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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: 240-166704-1

Client Project/Site: Ford LTP - Off Site

For:

ARCADIS U.S., Inc. 28550 Cabot Drive Suite 500 Novi, Michigan 48377

Attn: Kristoffer Hinskey

Meara

Authorized for release by: 5/26/2022 11:15:20 PM Patrick O'Meara, Manager of Project Management (330)966-5725 Patrick.O'Meara@et.eurofinsus.com

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Ask— The Expert Michael DelMonico, Project Manager I (330)497-9396 Michael.DelMonico@et.eurofinsus.com

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

GC/MS VOA	Qualifier Description
Qualifier	Qualifier Description Indicates the analyte was analyzed for but not detected.
	והמוספונים נהים מהמוצוב שמם מהמוצבים זמו שנו המו מכובטובים.
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
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

- TEQ Toxicity Equivalent Quotient (Dioxin)
- TNTC Too Numerous To Count

Job ID: 240-166704-1

Laboratory: Eurofins Canton

Narrative

Job Narrative 240-166704-1

Case Narrative

Comments

No additional comments.

Receipt

The samples were received on 5/17/2022 @ 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 0.6° C and 2.1° C.

GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) for analytical batch 527480 exceeded control criteria for one or multiple compounds. The following samples associated with this CCV were non-detect for the affected analytes. In accordance with the laboratory SOP, a low level CCV at the reporting limit (labeled as an MRL) was analyzed and the affected compounds were detected; therefore the data has been reported. No further corrective action was required: TRIP BLANK_119 (240-166704-1) and MW-178S_051122 (240-166704-2).

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

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	TAL CAN
8260D SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030C	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 Canton, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Sample Summary

Job ID: 240-166704-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-166704-1	TRIP BLANK_119	Water	05/11/22 00:00	05/17/22 09:30
240-166704-2	MW-178S_051122	Water	05/11/22 15:36	05/17/22 09:30

Detection Summary

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

Client Sample ID: TRIP BLANK_119

No Detections.

Client Sample ID: MW-178S_051122

No Detections.

Lab Sample ID: 240-166704-1

Lab Sample ID: 240-166704-2

This Detection Summary does not include radiochemical test results.

Client Sample ID: TRIP BLANK_119 Date Collected: 05/11/22 00:00 Date Received: 05/17/22 09:30

Lab Sample ID: 240-166704-1

Matrix: Water

5 6

8 9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/23/22 16:38	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/23/22 16:38	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/23/22 16:38	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/23/22 16:38	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/23/22 16:38	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/23/22 16:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		62 - 137					05/23/22 16:38	1
4-Bromofluorobenzene (Surr)	113		56 - 136					05/23/22 16:38	1
Toluene-d8 (Surr)	92		78 - 122					05/23/22 16:38	1
Dibromofluoromethane (Surr)	115		73 - 120					05/23/22 16:38	1

Client Sample ID: MW-178S_051122 Date Collected: 05/11/22 15:36 Date Received: 05/17/22 09:30

Method: 8260D SIM - Volati	le Organic Co	mpounds ((GC/MS)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/21/22 03:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		66 - 120					05/21/22 03:07	1
Method: 8260D - Volatile Or	aanic Compo	unds bv G	C/MS						
Analyte	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/23/22 17:03	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/23/22 17:03	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/23/22 17:03	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/23/22 17:03	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/23/22 17:03	
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/23/22 17:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		62 - 137					05/23/22 17:03	
4-Bromofluorobenzene (Surr)	111		56 - 136					05/23/22 17:03	1
Toluene-d8 (Surr)	91		78 - 122					05/23/22 17:03	1
Dibromofluoromethane (Surr)	118		73 - 120					05/23/22 17:03	1

Lab Sample ID: 240-166704-2

Matrix: Water

5 6

8

Surrogate Summary

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

Matrix: Water		-				Prep Type: Total/NA
			Pe	ercent Surro	ogate Recovery (A	cceptance Limits)
		DCA	BFB	TOL	DBFM	
Lab Sample ID	Client Sample ID	(62-137)	(56-136)	(78-122)	(73-120)	
240-166704-1	TRIP BLANK_119	95	113	92	115	
240-166704-2	MW-178S_051122	99	111	91	118	
240-166727-C-2 MSD	Matrix Spike Duplicate	76	124	97	98	
240-166727-F-2 MS	Matrix Spike	78	126	100	98	
LCS 240-527480/5	Lab Control Sample	81	127	97	95	
MB 240-527480/8	Method Blank	90	113	90	106	
Surrogate Legend						
DCA = 1,2-Dichloroeth	ane-d4 (Surr)					
BFB = 4-Bromofluorob	enzene (Surr)					
TOL = Toluene-d8 (Su	rr)					
DBFM = Dibromofluor	omethane (Surr)					
- Mathadi 02000 C	IM Valatila Organia	Compour				
	IM - Volatile Organic	Compound	as (GC/	1113)		
Matrix: Water						Prep Type: Total/NA

			Percent Surrogate Recovery (Acceptance Limits)	
		DCA		
Lab Sample ID	Client Sample ID	(66-120)		
240-166704-2	MW-178S_051122	81		
240-166860-C-2 MS	Matrix Spike	85		
240-166860-C-2 MSD	Matrix Spike Duplicate	83		
LCS 240-527374/3	Lab Control Sample	85		
MB 240-527374/4	Method Blank	83		
Surrogate Legend				

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

Job ID: 240-166704-1

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

Lab Sample ID: MB 240-527480/8 Matrix: Water

Analysis Batch: 527480

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/23/22 12:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/23/22 12:12	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/23/22 12:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/23/22 12:12	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/23/22 12:12	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/23/22 12:12	1

	MB	MB				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		62 - 137		05/23/22 12:12	1
4-Bromofluorobenzene (Surr)	113		56 - 136		05/23/22 12:12	1
Toluene-d8 (Surr)	90		78 - 122		05/23/22 12:12	1
Dibromofluoromethane (Surr)	106		73 - 120		05/23/22 12:12	1

Lab Sample ID: LCS 240-527480/5 Matrix: Water Analysis Batch: 527480

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1,1-Dichloroethene	20.0	20.5		ug/L		102	63 - 134	
cis-1,2-Dichloroethene	20.0	20.6		ug/L		103	77 - 123	
Tetrachloroethene	20.0	21.5		ug/L		107	76 - 123	
trans-1,2-Dichloroethene	20.0	19.8		ug/L		99	75 - 124	
Trichloroethene	20.0	20.6		ug/L		103	70 - 122	
Vinyl chloride	20.0	14.2		ug/L		71	60 - 144	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	81		62 - 137
4-Bromofluorobenzene (Surr)	127		56 - 136
Toluene-d8 (Surr)	97		78 - 122
Dibromofluoromethane (Surr)	95		73 - 120

Lab Sample ID: 240-166727-C-2 MSD **Matrix: Water** Analysis Batch: 527480

l		Sample	Sample	Spike	MSD	MSD				%Rec		RPD
	Analyte	•	Qualifier	Added	-	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
l	1,1-Dichloroethene	1.0	U	20.0	17.9		ug/L		89	56 - 135	4	26
l	cis-1,2-Dichloroethene	1.0	U	20.0	17.0		ug/L		85	66 - 128	5	14
l	Tetrachloroethene	1.0	U	20.0	17.3		ug/L		87	62 - 131	7	20
l	trans-1,2-Dichloroethene	1.0	U	20.0	17.7		ug/L		89	56 - 136	4	15
l	Trichloroethene	1.0	U	20.0	17.2		ug/L		86	61 - 124	8	15
l	Vinyl chloride	1.0	U	20.0	13.1		ug/L		66	43 - 157	3	24
		MSD	MSD									
L	Currence to	0/ Decevery	O velifier	l incite								

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	76		62 - 137
4-Bromofluorobenzene (Surr)	124		56 - 136
Toluene-d8 (Surr)	97		78 - 122

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

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

QC Sample Results

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

Matrix: Water	27-C-2 MSD						Client S	amp	le ID: M	latrix Spike Du Prep Type: T	
Analysis Batch: 527480											
		MSD									
Surrogate	%Recovery	Quali	fier	Limits							
Dibromofluoromethane (Surr)	98			73 - 120							
Lab Sample ID: 240-16672 Matrix: Water	27-F-2 MS							CI	ient Sa	mple ID: Matrix Prep Type: Te	
Analysis Batch: 527480	Comula	C		Cuilco	ме	MS				%Rec	
A	Sample	•		Spike			11	-	0/ D		
Analyte	Result		Tier	Added		Qualifier	Unit	<u>D</u>	%Rec	Limits	
1,1-Dichloroethene	1.0			20.0	18.7		ug/L		93	56 - 135	
cis-1,2-Dichloroethene	1.0			20.0	17.9		ug/L		89	66 - 128	
Tetrachloroethene	1.0			20.0	18.5		ug/L		93	62 - 131	
trans-1,2-Dichloroethene	1.0			20.0	18.5		ug/L		92	56 - 136	
Trichloroethene	1.0	U		20.0	18.7		ug/L		94	61 - 124	
Vinyl chloride	1.0	U		20.0	13.6		ug/L		68	43 - 157	
	MS	MS									
Surrogate	%Recovery	Quali	fier	Limits							
1,2-Dichloroethane-d4 (Surr)	78			62 - 137							
4-Bromofluorobenzene (Surr)	126			56 - 136							
Toluene-d8 (Surr)	100			78 - 122							
Dibromofluoromethane (Surr)	98			73 - 120							
lethod: 8260D SIM - V	/olatile Org	ganio	c Com	pounds (GC/M	S)					
									nt Som	ple ID: Method	
	27374/4							Clie			1 Blank
Lab Sample ID: MB 240-5	27374/4							Clie	int Sam	-	
Lab Sample ID: MB 240-5 Matrix: Water	27374/4							Clie	int Sam	Prep Type: T	
Lab Sample ID: MB 240-5	27374/4	MR N	ИR					Clie	in Sam	-	
Lab Sample ID: MB 240-5 Matrix: Water Analysis Batch: 527374		MB N		ы		MDI Unit	D			Prep Type: T	otal/NA
Lab Sample ID: MB 240-5 Matrix: Water Analysis Batch: 527374 ^{Analyte}		sult (Qualifier			MDL Unit	D		repared	Prep Type: To Analyzed	otal/NA
Lab Sample ID: MB 240-5 Matrix: Water Analysis Batch: 527374			Qualifier			MDL Unit	<u>D</u>			Prep Type: T	
Lab Sample ID: MB 240-5 Matrix: Water Analysis Batch: 527374 ^{Analyte}		sult (Qualifier				<u>D</u>			Prep Type: To Analyzed	otal/NA
Lab Sample ID: MB 240-5 Matrix: Water Analysis Batch: 527374 ^{Analyte}		2.0 U	Qualifier				<u>D</u>	P		Prep Type: To Analyzed	otal/NA
Lab Sample ID: MB 240-5 Matrix: Water Analysis Batch: 527374 Analyte 1,4-Dioxane	Re	2.0 U	Qualifier J VIB	2.0			<u>D</u>	P	repared	Prep Type: To Analyzed 05/20/22 19:13	Dil Fac
Lab Sample ID: MB 240-5 Matrix: Water Analysis Batch: 527374 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr)	Re	esult (2.0 (MB / very (Qualifier J VIB	2.0 <i>Limits</i>				P	repared repared	Prep Type: To Analyzed 05/20/22 19:13 Analyzed 05/20/22 19:13	Dil Fac
Lab Sample ID: MB 240-5 Matrix: Water Analysis Batch: 527374 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-4	Re	esult (2.0 (MB / very (Qualifier J VIB	2.0 <i>Limits</i>				P	repared repared	Prep Type: To Analyzed 05/20/22 19:13 Analyzed 05/20/22 19:13 : Lab Control S	Dil Fac Dil Fac Dil Fac Dil Fac Sample
Lab Sample ID: MB 240-5 Matrix: Water Analysis Batch: 527374 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-4 Matrix: Water	Re	esult (2.0 (MB / very (Qualifier J VIB	2.0 <i>Limits</i>				P	repared repared	Prep Type: To Analyzed 05/20/22 19:13 Analyzed 05/20/22 19:13	Dil Fac
Lab Sample ID: MB 240-5 Matrix: Water Analysis Batch: 527374 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-4	Re	esult (2.0 (MB / very (Qualifier J VIB	2.0 <u>Limits</u> 66 - 120		0.86 ug/L		P	repared repared	Prep Type: To Analyzed 05/20/22 19:13 Analyzed 05/20/22 19:13 : Lab Control S Prep Type: To	Dil Fac Dil Fac Dil Fac Dil Fac Sample
Lab Sample ID: MB 240-5 Matrix: Water Analysis Batch: 527374 Analyte 1,4-Dioxane <i>Surrogate</i> 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-4 Matrix: Water Analysis Batch: 527374	Re	esult (2.0 (MB / very (Qualifier J VIB	2.0 <u>Limits</u> 66 - 120	LCS	0.86 ug/L	Clien	 t Sar	repared repared mple ID	Prep Type: To <u>Analyzed</u> 05/20/22 19:13 <u>Analyzed</u> 05/20/22 19:13 : Lab Control S Prep Type: To %Rec	Dil Fac
Lab Sample ID: MB 240-5 Matrix: Water Analysis Batch: 527374 Analyte 1,4-Dioxane <i>Surrogate</i> 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-4 Matrix: Water Analysis Batch: 527374 Analyte	Re	esult (2.0 (MB / very (Qualifier J VIB	2.0 Limits 66 - 120 Spike Added	LCS Result	0.86 ug/L LCS Qualifier	Clien	P	repared repared mple ID %Rec	Analyzed 05/20/22 19:13 Analyzed 05/20/22 19:13 Lab Control S Prep Type: To %Rec Limits	Dil Fac Dil Fac Dil Fac Dil Fac Sample
Lab Sample ID: MB 240-5 Matrix: Water Analysis Batch: 527374 Analyte 1,4-Dioxane <i>Surrogate</i> 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-4 Matrix: Water Analysis Batch: 527374	Re %Reco 527374/3	MB M very 2 83	Qualifier J VIB	2.0 <u>Limits</u> 66 - 120	LCS	0.86 ug/L LCS Qualifier	Clien	 t Sar	repared repared mple ID	Prep Type: To <u>Analyzed</u> 05/20/22 19:13 <u>Analyzed</u> 05/20/22 19:13 : Lab Control S Prep Type: To %Rec	Dil Fac Dil Fac Dil Fac Dil Fac Sample
Lab Sample ID: MB 240-5 Matrix: Water Analysis Batch: 527374 Analyte 1,4-Dioxane <i>Surrogate</i> 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-4 Matrix: Water Analysis Batch: 527374 Analyte	Re %Reco 527374/3	LCS	Qualifier J MB Qualifier	2.0 Limits 66 - 120 Spike Added	LCS Result	0.86 ug/L LCS Qualifier	Clien	 t Sar	repared repared mple ID %Rec	Analyzed 05/20/22 19:13 Analyzed 05/20/22 19:13 Lab Control S Prep Type: To %Rec Limits	Dil Fac Dil Fac 1 Dil Fac 1 Sample

Lab Sample ID: 240-166860 Matrix: Water Analysis Batch: 527374)-C-2 MS						СІ	ient Sa	mple ID: Matrix Spike Prep Type: Total/NA
-	•	Sample	Spike		MS		_		%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
1,4-Dioxane	5.7		10.0	15.9		ug/L		102	51 - 153

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

	MS	MS										
Surrogate	%Recovery	Qualifier	Limits									
1,2-Dichloroethane-d4 (Surr)	85		66 - 120									
Lab Sample ID: 240-1668	60-C-2 MSD					Client	Samp	le ID: N	latrix Spil	ke Dup	licate	
Matrix: Water									Prep Ty			
Analysis Batch: 527374												
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
1,4-Dioxane	5.7		10.0	15.7		ug/L		100	51 - 153	1	16	
	MSD	MSD										
Surrogate	%Recovery	Qualifier	Limits									
1,2-Dichloroethane-d4 (Surr)	83		66 - 120									

QC Association Summary

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

GC/MS VOA

Analysis Batch: 527374

Lab Sample ID 240-166704-2	Client Sample ID MW-178S_051122	Prep Type Total/NA	Matrix Water	Method 8260D SIM	Prep Batch
MB 240-527374/4	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-527374/3	Lab Control Sample	Total/NA	Water	8260D SIM	
240-166860-C-2 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-166860-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	
Analysis Batch: 5274	480				

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
240-166704-1	TRIP BLANK_119	Total/NA	Water	8260D	
240-166704-2	MW-178S_051122	Total/NA	Water	8260D	
MB 240-527480/8	Method Blank	Total/NA	Water	8260D	
LCS 240-527480/5	Lab Control Sample	Total/NA	Water	8260D	
240-166727-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	
240-166727-F-2 MS	Matrix Spike	Total/NA	Water	8260D	

Eurofins Canton

Job ID: 240-166704-1

Matrix: Water

Lab Sample ID: 240-166704-1

Client Sample ID: TRIP BLANK_119 Date Collected: 05/11/22 00:00 Date Received: 05/17/22 09:30

	Batch	Batch		Dilution	Batch	Prepared		
Prep Туре	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	527480	05/23/22 16:38	LEE	TAL CAN
Client Sam	ple ID: MW	-178S_051122					Lab Sa	mple ID: 240-166704-2
Date Collecte	d: 05/11/22 1	5:36						Matrix: Water
Date Receive	d: 05/17/22 0	9:30						

	Batch	Batch		Dilution	Batch	Prepared		
Prep Туре	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	527480	05/23/22 17:03	LEE	TAL CAN
Total/NA	Analysis	8260D SIM		1	527374	05/21/22 03:07	CS	TAL CAN

Laboratory References:

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

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

Laboratory: Eurofins Canton

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-27-23
Connecticut	State	PH-0590	12-31-23
Florida	NELAP	E87225	06-30-22
Georgia	State	4062	02-23-22 *
Illinois	NELAP	200004	07-31-22
lowa	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	06-30-22
New York	NELAP	10975	04-01-23
Ohio	State	8303	02-23-23
Ohio VAP	State	CL0024	05-24-22
Oregon	NELAP	4062	05-24-22
Pennsylvania	NELAP	68-00340	08-31-22
Texas	NELAP	T104704517-22-16	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-23
West Virginia DEP	State	210	12-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

MICHIGAN 190 Test	Chai TestAmerica Laboratory location: Brighton 10448 Cital	Chain of Custody Record 10448 Citation Drive, Suite 200 / Brighton, MI 48116 / 810-229-2763	
Client Contact	Regulatory program: DW	C NPDES C RCRA C Other	
Company Name: Arcadis Address: 28550 Cabot Drive. Suite 500	Client Project Manager: Kris Hinskey	Site Contact: Christina Weaver Lab Contact: Mike DelMonico	TestAmerica Laboratories, Inc DelMonico COC No:
City/State/Zbp: Novi, MI, 48377	Telephone: 269-832-7478	Telephone: 248-994-2329 Telephone: 330-966-9783	6-9783 6-9783
Phone: 248-994-2240	Email: Kristoffer.Hinskey@arcadis.com	Analysis Turnaround Time	only
Project Name: Ford LTP Off-Site Project Number: 30080642.402.04	Sampler Name: Grow Schrifter Method of ShipmenUCarrier:	=C (N	
P() # 30080642.402.04	Shipping/Tracking No:	8560D 0D 5 \ CL3P= ble (X \ 1	
Sample Identification	Sample Date Sample Time Advecus	PCE 82600 PCE 82600 Control 1, 2-00 Control 1, 2-00 1, 1-00E 826 Composite Composite Composite MICO MICO MICO HICO HICO HICO HICO HICO HICO HICO HICO HICO	Vinyl Chloride Vinyl Chloride Sample Specific Notes / Special Instructions:
P TRIP BLANK_ 119	S/N/27 ~ X		X X 1 1 Trip Blank
- 1785- 051122	5/1, /22 15:31, X	N C X X X X X X X X X X X X X X X X X X	X X X 3 VOAs for 8260D 3 VOAs for 8260D SIM
Page 17 of 19			
		240-166704 Chain of Custody	ustody
Possible Hazard Identification	ant Poison B Unknown	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return to Citent > Disposal By Lab	ger than 1 month) or ^T Months
Special Instructions/OC Requirements & Comments: Sample Address: 11856 Bosten RA Submit all results through Cadena at fomalia@cadenaco.com. Cadena #E203631 Level IV Reporting requested.	5+ 0.com. Cadena ⊯E203631		
Relinquished by: Relinquished by:	Company Company Company Company Company Company Company Company Company Company	1362 Received by Novi cold Storage	Arciclus Daver
Religninged by	Date		mpany: Backfine: EETNC 5-17-22
Montenera A. Unandrine Jacon Barrander Lacon Barrander A. Tasking and A. Martineta Lacon Barrander A. (1990). Resolutions A. Unandrine Jacon Barrander A. (1980). Resolutions A. Unandrine Jacon Barrander J. Barrand			

urofins TestAmerica Canton Sample Receipt Form/Narrative	Login # : 166704
anton Facility	
ient Arcadis Site Name Ford LTP	Cooler unpacked by:
poler Received on 5-17-22 Opened on 5-17-22	Ome
edEx: 1* Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier	r Other
eccipt After-hours: Drop-off Date/Time Storage Location)
estAmerica Cooler # TA 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	
Cooler temperature upon receipt See Multiple Cooler	Form
IR GUN# IR-13 (CF 0.0 °C) Observed Cooler TempC C Corrected Cooler	Temp°C
IR GUN #IR-15 (CF -0.7°C) Observed Cooler Temp°C Corrected Coole	
Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity lea	
	es No NA checked for pH by
	es No NA Receiving:
	es No NA VOAs
	Oil and Grease
	TOC
	es)No
	No No
Could all bottle labels (ID/Date/Time) be reconciled with the COC?	No
For each sample, does the COC specify preservatives (Y)N), # of containers (Y)N), and	sample type of grab/comp(YN)?
	es No
	es No
	es No
If yes, Questions 13-17 have been checked at the originating laboratory.	No CIA LI CHI LI CIE 784
	es No (NA) pH Strip Lot# <u>HC15784</u>
	es No NA
	esNo
	es No
ontacted PM Date by via Verbal	Voice Mail Other
oncerning	
8. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES additional next page	Samples processed by:
	Sampio process
9. SAMPLE CONDITION	
ample(s) were received after the recommended hole	
ample(s) were received after the recommended hole ample(s) were received	ed in a broken container.
ample(s) were received after the recommended hole	ed in a broken container.
ample(s) were received after the recommended hole ample(s) were received	ed in a broken container.
ample(s)	ed in a broken container.
ample(s)	ed in a broken container. in diameter. (Notify PM)

Login #: 166704

Cooler Description	IR Gun #	Observed	Corrected	Coolant
(Circle)	(Circle)	Temp °C	Temp °C	(Circle)
TA Client Box Other	IR-13 IR-15	2.1	2.1	Wet Ice Blue Ice Dry Water None
TA Client Box Other	(R-13) (R-15	0.6	0.6	Wet ice Blue ice Dry
TA Client Box Other	IR-13 IR-15			Wetice Blueice Dry Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry Water None
TA Client Box Other	IR-13 IR-15	and an an and and a set of an and		Wet Ice Blue Ice Dry I Water None
TA Client Box Other	IR-13 IR-15			Wetice Blue ice Dry I Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry I Water None
TA Client Box Other	IR-13 IR-15			Wetice Blue ice Dry i Water None
TA Client Box Other	IR-13 IR-15			Wetice Blue ice Dry I Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Sive Ice Dry I Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry I Water None
TA Client Box Other	IR-13 IR-15			Wetice Sive ice Dry I Water None
TA Client Box Other	IR-13 IR-15			Wetice Blue ice Dry i Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry i Water None
TA Client Box Other	IR-13 IR-15			Wet ice Sive ice Dry i Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice 'Dry i Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry I Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry I Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry i Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry I Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry I Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry I Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry I Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry H Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry I Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry i Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry I Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry I Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry I Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry is Water None
TA Client Box Other	IR-13 IR-15			Wet ice Blue ice Dry k Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry k Water None
TA Client Box Other	IR-13 IR-15			Wet Ice Blue Ice Dry k Water None
TA Client Box Other	IR-13 IR-15		·····	Wet Ice Blue Ice Dry k Water None

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

DATA VERIFICATION REPORT



May 29, 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: 166704-1 Sample date: 2022-05-11 Report received by CADENA: 2022-05-27 Initial Data Verification completed by CADENA: 2022-05-29 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.

The following minor QC exceptions or missing information were noted:

GCMS VOC QC batch CCV response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

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 Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

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: 166704-1

		Sample Name: Lab Sample ID: Sample Date:	TRIP BLA 2401667 5/11/20	 7041)		MW-178 2401667 5/11/20			
				Report		Valid		Report		Valid
	Analyte	Cas No.	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC										
<u>OSW-8260D</u>										
1,1	1-Dichloroethene	75-35-4	ND	1.0	ug/l		ND	1.0	ug/l	
cis	s-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l		ND	1.0	ug/l	
Те	etrachloroethene	127-18-4	ND	1.0	ug/l		ND	1.0	ug/l	
tra	ans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l		ND	1.0	ug/l	
Tri	ichloroethene	79-01-6	ND	1.0	ug/l		ND	1.0	ug/l	
Vir	nyl chloride	75-01-4	ND	1.0	ug/l		ND	1.0	ug/l	
<u>OSW-8260DSI</u>	IM									
1,4	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 # 240-166704-1 CADENA Verification Report: 2022-05-29

Analyses Performed By: TestAmerica North Canton, Ohio

Report # 45775R Review Level: Tier III Project: 30080642.402.01

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) # 240-166704-1 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) includes 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	lysis
Sample ID	Lab ID	Matrix	Date	Parent Sample	voc	VOC SIM
TRIP BLANK_119	240-166704-1	Water	05/11/22		Х	
MW-178S_051122	240-166704-2	Water	05/11/22		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 of October 1999.

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.
 - J+ The result is an estimated quantity, but the result may be biased high.
 - J- The result is an estimated quantity, but the result may be biased low.
 - UB Analyte considered non-detect at the listed value due to associated blank contamination.
 - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
 - 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, with the exception of the compounds presented in the following table.

Sample ID	Initial / Continuing	Compound	Criteria
RIP BLANK_119	Continuous Calibration Verification %D	Vinyl chloride	-24.6%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Initial/Continuing	Criteria	Sample Result	Qualification
		Non-detect	R
Initial and Continuing	RRF <0.05	Detect	J
		Non-detect	R
Calibration	RRF <0.01 ¹	Detect	J
		Non-detect	
	RRF >0.05 or RRF >0.01 ¹	Detect	No Action

Initial/Continuing	Criteria	Sample Result	Qualification
	%RSD > 20% or a correlation coefficient	Non-detect	UJ
Initial Calibration	<0.99	Detect	J
Initial Calibration	%RSD > 90%	Non-detect	R
%	%RSD > 90%	Detect	J
		Non-detect	No Action
	%D >20% (increase in sensitivity)	Detect	J
Continuing Colibration		Non-detect	UJ
Continuing Calibration	%D >20% (decrease in sensitivity)	Detect	J
		Non-detect	R
	%D > 90% (increase/decrease in sensitivity)	Detect	J

Note:

¹RRF of 0.01 only applies to compounds which are typically poor responding compounds

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		X	
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	X				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

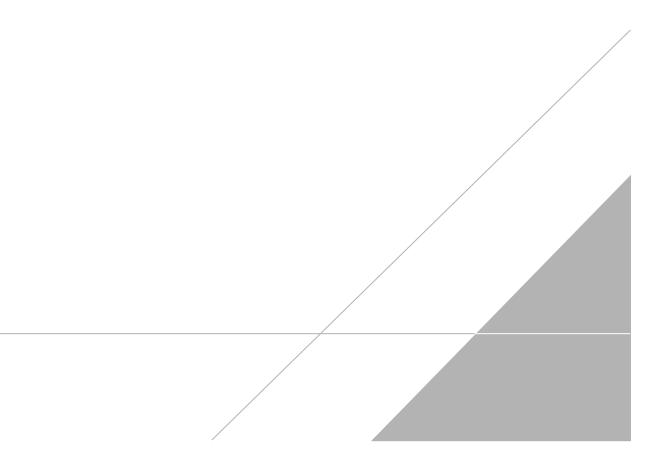
%D Percent difference

VALIDATION PERFORMED BY:	Vinayak Hegde
SIGNATURE:	V Areser
DATE:	June 10, 2022

PEER REVIEW: Andrew Korycinski

DATE: June 14, 2022

CHAIN OF CUSTODY CORRECTED SAMPLE ANALYSIS DATA SHEETS



MICHIGAN 190

Chain of Custody Record



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

Client Contact Company Name: Arcadis	Regula	tory program:			DW		NPDF	S	Г	RCI	RA	Г	Othe	er									
Address: 28550 Cabot Drive, Suite 500	Client Project	Manager: Kris I	Hinske	y		Site	Conta	et: Cl	hristin	ia We	eaver		_		Lab (ontac	t: Mil	ke Del	Monio	0		TestAmerica I COC No:	aboratories,
	Telephone: 26	9-832-7478				Telephone: 248-994-2329								Telephone: 330-966-9783 Analyses									
ity/State/Zip: Novi, MI, 48377	Empil: Kristof	fer.Hinskey@ar	randia																		1 of 1 For lab use only	COCs	
hone: 248-994-2240		ier.runskey@ar	cauls.	com																	TT	For lab use only	
Project Name: Ford LTP Off-Site	Sampler Name	ampler Name:			TA	[if differ		m below 3 w													Walk-in client		
	Gary	Gary Scherfer lethod of Shipment/Carrier:		1	10 day		- 2 w													Lab sampling			
roject Number: 30080642.402.04	Method of Ship						1 w 2 d	reek		Î	ÿ			0				SIM					
P() # 30080642.402.04	Shipping/Tracl	king No:						- C	Id	-		ple (Y /	/ Grab	0	3260D	E 8260			8260L	3260D		Job/SDG No:	
				Ma	trix		Conta	iners	& Pres	ervati	ives	Sam	te C	826	СШ	-00	9	8	oride	2 C			
Sample Identification	Sample Date	Sample Time	Air	Aqueous Sediment	Solid Other:	H2SO4	HN03	HCH N=OH	ZaAd Vacuation	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 Chloride 8260D	1.4-Dioxane 8260D			ecific Notes /
TRIP BLANK_ 119	5/11/22	J		×		Т						N	G	Х	X	х	X	X	X			1 Trip Bla	ank
	5/)							1											1,			3 VOAs for	
MW-1785-05/122	11/22	15:36	\vdash	4	- -			2	-	-		\mathbb{P}	G	X	X	X	×	X	\succeq			3 VOAs for	8260D S
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													240	J-100	6704	Cha	in of	Cust	ody	ant antit ment 1881			
				_	$\left \right $	+-	\vdash		-	+		+	+										
																					1		
Possible Hazard Identification				-	<u>Ll</u>										les are	retai	ined lo	nger	than I	month)			
Non-Hazard Flammable Skin Irr pecial Instructions/QC Requirements & Comments:	itant Poise	on B	Unkne	WTI			R	eturn	to Clie	ent	-	Dispo	sal By	Lab		A	rchive	For		Months			
ample Address: 11850 Boston Pe Submit all results through Cadena at jtomalia@cadena evel IV Reporting requested.	st co.com. Cadena #	#E203631																					
clinquished by:	Company:		1	ate/Tin	ne:}			R	eceive	d by:								Com	pany: /			Date/Time: /	
Jan Achales	Arcy	dis		S/14	1/22	13	362				Vi	< 20	12	54	tore	60				regelie		5/14/22	130
Relinquished by:	Company:		I	ate/Tin	ne: ZZ			R	ective		11	1	-			3		Com	Dany:	1		Date Time 5/16/22	
Month and		CAUES	-	>/16	126		200	-	M	TV	Y	_						F.C.		-		5/16/22	120
Kelinguishen yy	Company FETA			SI6	ne:	12	6.	R	ocetye		th		y:	/	/			Com	pany:	SETNO	-	Date/Time: 5-17-2	



Client Sample ID: TRIP BLANK_119 Date Collected: 05/11/22 00:00 Date Received: 05/17/22 09:30

Lab Sample ID: 240-166704-1

Matrix: Water

5 6

8 9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/23/22 16:38	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/23/22 16:38	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/23/22 16:38	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/23/22 16:38	1
Trichloroethene	1.0	U 🖊	1.0	0.44	ug/L			05/23/22 16:38	1
Vinyl chloride	1.0	V UJ	1.0	0.45	ug/L			05/23/22 16:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		62 - 137			-		05/23/22 16:38	1
4-Bromofluorobenzene (Surr)	113		56 - 136					05/23/22 16:38	1
Toluene-d8 (Surr)	92		78 - 122					05/23/22 16:38	1
Dibromofluoromethane (Surr)	115		73 - 120					05/23/22 16:38	1