# HC286797
14. Were VOAs on the COC?		No	
 15. Were air bubbles >6 mm in any VOA vials? Larger than this. 16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # <u>COVE</u>? 	Pd ves	NO NA	
17. Was a LL Hg or Me Hg trip blank present?	<u>V</u> Yes		
Contacted PM Date by via	a Verbal V	oice Mail Oth	ner
Concerning			
18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES additional ne	ext page	Samples pro	cessed by:
19. SAMPLE CONDITION Sample(s) were received after the recomme	nded holdi	a time had as	mined
Sample(s)			
Sample(s)			
20. SAMPLE PRESERVATION			-
Sample(s)	were furt	her preserved	in the laboratory.
Sample(s) Time preserved:Preservative(s) added/Lot number(s):	were full	ner preserveu	
VOA Sample Preservation - Date/Time VOAs Frozen:			

.*

5 6 14

Login # : _

14

Cooler Description	IR Gun #	Observed	Corrected	Coolant
(Circle)	(Circle)	Temp °C	Temp °C	(Circle)
A Client Box Other	IR-13 (IR-15)	2-0	2,0	Wet Ice Blue Ice Dry k Water None
TA Client Box Other	IR-13 IR-15	2.7	2.7	Wet ice Blue ice Dry k Water None
TA Client Box Other	IR-13 IR-15			Wellice Bluelice Dry la Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ic Water None
TA Client Box Other	IR-13 IR-16			Wet ice Blue ice Dry k Water None
TA Client Box Other	IR-13 IR-15			Wet ice Sive ice Dry ic Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry ic Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry ic Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ic Water None
TA Client Box Other	IR-13 IR-15			Wet ice Sive ice Dry ic Water None
TA Client Box Other	IR-13 IR-15			Wellice Bluelice Drylic Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry ic Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry ic Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry ic Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry ic Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry ice Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry ice Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry ice Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry ice Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry ice Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry ice Water None
TA Client Box Other	IR-13 IR-15			Wet ice Bive ice Dry ice Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry ice Water None
TA Client Box Other	1R-13 IR-15			Wet ice Blue ice Dry ice Water None

WI-NC-099 Cooler Receipt Form Page 2 - Multiple Coolers

19.04

DATA VERIFICATION REPORT



August 22, 2022

Kris Hinskey Arcadis Inc 10559 Citation Ave Suite 100 Brighton, MI 48116

CADENA project ID: E203631 Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater Project number: 30080642.402.04 Event Specific Scope of Work References: Sample COC Laboratory: Eurofins Environment Testing LLC - Barberton Laboratory submittal: 171294-1 Sample date: 2022-08-08 Report received by CADENA: 2022-08-22 Initial Data Verification completed by CADENA: 2022-08-22 Number of Samples:2 Sample Matrices:Water Test Categories:GCMS VOC Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

There were no significant QC anomalies or exceptions to report.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <u>http://clms.cadenaco.com/index.cfm</u>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
В	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminates) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
Е	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than $5x$ (or $10x$ for common lab contaminates) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than $10x$ the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

Analytical Results Summary

CADENA Project ID: E203631

Laboratory: Eurofins Environment Testing LLC - Barberton Laboratory Submittal: 171294-1

		Sample Name: Lab Sample ID: Sample Date:	TRIP BL/ 2401712 8/8/202	2941			MW-163 2401712 8/8/202			
				Report		Valid		Report		Valid
	Analyte	Cas No.	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC										
<u>OSW-826</u>	<u>0D</u>									
	1,1-Dichloroethene	75-35-4	ND	1.0	ug/l		ND	1.0	ug/l	
	cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l		ND	1.0	ug/l	
	Tetrachloroethene	127-18-4	ND	1.0	ug/l		ND	1.0	ug/l	
	trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l		ND	1.0	ug/l	
	Trichloroethene	79-01-6	ND	1.0	ug/l		ND	1.0	ug/l	
	Vinyl chloride	75-01-4	ND	1.0	ug/l		ND	1.0	ug/l	
<u>OSW-826</u>	<u>ODSIM</u>									
	1,4-Dioxane	123-91-1					ND	2.0	ug/l	



Ford Motor Company – Livonia Transmission Project

DATA REVIEW

Livonia, Michigan

Volatile Organic Compounds (VOC) Analysis

SDG # 240-171294-1 CADENA Verification Report: 2022-08-22

Analyses Performed By: TestAmerica North Canton, Ohio

Report # 46828R Review Level: Tier III Project: 30146655.402.02

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #240-171294-1 for samples collected in association with the Ford – Livonia, Michigan site. The review was conducted as a Tier III validation in addition to a verification/Tier II validation review performed by CADENA Inc. and included review of level IV laboratory data package completeness. Only elements of a Tier III validation effort (Tier III) include a detailed review of laboratory raw data to check for errors in calculation, calibration review, internal standard review and compound identification) and omitted deviations from the CADENA verification/Tier II report are documented in this report. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

				Sample Collection		Ana	ysis	
	Sample ID	Lab ID	Matrix	Date	Parent Sample	voc	VOC SIM	
	TRIP BLANK_86	240-171294-1	Water	08/08/22		Х		
-	MW-163S_080822	240-171294-2	Water	08/08/22		Х	Х	

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

Items Reviewed	Rep	orted		mance ptable	Not
	No	Yes	No	Yes	Required
1. Sample receipt condition		Х		Х	
2. Requested analyses and sample results		Х		Х	
3. Master tracking list		Х		Х	
4. Methods of analysis		Х		Х	
5. Reporting limits		Х		Х	
6. Sample collection date		Х		Х	
7. Laboratory sample received date		Х		Х	
8. Sample preservation verification (as applicable)		Х		Х	
9. Sample preparation/extraction/analysis dates		Х		Х	
10. Fully executed Chain-of-Custody (COC) form		Х		Х	
11. Narrative summary of Quality Assurance or sample problems provided		х		Х	
12. Data Package Completeness and Compliance		Х		Х	

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Method 8260D and 8260D SIM. Data were reviewed in accordance with USEPA National Functional Guidelines for Organic Superfund Methods Data Review, EPA 540-R-20-005, November 2020 (with reference to the historical USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, OSWER 9240.1-05A-P, October 1999), as appropriate.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
 - U The analyte was analyzed for but was not detected above the level of the reported sample quantitation limit.
 - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
 - E The compound was quantitated above the calibration range.
 - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
 - J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
 - UJ The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
 - UB Analyte considered non-detect at the listed value due to associated blank contamination.
 - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8260D/8260D-SIM	Water	14 days from collection to analysis	Cool to < 6 °C; pH < 2 with HCl

All samples were analyzed within the specified holding time criteria.

2. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable, and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

3. Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (20%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

All compounds associated with the initial calibrations were within the specified control limits.

3.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (20%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits.

4. Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

5. Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices.

A field duplicate sample was not collected for samples from this SDG.

6. Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

No compounds were detected in the samples within this SDG.

7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: 8260D/8260D-SIM	Rep	orted		rmance ptable	Not Required
	No	Yes	No	Yes	Required
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (G	C/MS)				
Tier II Validation					
Holding times/Preservation		Х		X	
Tier III Validation					
System performance and column resolution		Х		Х	
Initial calibration %RSDs		Х		Х	
Continuing calibration RRFs		Х		Х	
Continuing calibration %Ds		Х		Х	
Instrument tune and performance check		Х		Х	
lon abundance criteria for each instrument used		Х		Х	
Field Duplicate RPD	Х				Х
Internal standard		Х		Х	
Compound identification and quantitation					
A. Reconstructed ion chromatograms		Х		Х	
B. Quantitation Reports		Х		Х	
C. RT of sample compounds within the established RT windows		Х		Х	
D. Transcription/calculation errors present		Х		Х	
E. Reporting limits adjusted to reflect sample dilutions		Х		Х	
Notes:					

%RSD Relative standard deviation

%R Percent recovery

- RPD Relative percent difference
- %D Percent difference

VALIDATION PERFORMED BY: Prashanth K

SIGNATURE:

DATE: September 27, 2022

PEER REVIEW: Andrew Korycinski

DATE: September 28, 2022

NO CORRECTIONS/QUALIFERS ADDED TO SAMPLE ANALYSIS DATA SHEETS



CHAIN OF CUSTODY CORRECTED SAMPLE ANALYSIS DATA SHEETS





Chain of Custody Record



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

Client Contact	Regulat	tory program:		ſ	DV	V	Г	NPD	ES	r	RC	RA	17	Oth	er 🗌											
Company Name: Arcadis	Client Project !	Manager: Kris	Hinske	v			Site	Cont	act: C	hristi	na W	eaver			1	Lab (onta	t: Mi	e Del	Monio	.0					TestAmerica Laboratorie COC No:
ddress: 28550 Cabot Drive, Suite 500		Telephone: 269-832-7478																								
ity/State/Zip: Novi, MI, 48377						Telephone: 248-994-2329 Telephone: 3 Analysis Turnaround Time						ne: 330-966-9783					1 of 1 COC									
none: 248-994-2240	Email: Kristof	Email: Kristoffer.Hinskey@arcadis.com				-	Anaiy	YS15 I U	urnar	ound	Time	-		-		Analyses								For lab use only		
oject Name: Ford LTP Off-Site	Sampler Name					TAT	F if diffe	erent fro		» weeks		-													Walk-in client	
roject Number: 30080642.402.04	Method of Ship	Jan	5.	1P	-cri	9		10 day	/	- 21	veeks															Lab sampling
						v			1	2 0	week days		(N/	ab=G			009			9	SIN					
0 # 30080642.402.04	Shipping/Track	king No:								1.0	day		ole (Y	/ Gra	9	1260C	E 82			8260D	8260D SIM					Job/SDG No:
				M	latrix	1		Cont	ainers	& Pre	serval	tives	Sam	lte=C	826(CE	2-DC	00	g	Chloride						
Sample Identification	Sample Date	Sample Time	Air	Aqueous	Sediment	Other:	H2SO4	HN03	HCI	NaOH ZaAci	Unpres	Other:	Filtered Sample (Y / N)	Composite=C / Grab=G	1.1-DCE 8260D	cis-1,2-DCE 8260D	Trans-1,2-DCE 8260D	PCE 8260D	TCE 8260D	Vinyl Chl	1.4-Dioxane					Sample Specific Note Special Instruction
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Non-Hazard Flammable Skin Irr pecial Instructions/QC Requirements & Comments:	itant Poise	on B	Unkn	own			L	E F	Return	to Ch	ent	1	Dispo	osal By	Lab		A	rchive	For		N	lonth	1			
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Qualifiers

TEF

TEQ

TNTC

Toxicity Equivalent Factor (Dioxin)

Too Numerous To Count

Toxicity Equivalent Quotient (Dioxin)

GC/MS VOA Qualifier	Qualifier Description
	Indicates the analyte was analyzed for but not detected.
0	indicates the analyte was analyzed for but not detected.
Glossary	
Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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

Client Sample ID: TRIP BLANK_86 Date Collected: 08/08/22 00:00 Date Received: 08/10/22 12:44

Lab Sample ID: 240-171294-1

Matrix: Water

5 6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			08/11/22 14:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/11/22 14:16	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/11/22 14:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/11/22 14:16	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/11/22 14:16	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/11/22 14:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		62 - 137			-		08/11/22 14:16	1
4-Bromofluorobenzene (Surr)	92		56 - 136					08/11/22 14:16	1
Toluene-d8 (Surr)	98		78 - 122					08/11/22 14:16	1
Dibromofluoromethane (Surr)	99		73 - 120					08/11/22 14:16	1

Eurofins Canton

Client Sample ID: MW-163S_080822 Date Collected: 08/08/22 14:00 Date Received: 08/10/22 12:44

Date Received: 08/10/22 12:44					
Method: 8260D SIM - Volatile	Organic Compounds (GC	:/MS)			
Analyte	Result Qualifier	RL	MDL Unit	D	Prepared

1,4-Dioxane	2.0	U	2.0	0.86	ug/L			08/15/22 02:46	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	87		66 - 120				•	08/15/22 02:46	1	
_ Method: 8260D - Volatile O	rganic Compo	unds by G	C/MS							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	8
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			08/11/22 19:47	1	
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/11/22 19:47	1	9
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/11/22 19:47	1	
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/11/22 19:47	1	
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/11/22 19:47	1	
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/11/22 19:47	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	91		62 - 137					08/11/22 19:47	1	
4-Bromofluorobenzene (Surr)	86		56 - 136					08/11/22 19:47	1	
Toluene-d8 (Surr)	94		78 - 122					08/11/22 19:47	1	
Dibromofluoromethane (Surr)	95		73 - 120					08/11/22 19:47	1	
-										

Job ID: 240-171294-1

Matrix: Water

Dil Fac

Lab Sample ID: 240-171294-2

Analyzed