

**Environment Testing** 

### **ANALYTICAL REPORT**

### PREPARED FOR

Attn: Kristoffer Hinskey Arcadis U.S., Inc. 28550 Cabot Drive Suite 500 Novi, Michigan 48377 Generated 5/20/2024 12:45:58 PM

### JOB DESCRIPTION

Ford LTP

### **JOB NUMBER**

240-204313-1

Eurofins Cleveland 180 S. Van Buren Avenue Barberton OH 44203





### **Eurofins Cleveland**

### Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

lowo

Generated 5/20/2024 12:45:58 PM

1

5 6 7

Authorized for release by Michael DelMonico, Project Manager I <u>Michael.DelMonico@et.eurofinsus.com</u> (330)497-9396

### **Table of Contents**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Method Summary	6
Sample Summary	7
Detection Summary	8
Client Sample Results	9
Surrogate Summary	11
QC Sample Results	12
QC Association Summary	15
Lab Chronicle	16
Certification Summary	17
Chain of Custody	18

Client: Arcadis U.S., Inc. Project/Site: Ford LTP

### lifi Q

Qualifiers		3
GC/MS VOA		
Qualifier	Qualifier Description	
U	Indicates the analyte was analyzed for but not detected.	
Glossary		5
Abbreviation	These commonly used abbreviations may or may not be present in this report.	6
¤	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	0
CNF	Contains No Free Liquid	0
DER	Duplicate Error Ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	9
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)	13
MDC	Minimum Detectable Concentration (Radiochemistry)	
MDL	Method Detection Limit	
ML	Minimum Level (Dioxin)	
MPN	Most Probable Number	
MQL	Method Quantitation Limit	
NC	Not Calculated	
ND	Not Detected at the reporting limit (or MDL or EDL if shown)	
NEG	Negative / Absent	
POS	Positive / Present	
PQL	Practical Quantitation Limit	
PRES	Presumptive	
QC	Quality Control	
RER	Relative Error Ratio (Radiochemistry)	
RL	Reporting Limit or Requested Limit (Radiochemistry)	
RPD	Relative Percent Difference, a measure of the relative difference between two points	
TEF	Toxicity Equivalent Factor (Dioxin)	
TEQ	Toxicity Equivalent Quotient (Dioxin)	

TNTC Too Numerous To Count

Job ID: 240-204313-1

### Job ID: 240-204313-1

### **Eurofins Cleveland**

### Job Narrative 240-204313-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 5/11/2024 8:00 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 3.2°C and 3.9°C.

### GC/MS VOA

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

5/20/2024

### Client: Arcadis U.S., Inc. Project/Site: Ford LTP

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

### Protocol References:

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

### Laboratory References:

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

Client: Arcadis U.S., Inc. Project/Site: Ford LTP

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-204313-1	TRIP BLANK_116	Water	05/08/24 00:00	05/11/24 08:00
240-204313-2	MW-116S_050824	Water	05/08/24 11:10	05/11/24 08:00

Detection Summary
-------------------

Lab Sample ID: 240-204313-1

Lab Sample ID: 240-204313-2

No Detections.

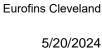
Client: Arcadis U.S., Inc.

Project/Site: Ford LTP

### Client Sample ID: MW-116S\_050824

Client Sample ID: TRIP BLANK\_116

No Detections.



### Client Sample ID: TRIP BLANK\_116

Date Collected: 05/08/24 00:00 Date Received: 05/11/24 08:00

Method: SW846 8260D - Volati	le Organic Comp	ounds by G	C/MS						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/18/24 00:52	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/18/24 00:52	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 00:52	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/18/24 00:52	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 00:52	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/18/24 00:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		62 - 137			-		05/18/24 00:52	1
4-Bromofluorobenzene (Surr)	94		56 _ 136					05/18/24 00:52	1
Toluene-d8 (Surr)	102		78 - 122					05/18/24 00:52	1
Dibromofluoromethane (Surr)	101		73 - 120					05/18/24 00:52	1

Job ID: 240-204313-1

Matrix: Water

Lab Sample ID: 240-204313-1

### Client Sample ID: MW-116S\_050824

Date Collected: 05/08/24 11:10 Date Received: 05/11/24 08:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/15/24 18:42	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	107		68 - 127			-		05/15/24 18:42	1	
Method: SW846 8260D - Volati	le Organic Comp	ounds by G	C/MS							÷
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/18/24 01:15	1	F
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/18/24 01:15	1	
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 01:15	1	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/18/24 01:15	1	
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 01:15	1	
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/18/24 01:15	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	104		62 - 137			-		05/18/24 01:15	1	
4-Bromofluorobenzene (Surr)	96		56 - 136					05/18/24 01:15	1	
Toluene-d8 (Surr)	97		78 - 122					05/18/24 01:15	1	
Dibromofluoromethane (Surr)	101		73 - 120					05/18/24 01:15	1	÷,

5/20/2024

Job ID: 240-204313-1

### Lab Sample ID: 240-204313-2 Matrix: Water

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

### Prep Type: Total/NA Percent Surrogate Recovery (Acceptance Limits) DCA BFB TOL DBFM Client Sample ID (62-137) (56-136) (78-122) (73-120) Lab Sample ID 240-204311-A-2 MSD Matrix Spike Duplicate 97 103 97 98 240-204311-D-2 MS Matrix Spike 96 105 101 94 240-204313-1 TRIP BLANK\_116 106 94 102 101 MW-116S\_050824 240-204313-2 104 96 97 101 LCS 240-613497/4 Lab Control Sample 95 102 102 94 MB 240-613497/7 Method Blank 105 93 100 100 Surrogate Legend DCA = 1,2-Dichloroethane-d4 (Surr) BFB = 4-Bromofluorobenzene (Surr) TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

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

### Matrix: Water

			Percent Surrogate Recovery (Acceptance Limits)	1
		DCA		
Lab Sample ID	Client Sample ID	(68-127)		ł
240-204203-C-1 MS	Matrix Spike	109		
240-204203-C-1 MSD	Matrix Spike Duplicate	111		
240-204313-2	MW-116S_050824	107		
LCS 240-613063/4	Lab Control Sample	103		
MB 240-613063/6	Method Blank	108		

### Surrogate Legend

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

5/20/2024

Prep Type: Total/NA

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

### Lab Sample ID: MB 240-613497/7

### Matrix: Water Analysis Batch: 613497

	MB	МВ							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/17/24 22:57	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/17/24 22:57	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/17/24 22:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/17/24 22:57	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/17/24 22:57	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/17/24 22:57	1

	MB	МВ				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		62 - 137		05/17/24 22:57	1
4-Bromofluorobenzene (Surr)	93		56 - 136		05/17/24 22:57	1
Toluene-d8 (Surr)	100		78 - 122		05/17/24 22:57	1
Dibromofluoromethane (Surr)	100		73 - 120		05/17/24 22:57	1

### Lab Sample ID: LCS 240-613497/4 Matrix: Water Analysis Batch: 613497

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1,1-Dichloroethene	25.0	21.1		ug/L		84	63 - 134	
cis-1,2-Dichloroethene	25.0	23.0		ug/L		92	77 - 123	
Tetrachloroethene	25.0	22.2		ug/L		89	76 - 123	
trans-1,2-Dichloroethene	25.0	20.8		ug/L		83	75 - 124	
Trichloroethene	25.0	21.4		ug/L		86	70 - 122	
Vinyl chloride	12.5	11.2		ug/L		89	60 - 144	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		62 - 137
4-Bromofluorobenzene (Surr)	102		56 - 136
Toluene-d8 (Surr)	102		78 - 122
Dibromofluoromethane (Surr)	94		73 - 120

### Lab Sample ID: 240-204311-A-2 MSD Matrix: Water Analysis Batch: 613497

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,1-Dichloroethene	1.0	U	25.0	21.5		ug/L		86	56 - 135	13	26
cis-1,2-Dichloroethene	1.0	U	25.0	22.8		ug/L		91	66 - 128	7	14
Tetrachloroethene	1.0	U	25.0	19.7		ug/L		79	62 - 131	8	20
trans-1,2-Dichloroethene	1.0	U	25.0	21.2		ug/L		85	56 - 136	13	15
Trichloroethene	1.0	U	25.0	19.5		ug/L		78	61 - 124	10	15
Vinyl chloride	1.0	U	12.5	11.4		ug/L		91	43 - 157	9	24
	MED	MOD									

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		62 - 137
4-Bromofluorobenzene (Surr)	103		56 - 136
Toluene-d8 (Surr)	98		78 - 122

### **Client Sample ID: Lab Control Sample**

**Client Sample ID: Matrix Spike Duplicate** 

Prep Type: Total/NA

**Client Sample ID: Method Blank** 

Job ID: 240-204313-1

Prep Type: Total/NA

### Prep Type: Total/NA

10

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

Lab Sample ID: 240-204311 Matrix: Water	-A-2 MSD							Client S	Sample IE	D: Matrix Spike D Prep Type:	
Analysis Batch: 613497											
	MSD	MSD									
Surrogate	%Recovery			Limits							
Dibromofluoromethane (Surr)	<u>97</u>			73 - 120							
•											
Lab Sample ID: 240-204311	-D-2 MS								Client	Sample ID: Matr	
Matrix: Water										Prep Type:	Total/N
Analysis Batch: 613497											
	Sample	Sam	ple	Spike	MS	MS				%Rec	
Analyte	Result		ifier	Added		Qualifier	Unit	D	%Rec	Limits	
1,1-Dichloroethene	1.0	U		25.0	19.0		ug/L		76	56 - 135	
cis-1,2-Dichloroethene	1.0	U		25.0	21.3		ug/L		85	66 - 128	
Tetrachloroethene	1.0	U		25.0	18.1		ug/L		72	62 - 131	
trans-1,2-Dichloroethene	1.0	U		25.0	18.6		ug/L		74	56 - 136	
Trichloroethene	1.0	U		25.0	17.7		ug/L		71	61 - 124	
Vinyl chloride	1.0	U		12.5	10.4		ug/L		83	43 - 157	
	<b>-</b>	•••									
	MS										
Surrogate	%Recovery	Qual	ifier	Limits							
1,2-Dichloroethane-d4 (Surr)	96			62 - 137							
4-Bromofluorobenzene (Surr)	105			56 - 136							
Toluene-d8 (Surr)	101			78 - 122							
Dibromofluoromethane (Surr)	94			73 - 120							
lethod: 8260D SIM - Vo Lab Sample ID: MB 240-613		: Co	mpoun	ds (GC/MS	5)				Client S	Sample ID: Metho	
ethod: 8260D SIM - Vo Lab Sample ID: MB 240-613 Matrix: Water		: Co	mpoun	ds (GC/MS	5)				Client S	Sample ID: Metho Prep Type:	
lethod: 8260D SIM - Vo Lab Sample ID: MB 240-613 Matrix: Water		к		ds (GC/MS	5)				Client S		
lethod: 8260D SIM - Vo Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063	3063/6	мв			\$) RL	MDL Unit		D	Client S		Total/N
lethod: 8260D SIM - Vo Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte	3063/6	мв	MB Qualifier		-	MDL Unit		D		Prep Type:	Total/N
lethod: 8260D SIM - Vo Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte	3063/6	MB esult 2.0	MB Qualifier U		RL			<u>D</u>		Prep Type: Analyzed	Total/N
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane	8063/6 Re	MB esult 2.0 MB	MB Qualifier U	F 2	RL				Prepared	Analyzed 05/15/24 10:06	Total/N Dil F
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate	8063/6 Re	MB esult 2.0 MB very	MB Qualifier U	F 2 Limits	<u>RL</u>					Analyzed           05/15/24 10:06           Analyzed	Total/N Dil F
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate	8063/6 Re	MB esult 2.0 MB	MB Qualifier U	F 2	<u>RL</u>				Prepared	Analyzed 05/15/24 10:06	Total/N Dil F
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr)	8063/6 	MB esult 2.0 MB very	MB Qualifier U	F 2 Limits	<u>RL</u>				Prepared Prepared	Analyzed           05/15/24 10:06           Analyzed           05/15/24 10:06	Dil F
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-61	8063/6 	MB esult 2.0 MB very	MB Qualifier U	F 2 Limits	<u>RL</u>				Prepared Prepared	Prep Type: <u>Analyzed</u> 05/15/24 10:06 <u>Analyzed</u> 05/15/24 10:06 <b>EID: Lab Control</b>	Total/N    Dil F
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-61 Matrix: Water	8063/6 	MB esult 2.0 MB very	MB Qualifier U	F 2 Limits	<u>RL</u>				Prepared Prepared	Analyzed           05/15/24 10:06           Analyzed           05/15/24 10:06	Total/N    Dil F
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-61 Matrix: Water	8063/6 	MB esult 2.0 MB very	MB Qualifier U	F 2 Limits 68 - 127	RL	0.86 ug/L			Prepared Prepared	Analyzed           05/15/24 10:06           Analyzed           05/15/24 10:06           05/15/24 10:06           05/15/24 10:06           Prep Type:	Total/N    Dil F
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-61 Matrix: Water Analysis Batch: 613063	8063/6 	MB esult 2.0 MB very	MB Qualifier U	F 2 <i>Limits</i> 68 - 127 Spike	RL .0 	0.86 ug/L		Clien	Prepared Prepared	Analyzed           05/15/24 10:06           Analyzed           05/15/24 10:06           05/15/24 10:06           Prep Type:           %Rec	Total/N    Dil F
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-61 Matrix: Water Analysis Batch: 613063 Analyte	8063/6 	MB esult 2.0 MB very	MB Qualifier U	F 2 <i>Limits</i> 68 - 127 Spike Added	LCS Result	0.86 ug/L	Unit		Prepared Prepared It Sample	Analyzed           05/15/24 10:06           Analyzed           05/15/24 10:06           05/15/24 10:06           Prep Type:           %Rec           Limits	Total/N    Dil F
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-61 Matrix: Water Analysis Batch: 613063 Analyte	8063/6 	MB esult 2.0 MB very	MB Qualifier U	F 2 <i>Limits</i> 68 - 127 Spike	RL .0 	0.86 ug/L		Clien	Prepared Prepared	Analyzed           05/15/24 10:06           Analyzed           05/15/24 10:06           05/15/24 10:06           Prep Type:           %Rec	Total/N    Dil F
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-61 Matrix: Water Analysis Batch: 613063 Analyte	8063/6 	MB esult 2.0 MB very 108	MB Qualifier U	F 2 <i>Limits</i> 68 - 127 Spike Added	LCS Result	0.86 ug/L	Unit	Clien	Prepared Prepared It Sample	Analyzed           05/15/24 10:06           Analyzed           05/15/24 10:06           05/15/24 10:06           Prep Type:           %Rec           Limits	Total/N Dil F Dil F
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-61 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane	2063/6 	MB esult 2.0 MB very 108	MB Qualifier U MB Qualifier	F 2 <i>Limits</i> 68 - 127 Spike Added	LCS Result	0.86 ug/L	Unit	Clien	Prepared Prepared It Sample	Analyzed           05/15/24 10:06           Analyzed           05/15/24 10:06           05/15/24 10:06           Prep Type:           %Rec           Limits	Total/N Dil F Dil F
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane <i>Surrogate</i> 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-61 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate	2063/6 	MB esult 2.0 MB very 108	MB Qualifier U MB Qualifier	F 2 <u>Limits</u> 68 - 127  68 - 127  68 - 127  68 - 127	LCS Result	0.86 ug/L	Unit	Clien	Prepared Prepared It Sample	Analyzed           05/15/24 10:06           Analyzed           05/15/24 10:06           05/15/24 10:06           Prep Type:           %Rec           Limits	Total/N Dil F Dil F
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-61 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr)	2063/6 	MB esult 2.0 MB very 108	MB Qualifier U MB Qualifier	F 2 <i>Limits</i> 68 - 127  68 - 127  68 - 127  68 - 127 	LCS Result	0.86 ug/L	Unit	Clien	Prepared Prepared at Sample <u>%Rec</u> 92	Analyzed           05/15/24 10:06           Analyzed           05/15/24 10:06           05/15/24 10:06           e ID: Lab Control           Prep Type:           %Rec           Limits           75 - 121	Total/N  Dil F   Samp Total/N
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-61 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: 240-204203	2063/6 	MB esult 2.0 MB very 108	MB Qualifier U MB Qualifier	F 2 <i>Limits</i> 68 - 127  68 - 127  68 - 127  68 - 127 	LCS Result	0.86 ug/L	Unit	Clien	Prepared Prepared at Sample <u>%Rec</u> 92	Analyzed           05/15/24 10:06           Analyzed           05/15/24 10:06           District Control           Prep Type:           %Rec           Limits           75 - 121	Total/N Dil F Dil F I Samp Total/N 
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-61 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: 240-204203 Matrix: Water	2063/6 	MB esult 2.0 MB very 108	MB Qualifier U MB Qualifier	F 2 <i>Limits</i> 68 - 127  68 - 127  68 - 127  68 - 127 	LCS Result	0.86 ug/L	Unit	Clien	Prepared Prepared at Sample <u>%Rec</u> 92	Analyzed           05/15/24 10:06           Analyzed           05/15/24 10:06           05/15/24 10:06           e ID: Lab Control           Prep Type:           %Rec           Limits           75 - 121	Total/N Dil F Dil F I Samp Total/N 
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane <i>Surrogate</i> 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-61 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane <i>Surrogate</i> 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: 240-204203 Matrix: Water	2063/6 	MB esult 2.0 MB very 108	MB Qualifier U MB Qualifier	F 2 <u>Limits</u> 68 - 127 Spike Added 10.0 Limits 68 - 127	REL .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0	0.86 ug/L LCS Qualifier	Unit	Clien	Prepared Prepared at Sample <u>%Rec</u> 92	Prep Type: Analyzed 05/15/24 10:06 Analyzed 05/15/24 10:06 D: Lab Control Prep Type: %Rec Limits 75 - 121 Sample ID: Matr Prep Type:	Total/N Dil F Dil F I Samp Total/N 
Iethod: 8260D SIM - Vol         Lab Sample ID: MB 240-613         Matrix: Water         Analysis Batch: 613063         Analyte         1,4-Dioxane         Surrogate         1,2-Dichloroethane-d4 (Surr)         Lab Sample ID: LCS 240-61         Matrix: Water         Analysis Batch: 613063         Analyte         1,2-Dichloroethane-d4 (Surr)         Lab Sample ID: LCS 240-61         Matrix: Water         Analysis Batch: 613063         Analyte         1,4-Dioxane         Surrogate         1,2-Dichloroethane-d4 (Surr)         Lab Sample ID: 240-204203         Matrix: Water         Analysis Batch: 613063	2063/6 	MB esult 2.0 MB very 108	MB Qualifier U MB Qualifier	F 2 <i>Limits</i> 68 - 127  68 - 127  68 - 127  68 - 127 	REL .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0	0.86 ug/L	Unit	Clien	Prepared Prepared at Sample <u>%Rec</u> 92	Analyzed           05/15/24 10:06           Analyzed           05/15/24 10:06           District Control           Prep Type:           %Rec           Limits           75 - 121	Total/N Dil Fi Dil Fi I Samp Total/N
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-61 Matrix: Water Analysis Batch: 613063 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: 240-204203 Matrix: Water	2063/6 	MB essult 2.0 MB very 108 LCS Qual	MB Qualifier U <i>MB</i> <i>Qualifier</i>	F 2 <u>Limits</u> 68 - 127 Spike Added 10.0 Limits 68 - 127	LCS Result 9.17	0.86 ug/L LCS Qualifier	Unit	Clien	Prepared Prepared at Sample <u>%Rec</u> 92	Prep Type: Analyzed 05/15/24 10:06 Analyzed 05/15/24 10:06 D: Lab Control Prep Type: %Rec Limits 75 - 121 Sample ID: Matr Prep Type:	Total/N Dil F Dil F I Samp Total/N 

Job ID: 240-204313-1

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

	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	109		68 - 127								
- Lab Sample ID: 240-204203-	C-1 MSD					C	Client Sa	ample IC	): Matrix Sp	oike Dup	olicate
Matrix: Water										ype: To	
Analysis Batch: 613063											
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,4-Dioxane	1.1	J	10.0	10.4		ug/L		93	20 - 180	0	20
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								

8260D

Water

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

### GC/MS VOA Analysis Batch: 613063

240-204311-D-2 MS

Matrix Spike

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-204313-2	MW-116S_050824	Total/NA	Water	8260D SIM	
MB 240-613063/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-613063/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-204203-C-1 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-204203-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	
nalysis Batch: 61349					
	7	Bron Tuno	Moduly	Mothod	Bron Botob
Lab Sample ID	7 Client Sample ID	Prep Type Total/NA	Matrix Water	Method 8260D	Prep Batch
Lab Sample ID 240-204313-1	7	Prep Type Total/NA Total/NA	Matrix Water Water	Method 8260D 8260D	Prep Batch
Lab Sample ID 240-204313-1 240-204313-2	7 Client Sample ID TRIP BLANK_116	Total/NA	Water	8260D	Prep Batch
nalysis Batch: 61349 Lab Sample ID 240-204313-1 240-204313-2 MB 240-613497/7 LCS 240-613497/4	7 Client Sample ID TRIP BLANK_116 MW-116S_050824	Total/NA Total/NA	Water Water	8260D 8260D	Prep Batch

Total/NA

Matrix: Water

### Client Sample ID: TRIP BLANK\_116

Lab	Sample	ID:	240-204	313-1
			Matrix:	Water

### Date Collected: 05/08/24 00:00 Date Received: 05/11/24 08:00

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
lotal/NA	Analysis	8260D			613497	LEE	EET CLE	05/18/24 00:52

### Client Sample ID: MW-116S\_050824 Date Collected: 05/08/24 11:10

Date Received: 05/11/24 08:00

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D		1	613497	LEE	EET CLE	05/18/24 01:15
Total/NA	Analysis	8260D SIM		1	613063	MDH	EET CLE	05/15/24 18:42

### Laboratory References:

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

### Accreditation/Certification Summary

Client: Arcadis U.S., Inc. Project/Site: Ford LTP

### Laboratory: Eurofins Cleveland

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	02-28-25
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	07-31-24
lowa	State	421	06-01-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	06-30-24
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24



### Chain of Custody Record

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

Client Contact	Regulat	ory program:	ſ	DW	N	PDES	T	RCRA	F	Other								
Company Name: Arcadis	Client Project !	Janagar Meis I	linster		Site C	ontact	Christi	na Weavo			Lab	Contar	et: Mik	e DelMa	nico		TestAmerica Laboratories	
Address: 28550 Cabot Drive, Suite 500																		<u>ں</u>
Tity/State/Zip: Novi, MI, 48377	Telephone: 248	-994-2240			Telepl	none: 2-	18-994-2	2240			Tele	phone:	330-49	97-9396			1 of 1 COCs	_
	Email: kristoff	r.hinskey@arc	adis.com		A	nalysis	Furnard	ound Time		-	-			Ana	lyses		For lab use only	
Phone: 248-994-2240	Sampler Name		~		TAT	differ ent	tion below	N I	-								Walk-in client	
roject Name: Ford LTP	Δ	boh	Don	ne	- 10	dav	- 3 v	veeks	-								Lab sampling	
Project Number: 30206169.0401.03	Method of Ship				۳ ۲	uay	F 1.	week		9					N		Tao and mik	
PO # US3410018772	Shipping/Track	ing No:			-		F 20		V/V	irab=	9	8260D					Job/SDG No:	
0 # 000 + 000 + 100	Surpring, Track								mple (V / N)	C/ G	826	E E			826			
				latrix	- ·	ontaine	ts & Pre	servatives	S	Composite=C / Grab=G	1,1-DCE 82600 cis-1,2-DCE 8260D	Irans-1,2-DCE	PCE 8260D	TCE 8260D	vinyl Chiorae 8260D SIM			_
			tons	Solid Other:	H2SO4	IICI IIVO3	NaOH	Unpres Other:	Filtered	odu	-1.2	-su	E 83	E 82	Did Did		Sample Specific Notes / Special Instructions:	
Sample Identification	Sample Date	Sample Time	Air Aque	Off Sal	Ê		NaOI ZaAc	ž i Š	E	ບິ	cis	Ţ	РС	IC	1,4			
TRIP BLANK_ 16			1			1			N	G	x x	X	X	x z	x		1 Trip Blank	•
	1 tool	1111.	1			1		+ +	N	1.	× .,			V	1.1		3 VOAs for 8260D	
MW-1165_050824	05/08/2	11:10	6			6			14	6	$\sqrt{X}$	+ >	X	-7	××		3 VOAs for 8260D SI	мч
		_						+ +	_									
									Ι.,									
	_			_					11111	1111111			HHH					
															II (1999 filt test	_		
								+ +	111		313 Ch	nain o	fCus	stody		-		
									240	3-204				· · r	" [ T ]			A 1
									·	ΓĹ		1					MICHIU	
											_	-			_		190	
																	170	
Possible Hazard Identification		1			Sar	nple Di	sposal (	A fee may	be assess	ed if sa	mples ai	re retai	ned lor	nger that	n 1 month)		<b>I</b>	_
✓ Non-Hazard	1		Jaknowa	11 .	- <u>_</u>	Retu	irn to Cl	ient F	Dispos	sal By L	ab		wchive	For 1	Months			
5.	-1851	note	sivor	Thi	20	A	You	0	SU									
Submit all results through Cadena at jtomalia@cadenacc Level IV Reporting requested.	.com. Cadena #E	203728					L											
Relinquished by: 1	Company:	5.0	Date/	lime: 1	-/		Receive	ed by:	r (					Compan	v: <b>f</b> .		Date/Fime: /	_
Noah Dounte	Arco	215	Date	08/24	11	1:00	N	6.A	cold	5	1010	-ge	•	Ar	rods		05/08/24/17-	3
Relinquished by	Company:	- 17		ime:			Receive	ed by:	011	12	is Ne	n		Company	*TTT 1		5/10/z4 090	ת
And when	TVL	aaus			090	NO _	×.	ya	C V	VU	L	1		E	DIA			_
Relinquested by	Company:		Date: 17	ime: 10/2A			Dunain	ed in Lo	mators h.					Comme			Date/Time: 5-11-24 80	

State Tendatine un contraction (Fr.) All II pro-reserved Tendational & Decign <sup>14</sup> are incontracted of Deciational Laboratories, Inc.

Sample(s)
PLE PRESERVATION
19       SAMPLE CONDITION         Sample(s)
18 CHAIN OF CUSTODY & SAMPLE DISCREPANCIES
Concerning
Contacted PM Date byvia Verbal Voice Mail Other
<ul> <li>13 Were all preserved sample(s) at the correct pH upon receipt?</li> <li>14. Were VOAs on the COC?</li> <li>15 Were air bubbles &gt;6 mm m any VOA vials?</li> <li>16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # COV CVC Yo No</li> <li>17 Was a LL Hg or Mo Hg trip blank present?</li> </ul>
Are these Work share samples and all listed on the COC? If yes, Questions 13–17 have been checked at the onginating laboratory
), # of containers (VI)), and an
Was/were the person(s) who collected the samples clearly identified on the COC? Te Did all bottles arrive in good condition (Unbroken)?
. Did custody papers accompany the sample(s)? Were the custody papers relinquished & signed in the appropriate place? Yet No
Were tamper/custody seals on the bottle(s) or bottle kdts (LLHg/McHg)? Yes (G Receiving: Acceiving: ) Were tamper/custody seals intact and uncompromised? Con No NA 3 Shimers' nacking slip attached to the cooler(s)?
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity (Cuch Yes No Were the seals on the outside of the cooler(s) signed & dated? Yes No NA checked for pH by
IR GUN # (CFO°C) Observed Cooler Temp°C Corrected Cooler Temp°C
Blue Ice Dry Ice Water
Buildle Wron Box Chent Cooler Box Offic
xp UPS FAS Waypourt Chent Drop Off Burofins Counter Other
Chent Hrcadi S. 11-24 Opened on S-11-74 Cooler Unpacked by: Cooler Received on S-11-24 Opened on S-11-74 TAMMY ROYER

curs	□ See Ten				
Ē			IR GUN #:	Client Box Other	EC
(D			IR GUN #:	Client Box Other	EC
ō				Client Box Olher	EC
ើ			IR GUN #:	Client Box Other	Ē
8			IR GUN #:	Client Box Other	EC
0			IR GUN #:	Client Box Other	EC
Wet Ice Blue Ice Dry Ice Water None			JR GUN #:	Client Box Other	EC
ិ			IR GUN #:	Client Box Olher	Ē
լ այ			IR GUN #:	Client Box Olher	EC
Wet Ice Blue Ice Dry Ice Waler None			IR GUN #	Client Box Other	EC
10			IR GUN #:	Client Box Other	EC
6			IR GUN #:	Client Box Other	EC
ĕ			IR GUN #:	Clieni Box Olher	EC
6			IR GUN #:	Client Box Other	ĒĊ
ñ			IR GUN #:	Client Box Other	EC
ē				Client Box Other	EC
Blue Iater			IR GUN #:	Client Box Olher	ĒĊ
6			IR GUN #:	Client Box Other	Ē
- Fe			IR GUN #:	Client Box Other	ĒĊ
6			IR GUN #:	Client Box Other	EC
- Ve			IR GUN #:	Client Box Other	Ē
6			IR GUN #:	Client Box Other	EC
õ			IR GUN #:	Client Box Ofher	Ē
ត			IR GUN #:	Client Box Other	EC
ē			IR GUN #:	Client Box Other	EC
ក៍			IR GUN #:	Client Box Olher	EC
Je l			IR GUN #:	Client Box Other	EC
Wet Ice Blue Ice Dry Ice Water None			IR GUN #:	Client Box Other	Ē
Wet Ice Blue Ice Dry Ice Water None			IR GUN #:	Client Box Other	EC
Wet Ice Blue Ice Dry Ice Water None			IR GUN #:	Client Box Olher	EC
Wef Ice Blue Ice Dry Ice Water None			IR GUN #:	Client Box Other	Ē
Wet Ice Blue Ice Dry Ice Water None			1R GUN #: / /	Client Box Olher	ĒĊ
Wretite Blue Ice Dry Ice Water None	ي بې	ى بۇ		Client Box Other	Ć¢.
Wet/ce Blue Ice Dry Ice Water None	P.E.	L'E		Client Box Other	
Coolant (Circle)	Corrected Temp °C_	Observed Temp °C	IR Gun # (Circle)	Cooler Description	$\mathcal{D}_{o}$
	lltiple Gööler Förm	Eurofins #Cleveland Sample Receipt Multiple Cooler Form	Eurofins - Clevelan		

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

Login #

# 14

## Login Container Summary Report

### Temperature readings

5/11/2024

MW-116S_050824	MW 116S_050824	MW-116S_050824	MW-116S_050824	MW-1165_050824	MW-116S_050824	TRIP BLANK_116	<u>Client Sample ID</u>
240-204313-F-2	240-204313-E-2	240-204313-D-2	240-204313-C-2	240-204313-B-2	240-204313-A-2	240-2043 i 3-A-1	Lab ID
Voa Vial 40ml - Hydrochloric Acid	Voa Vial 40mi - Hydrochloric Acid	Voa Vial 40ml - Hydrochloric Acıd	Voa Vial 40ml - Hydrochloric Acid	Voa Vial 40ml - Hydrochloric Acid	Voa Vial 40ml - Hydrochloric Acid	Voa Vial 40ml - Hydrochloric Acıd	<u>Container Type</u>
							Container Preservation Preservation pH Temp Added Lot Number

### **DATA VERIFICATION REPORT**



May 20, 2024

Megan Meckley Arcadis 28550 Cabot Drive Suite 500 Novi, MI US 48377

CADENA project ID: E203728 Project: Ford Livonia Transmission Plant - Soil Gas, Ground Water and Soil Project number: 30206169.401.03 Event Specific Scope of Work References: Sample COC Laboratory: Eurofins Environment Testing LLC - Cleveland Laboratory submittal: 204313-1 Sample date: 2024-05-08 Report received by CADENA: 2024-05-20 Initial Data Verification completed by CADENA: 2024-05-20 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.
IJ	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: E203728

Laboratory: Eurofins Environment Testing LLC - Cleveland Laboratory Submittal: 204313-1

	Sample Name Lab Sample ID Sample Date:	: 2402043	8131			MW-116 2402043 5/8/2024	132	4	
۸.	naluta Cas Na	Docult	Report	Unito	Valid Qualifiar	Docult	Report	Unito	Valid Qualifiar
Ar	nalyte Cas No.	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC									
<u>OSW-8260D</u>									
1,1-Dichloro	ethene 75-35-4	ND	1.0	ug/l		ND	1.0	ug/l	
cis-1,2-Dichl	loroethene 156-59-2	ND	1.0	ug/l		ND	1.0	ug/l	
Tetrachloroe	ethene 127-18-4	ND	1.0	ug/l		ND	1.0	ug/l	
trans-1,2-Dic	chloroethene 156-60-5	ND	1.0	ug/l		ND	1.0	ug/l	
Trichloroethe	ene 79-01-6	ND	1.0	ug/l		ND	1.0	ug/l	
Vinyl chloride	e 75-01-4	ND	1.0	ug/l		ND	1.0	ug/l	
<u>OSW-8260DSIM</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 # 240-204313-1 CADENA Verification Report: 2024-05-20

Analyses Performed By: Eurofins Cleveland Barberton, Ohio

Report # 54264R Review Level: Tier III Project: 30206169.401.02

### **SUMMARY**

This data quality assessment summarizes the review of Sample Delivery Group (SDG) # 240-204313-1 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 ID	Lab ID	Matrix	Sample	Barant Sampla	Analysis		
Sample ID		Matrix	Collection Date	Parent Sample	VOC	VOC SIM	
TRIP BLANK_116	240-204313-1	Water	05/08/2024		Х		
MW-116S_050824	240-204313-2	Water	05/08/2024		Х	Х	

### DATA REVIEW

### ANALYTICAL DATA PACKAGE DOCUMENTATION

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

	Items Reviewed	Rep	orted		mance otable	Not Required
		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		X	
5.	Reporting limits		Х		Х	
6.	Sample collection date		Х		Х	
7.	Laboratory sample received date		Х		X	
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 HCI

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 continuing 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.

### DATA REVIEW

### 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 REVIEW

### 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		Х		
Tier III Validation		1			1	
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		
Ion 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:	Bindu Sree M B
SIGNATURE:	BASK_MB
DATE:	June 10, 2024

PEER REVIEW: Andrew Korycinski

DATE: June 13, 2024

### 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	ory program:		DW	Ē	NPDES	- F	RCRA		ા ગા	er 🗌								
ompany Name: Arcadis	Client Project M	Innoner Keis	Hinday		Site	Contact	· Christi	na Weav	or			L ah C	`ontact	: Mike I	elMon	ico		TestAm COC No	erica Laboratories, Inc.
ddress: 28550 Cabot Drive, Suite 500			muskey																- 3
ity/State/Zip: Novi, MI, 48377	Telephone: 248	-994-2240			Tele	phone:	248-994-	2240				Telep	hone: 3	30-497-9	9396			1	of 1 COCs
	Email: kristoffe	er.hinskey@ar	cadis.com			Analysis	Turnar	ound Tim	nc .		F	T T			Analy	/ses		For lab us	se only
hone: 248-994-2240	Sampler Name:		<u> </u>		TAT	f if differen	t tions belo	w										Walk-in o	lient
oject Name: Ford LTP	<u>۸</u>	look	Dou	me		l0 day		weeks										Lab samp	ling
oject Number: 30206169.0401.03	Method of Ship	-	/		1	ie day		week		29			0			SIM			
) # US3410018772	Shipping/Track	ting No:			-		E 10			ample (V / N) e=C / Grab=C		60D	826(		8260D	8260D SIM		Job/SDG	No:
				Matrix		Contain	iers & Pre	eservatives		ampl	260[	E 82	DCE	0 0	ride	1e 82			
Sample Identification	Sample Date	Sample Time	Air Aqueous	Sediment Solid Other:	H2SO4	HCI	NaOH ZaAc'	Unpres Other:		Filtered Sample (Y / N) Composite=C / Grab=G	1,1-DCE 8260D	cis-1,2-DCE 8260D	Irans-1,2-DCE 8260D	PCE 8260D	Vinyl Chloride	1,4-Dioxane			mple Specific Notes / pecial Instructions:
			1		Ť	1				NG	X	X		x x	-			1 Tr	ip Blank
TRIP BLANK_ 116 MW-1165_050874	05/08/24	11:10	6			6	,			NG	X	X	X	XY	4 >				As for 8260D As for 8260D SIM
100 - [10] = 0.500 - (		11110	Ŭ		-		/ 		_				-	<u> </u>	ŕ	ŕ			
							++-									-			
		4													1	+			
										, ,			111 111						
							+		1	1111	+++		H						
							++	++	.								<b>   </b>		
														Custo	dy				
										240-2	0431	3 Cha	ain oi	-			r*1 [		
							+++				1					+			CHIGA
																		IAL	100
																			150
Possible Hazard Identification	I				-			A fee ma				les are							
Non-Hazard Tammable in fritant ecial Instructions/QC Requirements & Comments:	Poise	F	Jnknowr	11		Re	turn to Cl	lient		isposal E	By Lab		Ar	chive Fo	1	N	lonths		
bmit all results through Cadena at jtomalia@cadenaco.c	851 om. Cadena #E	203728	500	Th	5	20	-ya-		Q										
inquished by: Noah Dointe	Company: Arw,	15	Date	Time: 12	$\frac{1}{1}$	7:0	Receiv	ed by:	6	12	Sto	, ro-	ge	Co		o	15	Date Tin	\$/24/17:00
slinquished by San Sand	Company:			17im	09		Receiv	ed by:	D	IM	han	APA	1	Co	mp:opy;	FT.	4	Date/Tim 5/10	1z4 0900
	Company:		Date 5		~ ~ ~			ed in L	A	V V V		<u> ~ ~ ~</u>			-	/			11-24 800

92010 TestAmerica Universities, Inc. All typis reserved. TestAmerica & Design <sup>14</sup> are trademarks of TestAmerica Laboratories, inc.

### Client Sample ID: TRIP BLANK\_116

### Date Collected: 05/08/24 00:00

Date Received: 05/11/24 08:00

Method: SW846 8260D - Volati	ile Organic Comp	ounds by G	C/MS						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/18/24 00:52	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/18/24 00:52	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 00:52	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/18/24 00:52	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 00:52	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/18/24 00:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		62 - 137			-		05/18/24 00:52	1
4-Bromofluorobenzene (Surr)	94		56 - 136					05/18/24 00:52	1
Toluene-d8 (Surr)	102		78 - 122					05/18/24 00:52	1
Dibromofluoromethane (Surr)	101		73 - 120					05/18/24 00:52	1

### Client Sample ID: MW-116S\_050824

### Date Collected: 05/08/24 11:10

Date Received: 05/11/24 08:00

Dibromofluoromethane (Surr)

Method: SW846 8260D SIM - V	/olatile Organic C	ompounds	(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			05/15/24 18:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		68 - 127			=		05/15/24 18:42	1

### Method: SW846 8260D - Volatile Organic Compounds by GC/MS

101

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/18/24 01:15	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/18/24 01:15	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 01:15	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/18/24 01:15	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 01:15	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/18/24 01:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		62 - 137			-		05/18/24 01:15	1
4-Bromofluorobenzene (Surr)	96		56 - 136					05/18/24 01:15	1
Toluene-d8 (Surr)	97		78 - 122					05/18/24 01:15	1

73 - 120

Lab Sample ID: 240-204313-2

Matrix: Water

Job ID: 240-204313-1

05/18/24 01:15



**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Kristoffer Hinskey Arcadis U.S., Inc. 28550 Cabot Drive Suite 500 Novi, Michigan 48377 Generated 5/21/2024 7:48:38 AM

## JOB DESCRIPTION

Ford LTP

## **JOB NUMBER**

240-204322-1

Eurofins Cleveland 180 S. Van Buren Avenue Barberton OH 44203





## **Eurofins Cleveland**

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Mouro

Generated 5/21/2024 7:48:38 AM 1

5 6 7

> 12 13

Authorized for release by Michael DelMonico, Project Manager I Michael.DelMonico@et.eurofinsus.com (330)497-9396

Page 2 of 21

# **Table of Contents**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Method Summary	6
Sample Summary	7
Detection Summary	8
Client Sample Results	9
Surrogate Summary	11
QC Sample Results	12
QC Association Summary	15
Lab Chronicle	16
Certification Summary	17
Chain of Custody	18

Client: Arcadis U.S., Inc. Project/Site: Ford LTP

## Qualifiers

Qualifiers		 3
GC/MS VOA Qualifier	Qualifier Description	4
U	Indicates the analyte was analyzed for but not detected.	
Glossary		 5
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	0
CNF	Contains No Free Liquid	8
DER	Duplicate Error Ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	9
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)	13
MDC	Minimum Detectable Concentration (Radiochemistry)	
MDL	Method Detection Limit	
ML	Minimum Level (Dioxin)	
MPN	Most Probable Number	
MQL	Method Quantitation Limit	
NC	Not Calculated	
ND	Not Detected at the reporting limit (or MDL or EDL if shown)	
NEG	Negative / Absent	
POS	Positive / Present	
PQL	Practical Quantitation Limit	
PRES	Presumptive	
QC	Quality Control	
RER	Relative Error Ratio (Radiochemistry)	
RL	Reporting Limit or Requested Limit (Radiochemistry)	
RPD	Relative Percent Difference, a measure of the relative difference between two points	
TEF	Toxicity Equivalent Factor (Dioxin)	
TEQ	Toxicity Equivalent Quotient (Dioxin)	
TNTC	Too Numerous To Count	

Job ID: 240-204322-1

#### Job ID: 240-204322-1

#### **Eurofins Cleveland**

## Job Narrative 240-204322-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

#### Receipt

The samples were received on 5/11/2024 8:00 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 3.2°C and 3.9°C.

#### GC/MS VOA

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

**Eurofins Cleveland** 

#### Client: Arcadis U.S., Inc. Project/Site: Ford LTP

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

#### Protocol References:

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

#### Laboratory References:

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

Client: Arcadis U.S., Inc. Project/Site: Ford LTP

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-204322-1	TRIP BLANK_40	Water	05/08/24 00:00	05/11/24 08:00
240-204322-2	MW-216S_050824	Water	05/08/24 12:42	05/11/24 08:00

#### Lab Sample ID: 240-204322-1

Lab Sample ID: 240-204322-2

No Detections.

Client: Arcadis U.S., Inc.

Project/Site: Ford LTP

#### Client Sample ID: MW-216S\_050824

This Detection Summary does not include radiochemical test results.

Client Sample ID: TRIP BLANK\_40

No Detections.

**Eurofins Cleveland** 

5/21/2024

Client: Arcadis U.S., Inc. Project/Site: Ford LTP

#### Client Sample ID: TRIP BLANK\_40

Date Collected: 05/08/24 00:00 Date Received: 05/11/24 08:00

Method: SW846 8260D - Volati	le Organic Comp	ounds by G	C/MS						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/18/24 19:59	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/18/24 19:59	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 19:59	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/18/24 19:59	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 19:59	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/18/24 19:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		62 - 137			-		05/18/24 19:59	1
4-Bromofluorobenzene (Surr)	98		56 - 136					05/18/24 19:59	1
Toluene-d8 (Surr)	98		78 - 122					05/18/24 19:59	1
Dibromofluoromethane (Surr)	94		73 - 120					05/18/24 19:59	1

5 **8** 9

#### Job ID: 240-204322-1

Matrix: Water

Lab Sample ID: 240-204322-1

#### Client Sample ID: MW-216S\_050824

Date Collected: 05/08/24 12:42 Date Received: 05/11/24 08:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
I,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/16/24 23:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		68 - 127			-		05/16/24 23:14	1
Method: SW846 8260D - Volati	le Organic Comp	ounds by G	C/MS						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/18/24 20:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/18/24 20:23	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 20:23	1
rans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/18/24 20:23	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 20:23	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/18/24 20:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		62 - 137			-		05/18/24 20:23	1
4-Bromofluorobenzene (Surr)	97		56 - 136					05/18/24 20:23	1
Toluene-d8 (Surr)	98		78 - 122					05/18/24 20:23	1
Dibromofluoromethane (Surr)	92		73 - 120					05/18/24 20:23	1

5/21/2024

#### Lab Sample ID: 240-204322-2 Matrix: Water

**ater** Il Fac

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

#### Percent Surrogate Recovery (Acceptance Limits) DCA BFB TOL DBFM Lab Sample ID **Client Sample ID** (62-137) (56-136) (78-122) (73-120) TRIP BLANK\_40 240-204322-1 99 98 98 94 240-204322-2 MW-216S\_050824 98 97 98 92 240-204404-A-4 MSD Matrix Spike Duplicate 95 97 97 95 96 240-204404-B-4 MS Matrix Spike 96 97 99 LCS 240-613537/6 Lab Control Sample 95 98 99 97 MB 240-613537/10 Method Blank 99 100 98 95 Surrogate Legend DCA = 1,2-Dichloroethane-d4 (Surr) BFB = 4-Bromofluorobenzene (Surr) TOL = Toluene-d8 (Surr) DBFM = Dibromofluoromethane (Surr)

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

#### Matrix: Water

			Percent Surrogate Recovery (Acceptance Limits)	÷,
		DCA		
Lab Sample ID	Client Sample ID	(68-127)		ŝ
240-204316-C-2 MS	Matrix Spike	102		
240-204316-C-2 MSD	Matrix Spike Duplicate	101		
240-204322-2	MW-216S_050824	108		
LCS 240-613351/4	Lab Control Sample	98		
MB 240-613351/6	Method Blank	100		

#### Surrogate Legend

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

5/21/2024

Prep Type: Total/NA

Prep Type: Total/NA

5 9

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

#### Lab Sample ID: MB 240-613537/10

#### Matrix: Water Analysis Batch: 613537

	MB	МВ							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/18/24 12:49	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/18/24 12:49	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 12:49	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/18/24 12:49	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 12:49	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/18/24 12:49	1

	MB	МВ				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		62 - 137		05/18/24 12:49	1
4-Bromofluorobenzene (Surr)	98		56 - 136		05/18/24 12:49	1
Toluene-d8 (Surr)	99		78 - 122		05/18/24 12:49	1
Dibromofluoromethane (Surr)	95		73 - 120		05/18/24 12:49	1

#### Lab Sample ID: LCS 240-613537/6 Matrix: Water Analysis Batch: 613537

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1,1-Dichloroethene	20.0	21.3		ug/L		107	63 - 134	
cis-1,2-Dichloroethene	20.0	21.1		ug/L		105	77 - 123	
Tetrachloroethene	20.0	21.3		ug/L		107	76 - 123	
trans-1,2-Dichloroethene	20.0	20.3		ug/L		101	75 - 124	
Trichloroethene	20.0	20.8		ug/L		104	70 - 122	
Vinyl chloride	20.0	19.2		ug/L		96	60 - 144	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		62 - 137
4-Bromofluorobenzene (Surr)	98		56 - 136
Toluene-d8 (Surr)	99		78 - 122
Dibromofluoromethane (Surr)	97		73 - 120

#### Lab Sample ID: 240-204404-A-4 MSD Matrix: Water Analysis Batch: 613537

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,1-Dichloroethene	1.0	U	20.0	19.2		ug/L		96	56 - 135	4	26
cis-1,2-Dichloroethene	1.0	U	20.0	18.8		ug/L		94	66 - 128	4	14
Tetrachloroethene	1.0	U	20.0	18.2		ug/L		91	62 - 131	6	20
trans-1,2-Dichloroethene	1.0	U	20.0	18.4		ug/L		92	56 - 136	4	15
Trichloroethene	1.0	U	20.0	18.4		ug/L		92	61 - 124	5	15
Vinyl chloride	1.0	U	20.0	18.2		ug/L		91	43 - 157	14	24

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		62 - 137
4-Bromofluorobenzene (Surr)	97		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

**Eurofins Cleveland** 

Job ID: 240-204322-1

10

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

Lab Sample ID: 240-204404- Matrix: Water	A-4 MSD								Client	Sa	mple ID	: Matrix Spike Prep Typ	
Analysis Batch: 613537													
	MSD I	MSD											
Surrogate	%Recovery	Qualifi	er	Limits									
Dibromofluoromethane (Surr)	95			73 - 120									
	D 4 100										Olivert		atala Oati
Lab Sample ID: 240-204404- Matrix: Water	·B-4 IVIS										Client	Sample ID: M Prep Typ	
Analysis Batch: 613537												гер тур	e. Iotai/r
Analysis Batch. 010007	Sample S	Sample	e	Spike	MS	MS						%Rec	
Analyte	Result (	•		Added	Result		fier	Unit		D	%Rec	Limits	
1,1-Dichloroethene	1.0			20.0	20.0			ug/L			100	56 - 135	
cis-1,2-Dichloroethene	1.0 l			20.0	19.5			ug/L			97	66 - 128	
Tetrachloroethene	1.0 l			20.0	19.5			ug/L			97	62 - 131	
trans-1,2-Dichloroethene	1.0 l			20.0	19.1			ug/L			95	56 - 136	
Trichloroethene	1.0 U			20.0	19.1			ug/L			95 96	61 - 124	
Vinyl chloride	1.0 U			20.0	21.0			ug/L ug/L			90 105	61 - 124 43 - 157	
	1.0 (	0		20.0	21.0			uy/L			105	+J = 1J/	
	MS I	MS											
Surrogate	%Recovery	Qualifi	er	Limits									
1,2-Dichloroethane-d4 (Surr)	96			62 - 137									
4-Bromofluorobenzene (Surr)	97			56 - 136									
Toluene-d8 (Surr)	99			78 - 122									
				73 - 120									
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613		Com	npoun	ds (GC/MS	)					(	Client S	ample ID: Me	
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water	atile Organic	Com	npoun	ds (GC/MS	)					(	Client S	ample ID: Me Prep Typ	
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613351	atile Organic 351/6	MB M	18									Ргер Тур	e: Total/N
lethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613351 Analyte	atile Organic 351/6 Res	MB M sult Q	1B Qualifier	R	<u> </u>	MDL			D		Client S	Prep Typ Analyzed	e: Total/N
Method: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613351 Analyte	atile Organic 351/6 Res	MB M	1B Qualifier		<u> </u>	<b>MDL</b> 0.86			_ <u>D</u>			Ргер Тур	e: Total/N
Dibromofluoromethane (Surr) Method: 8260D SIM - Vol Lab Sample ID: MB 240-6133 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane	atile Organic 351/6 	MB M sult Q	1B Qualifier	R	<u> </u>				<u>D</u>			Prep Typ Analyzed	e: Total/N
Method: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613351 Analyte	atile Organic 351/6 	MB M sult Q 2.0 U MB M	1B Qualifier	R	<u> </u>				_ D	Pro		Prep Typ Analyzed	e: Total/N
Aethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane	atile Organic 351/6 Res %Recov	MB M sult Q 2.0 U MB M	1B Qualifier	R	<u> </u>				<u> </u>	Pro	epared	Prep Typ Analyzed 05/16/24 18:5	e: Total/N  56   
Method: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane Surrogate	atile Organic 351/6 Res %Recov	MB M sult Q 2.0 U MB M rery Q	1B Qualifier	R 2. Limits	<u> </u>				_ <u>D</u>	Pro	epared	Analyzed 05/16/24 18:	e: Total/N  56   
Method: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr)	atile Organic 351/6 Res %Recov	MB M sult Q 2.0 U MB M rery Q	1B Qualifier	R 2. Limits	<u> </u>					Pro Pro	epared	Prep Typ <u>Analyzed</u> 05/16/24 18: <u>Analyzed</u> 05/16/24 18: ID: Lab Cont	e: Total/N <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> rol Samp
Method: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-613	atile Organic 351/6 Res %Recov	MB M sult Q 2.0 U MB M rery Q	1B Qualifier	R 2. Limits	<u> </u>					Pro Pro	epared	Prep Typ <u>Analyzed</u> 05/16/24 18: <u>Analyzed</u> 05/16/24 18:	e: Total/N <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> rol Samp
Aethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane	atile Organic 351/6 Res %Recov	MB M sult Q 2.0 U MB M rery Q	1B Qualifier	R 2. Limits	<u> </u>					Pro Pro	epared	Prep Typ <u>Analyzed</u> 05/16/24 18: <u>Analyzed</u> 05/16/24 18: ID: Lab Cont	e: Total/N <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> rol Samp
Aethod: 8260D SIM - Vol Lab Sample ID: MB 240-6133 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-613 Matrix: Water	atile Organic 351/6 Res %Recov	MB M sult Q 2.0 U MB M rery Q	1B Qualifier	R 2. Limits	L 0 					Pro Pro	epared	Prep Typ <u>Analyzed</u> 05/16/24 18: <u>Analyzed</u> 05/16/24 18: ID: Lab Cont	e: Total/N <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> rol Samp
Aethod: 8260D SIM - Vol Lab Sample ID: MB 240-6133 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-613 Matrix: Water	atile Organic 351/6 Res %Recov	MB M sult Q 2.0 U MB M rery Q	1B Qualifier	R 2 Limits 68 - 127	L 0 	0.86	ug/L	Unit	Clie	Pro Pro	epared	Prep Typ <u>Analyzed</u> 05/16/24 18: <u>Analyzed</u> 05/16/24 18: 1D: Lab Cont Prep Typ	e: Total/N <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> rol Samp
Aethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-613 Matrix: Water Analysis Batch: 613351	atile Organic 351/6 Res %Recov	MB M sult Q 2.0 U MB M rery Q	1B Qualifier	R 2 	L 0 LCS	0.86	ug/L	Unit ug/L	Clie	Pre Pre	epared epared Sample	Prep Typ Analyzed 05/16/24 18: 05/16/24 18: 05/16/24 18: ID: Lab Cont Prep Typ %Rec	e: Total/N <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> rol Samp
Aethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-613 Matrix: Water Analysis Batch: 613351 Analyte	atile Organic 351/6 Res %Recov	MB M sult Q 2.0 U MB M rery Q 100	1B Qualifier	R 2 <u>Limits</u> 68 - 127 Spike 	L 0 LCS Result	0.86	ug/L		Clie	Pre Pre	epared epared Sample	Prep Typ Analyzed 05/16/24 18: Analyzed 05/16/24 18: ID: Lab Cont Prep Typ %Rec Limits	e: Total/N <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> rol Samp
Aethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-61 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane	atile Organic 351/6 	MB M sult Q 2.0 U MB M rery Q 100	IB Qualifier	R 2. <u>Limits</u> 68 - 127 68 - 127 	L 0 LCS Result	0.86	ug/L		Clie	Pre Pre	epared epared Sample	Prep Typ Analyzed 05/16/24 18: Analyzed 05/16/24 18: ID: Lab Cont Prep Typ %Rec Limits	e: Total/N <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> rol Samp
Aethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane <i>Surrogate</i> 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane <i>Surrogate</i>	atile Organic 351/6 Res %Recov 3351/4 LCS L %Recovery	MB M sult Q 2.0 U MB M rery Q 100	IB Qualifier	R 2. Limits 68 - 127 68 - 127 68 - 127 10.0 10.0 Limits	L 0 LCS Result	0.86	ug/L		Clie	Pre Pre	epared epared Sample	Prep Typ Analyzed 05/16/24 18: Analyzed 05/16/24 18: ID: Lab Cont Prep Typ %Rec Limits	e: Total/N <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> rol Samp
Aethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-61 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane	atile Organic 351/6 	MB M sult Q 2.0 U MB M rery Q 100	IB Qualifier	R 2. <u>Limits</u> 68 - 127 68 - 127 	L 0 LCS Result	0.86	ug/L		Clie	Pre Pre	epared epared Sample	Prep Typ Analyzed 05/16/24 18: Analyzed 05/16/24 18: ID: Lab Cont Prep Typ %Rec Limits	e: Total/N <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> <u>Dil F</u> rol Samp
Aethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane <i>Surrogate</i> 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane <i>Surrogate</i> 1,2-Dichloroethane-d4 (Surr)	atile Organic 351/6 	MB M sult Q 2.0 U MB M rery Q 100	IB Qualifier	R 2. Limits 68 - 127 68 - 127 68 - 127 10.0 10.0 Limits	L 0 LCS Result	0.86	ug/L		Clie	Pre Pre	epared Sample	Analyzed           05/16/24 18:3           Analyzed           05/16/24 18:3           ID: Lab Cont           Prep Typ           %Rec           Limits           75 - 121	e: Total/N Dil F  <i>Dil F</i>  rol Samp e: Total/N
Aethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: 240-204316-	atile Organic 351/6 	MB M sult Q 2.0 U MB M rery Q 100	IB Qualifier	R 2. Limits 68 - 127 68 - 127 68 - 127 10.0 10.0 Limits	L 0 LCS Result	0.86	ug/L		Clie	Pre Pre	epared Sample	Analyzed           05/16/24 18:           Analyzed           05/16/24 18:           ID: Lab Cont           Prep Typ           %Rec           Limits           75 - 121           Sample ID: M	e: Total/N   _
Aethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane <i>Surrogate</i> 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-61 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane <i>Surrogate</i> 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: 240-204316- Matrix: Water	atile Organic 351/6 	MB M sult Q 2.0 U MB M rery Q 100	IB Qualifier	R 2. Limits 68 - 127 68 - 127 68 - 127 10.0 10.0 Limits	L 0 LCS Result	0.86	ug/L		Clie	Pre Pre	epared Sample	Analyzed           05/16/24 18:3           Analyzed           05/16/24 18:3           ID: Lab Cont           Prep Typ           %Rec           Limits           75 - 121	e: Total/N   _
Aethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane Surrogate 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: 240-204316-	atile Organic 351/6 	MB M sult Q 2.0 U MB M rery Q 100	IB Qualifier IB Qualifier	R 2. 	LCS Result 10.0	0.86 LCS Quali	ug/L		Clie	Pre Pre	epared Sample	Prep Typ Analyzed 05/16/24 18:3 <i>Analyzed</i> 05/16/24 18:3 ID: Lab Contemporation Prep Typ %Rec Limits 75 - 121 Sample ID: M Prep Typ	e: Total/N   _
Aethod: 8260D SIM - Vol Lab Sample ID: MB 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane <i>Surrogate</i> 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: LCS 240-613 Matrix: Water Analysis Batch: 613351 Analyte 1,4-Dioxane <i>Surrogate</i> 1,2-Dichloroethane-d4 (Surr) Lab Sample ID: 240-204316- Matrix: Water	atile Organic 351/6 	MB M sult Q 2.0 U MB M rery Q 100	IB Qualifier IB Qualifier	R 2. Limits 68 - 127 68 - 127 68 - 127 10.0 10.0 Limits	LCS Result 10.0	0.86 LCS Quali	fier		Clie	Pre Pre	epared Sample	Analyzed           05/16/24 18:           Analyzed           05/16/24 18:           05/16/24 18:           ID: Lab Cont           Prep Typ           %Rec           Limits           75 - 121           Sample ID: M	e: Total/N   _

**Eurofins Cleveland** 

Job ID: 240-204322-1

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

	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	102		68 - 127								
- Lab Sample ID: 240-204316-	C-2 MSD					(	Client Sa	ample IC	): Matrix Sp	oike Dup	olicate
Matrix: Water								-	Prep T	ype: To	tal/NA
Analysis Batch: 613351											
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,4-Dioxane	2.0	U	10.0	10.2		ug/L		102	20 - 180	3	20
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	101		68 - 127								

**Eurofins Cleveland** 

#### **GC/MS VOA**

#### Analysis Batch: 613351

240-204404-A-4 MSD

240-204404-B-4 MS

Matrix Spike Duplicate

Matrix Spike

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-204322-2	MW-216S_050824	Total/NA	Water	8260D SIM	
MB 240-613351/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-613351/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-204316-C-2 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-204316-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	
nalvsis Batch: 61353	7				
n <mark>alysis Batch: 61353</mark> Lab Sample ID	7 Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
Lab Sample ID		Prep Type Total/NA	Matrix Water	Method 8260D	Prep Batch
Lab Sample ID 240-204322-1	Client Sample ID				Prep Batch
	Client Sample ID TRIP BLANK_40	Total/NA	Water	8260D	Prep Batch

Total/NA

Total/NA

Water

Water

8260D

8260D

Matrix: Water

#### Client Sample ID: TRIP BLANK\_40

Lab Sample	ID:	240-204322-1
		Matrix: Water

Lab Sample ID: 240-204322-2

#### Date Collected: 05/08/24 00:00 Date Received: 05/11/24 08:00

Batch Batch Dilution Batch	Prepared
Prep Type Method Run Factor Number Analyst Lab	or Analyzed
Total/NA Analysis 8260D 1 613537 TJL2 EET	

#### Client Sample ID: MW-216S\_050824 Date Collected: 05/08/24 12:42

Date Received: 05/11/24 08:00

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D		1	613537	TJL2	EET CLE	05/18/24 20:23
Total/NA	Analysis	8260D SIM		1	613351	CS	EET CLE	05/16/24 23:14

#### Laboratory References:

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

#### Accreditation/Certification Summary

Client: Arcadis U.S., Inc. Project/Site: Ford LTP

#### Laboratory: Eurofins Cleveland

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	02-28-25
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	07-31-24
lowa	State	421	06-01-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	06-30-24
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24

**Eurofins Cleveland** 

## 

Chain of Custody Record

TestAmerica

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

Client Contact	Regulatory program: CDW	T NPDES T RCRA T Other		The standard in the boundaries from the
Company Name: Arcadis	Client Project Manager: Kris Hinskey	Site Contact: Christina Weaver	Lab Contact: Mike DelMonico	TestAmerica Laboratories, Inc.
Address: 28550 Cabot Drive, Suite 500	Telephone: 248-994-2240	Telephone: 248-994-2240	Telephone: 330-497-9396	*
City/State/Zip: Novi, MI, 48377		Analysis Turnaround Time	Analyses	1 of 1 COCs For lab use only
Phone: 248-994-2240	Email: kristoffer.binskey@arcadis.com			
Project Name: Ford LTP	Sampler Name: Noch Dounte	TAT n' different from below 3 weeks 10 day  2 weeks		Walk-in client Lab sampling
Project Number: 30206169.0401.03	Method of Shipment/Carrier:	1 week		
PO # US3410018772	Shipping/Tracking No:	Containers & Preservative	8260D 8260D 8260D	Job/SDG No:
Sample Identification	Sample Date Sample Time JE	H12504 H12504 HC1 HC1 Ma0H Valori Val	1,1-DUE 9260D cis-1,2-DCE 8260D PCE 8260D TCE 8260D Vinyl Chloride 8260D Vinyl Chloride 8260D 1,4-Dioxane 8260D SIM	Sample Specific Notes / Special Instructions:
	1	1 NG >	x x x x x x	1 Trip Blank
MW-2165_050824	05/05/24 061800 6	G NG>	$<$ $\times$ $\times$ $\times$ $\times$ $\times$ $\times$ $\times$	3 VOAs for 8260D 3 VOAs for 8260D SIM
	6 62:42			
		240-204322 Chain of	Custody	
				MICHIGA
				MICHICA
				190
Possible Hazard Identification		Sample Disposal ( A fee may be assessed if sa	mples are retained longer than 1 month)	
Non-Hazard Cammable cin Irra     Special Instructions/QC Requirements & Comments:		Return to Client Disposal By La	ab Archive For Months	
Submit all results through Cadena at jtomalia@cadena Level IV Reporting requested.		alyane (SS)		
Relinquished by: Noch Downte	Arcad S Date Trine: Arcad S 05/09/24	17:00 Received by: Nove cold S	torge Company Arcals	05/08/24/17:00
Relinquished by:	Company: Arriad 5 Date: Time: 05/09/24 Company: Arceades 519 24	0900 Received by	KARA Company EFTA	Date Time: 5/10/24 0906
Religiushed by:	Company Date Time 5/10/24	1245 Received in Laboratory by: TAMMY	PAVED COMPETAC	Date Time: 5-1 (-24 800

Q2XIII, Testamenca Laboratories, Inc. Altingtos reserves) Testamenca & Design <sup>14</sup> are trademarke of Testamenca Laboratorius, inc.

-

19       SAMPLE CONDITION         Sample(s)	Packing material lased, Chapten Ware, Brann P. Plastin Bag, Non. Other       Other         1       Color temperature sign recent       Bine Ice       Dry Loe       Ware, Sa Multiple Couler Form       "C         1       Color temperature sign recent       Inc. Only       Other       Sa Multiple Couler Form       "C       Concreted Cooler Form       "C         2.       Were tamper/outdoty seals on the outside of the cooler(6)? If Yes Quanthy (etc.)       Were tamper/outdoty seals on the outside of the cooler(6)?       Trace No.       Trace No.       Trace No.       Trace No.       Trace No.       Trace No.       No.       Material trace and the particle static or the cooler(6)?       Trace No.       No.       Trace No.       No.       Trace No.       No.       No.       Trace No.       No.	Client
---	--	--------

Э

IVI-NC-099
Cooler Receip
ıf Form Page
2 – Multiple Cool
ers

	•				
			Bax Other	Client	EC
C			Box Other	Client	Ē
		IR GUN #:	Box Ofher	Client	EC
Wet Ice Blue Ice		IR GUN #:	Box Ofher	Client	EC
0		IR GUN #:	Box Olher	Client	5
		IR GUN #:	Box Other	Client	EC
		IR GUN #:	Box Other	Client	EC
		1R GUN #:	Box Olher	Client	Ë
Wet Ice Blue Ice Waler Nor		IR GUN #:	Box Other	Client	EC
1.5		IR GUN #:	Box Olher	Client	EC
		IR GUN #	Box Other	Client	EC
		IR GUN #:	Box Other	Client	EC
Wet Ice Blue Ice Water Nor		IR GUN #:	Box Olher	Client	EC
Wet Ice Blue Ice Dry Ice Water None		IR GUN #:	Box Olher	Client	EC
Wettce Blueice Water Nor		IR GUN #:	Box Olher	Client	EC
		IR GUN #:	Box Other	Client	EC
		IR GUN #:	Box Other	Client	EC
Wei tce Blue tce D Waier None		IR GUN #:	Box Ofher	Clienf	EC
ם וו		IR GUN #:	Box Other	Client	EC
Wet Ice Blue Ice Waler Nor		IR GUN #·	Box Other	Client	EC
Wet Ice Blue Ice Water Nor		IR GUN #:	Box Other	Client	EC
Wet Ice Blue Ice Dr Water None		IR GUN #	Box Other	Client	ĒĊ
Wet ice Blue ice D Water None		IR GUN #;	Box Olher	Client	EC
Wet Ice Blue Ice Water Non		( IR GUN #:	Box Other	Client	EC
Wet Ice Blue Ice Water Nor		IR GUN #:	Box Other	Client	Ē
Wellice Bluelice Di Waler None		IR GUN #:	Box Olher	Client	EC
Wet Ice Blue Ice D Water None		段 GUN #:	Box Other	Client	EC
Wet Ice Blue Ice I Water None		IR GUN #:	Box Other	Client	Ē
		IR GUN #:	Box Olher	Client	£C
di l		IR GUN +:	Box Olher	Client	EC
Blue fater		IR GUN #:	Box Other	Client	EC
íaí	3,2 , k		Box Other	Client	
Welce	L'	IR GUN #:	Box Other	Client	)E
Corrected Coolant	Observed Temp.°C	IR Gun # (Circle)	cription le)	Cooler Description	$\mathbb{D}_{2}$

Name and and an owned

0......

Login #

5

14

14

# Temperature readings

5/11/2024

MW-918_050824	MW-918_050824	MW-918_050824	MW-91S_050824	MW-91S_050824	MW-91S_050824	TRIP BLANK_40	<u>Client Sample ID</u>
240-204322-F-2	240-204322-E-2	240-204322-D-2	240-204322-C-2	240-204322-B-2	240 204322-A-2	240-204322-A-1	<u>Lab ID</u>
Voa Vıal 40ml - Hydrochlorıc Acıd	Voa Vial 40ml - Hydrochloric Acid	Voa Vial 40ml - Hydrochloric Acid	Voa Vial 40ml - Hydrochloric Acıd	Voa Vial 40ml - Hydrochloric Acıd	Voa Vial 40ml - Hydrochlorıc Acid	Voa Vial 40ml - Hydrochlorıc Acid	Container Type
							<u>Container</u> Preservation Preservation pH Temp Added Lot Number

## **DATA VERIFICATION REPORT**



May 21, 2024

Megan Meckley Arcadis 28550 Cabot Drive Suite 500 Novi, MI US 48377

CADENA project ID: E203728 Project: Ford Livonia Transmission Plant - Soil Gas, Ground Water and Soil Project number: 30206169.401.03 Event Specific Scope of Work References: Sample COC Laboratory: Eurofins Environment Testing LLC - Cleveland Laboratory submittal: 204322-1 Sample date: 2024-05-08 Report received by CADENA: 2024-05-21 Initial Data Verification completed by CADENA: 2024-05-21 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 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: E203728

Laboratory: Eurofins Environment Testing LLC - Cleveland Laboratory Submittal: 204322-1

		Sample Name: Lab Sample ID: Sample Date:	TRIP BLANK_40 2402043221 5/8/2024				MW-216S_050824 2402043222 5/8/2024			
	Analyte	Cas No.	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier
GC/MS VOC										<b>Q</b>
<u>OSW-8260D</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	
Tetr	achloroethene	127-18-4	ND	1.0	ug/l		ND	1.0	ug/l	
tran	s-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l		ND	1.0	ug/l	
Tric	hloroethene	79-01-6	ND	1.0	ug/l		ND	1.0	ug/l	
Viny	/l chloride	75-01-4	ND	1.0	ug/l		ND	1.0	ug/l	
OSW-8260DSIN	<u>1</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 # 240-204322-1 CADENA Verification Report: 2024-05-21

Analyses Performed By: Eurofins Cleveland Barberton, Ohio

Report # 54272R Review Level: Tier III Project: 30206169.401.02

## **SUMMARY**

This data quality assessment summarizes the review of Sample Delivery Group (SDG) # 240-204322-1 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:

Somelo ID	Lab ID	Matrix	Sample	Parant Sampla	Ana	ysis
Sample ID		Matrix	Collection Date	Parent Sample	VOC	VOC SIM
TRIP BLANK_40	240-204322-1	Water	05/08/2024		Х	
MW-216S_050824	240-204322-2	Water	05/08/2024		Х	Х

#### DATA REVIEW

#### ANALYTICAL DATA PACKAGE DOCUMENTATION

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

	Items Reviewed	Rep	orted	Performance Acceptable		Not Required
		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		X	
5.	Reporting limits		Х		Х	
6.	Sample collection date		Х		Х	
7.	Laboratory sample received date		Х		X	
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 HCI

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 continuing 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.

#### DATA REVIEW

#### 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 REVIEW

#### 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		Х	
Tier III Validation		1			1
System performance and column resolution		Х		X	
Initial calibration %RSDs		Х		Х	
Continuing calibration RRFs		Х		Х	
Continuing calibration %Ds		Х		Х	
Continuing calibration %Ds Instrument tune and performance check		Х		Х	
Ion 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:	Bindu Sree M B
SIGNATURE:	BASh_MB
DATE:	June 11, 2024

PEER REVIEW: Andrew Korycinski

DATE: June 14, 2024

# 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	Regulatory program:	T NPDES T RCRA T Od	her	
'ompany Name: Arcadis	Client Project Manager: Kris Hinskey	Site Contact: Christina Weaver	Lab Contact: Mike DelMonico	TestAmerica Laboratories, Inc.
Address: 28550 Cabot Drive, Suite 500			Telephone: 330-497-9396	
ity/State/Zip: Novi, MI, 48377	Telephone: 248-994-2240	Telephone: 248-994-2240		1 of 1 COCs
here a 2 (9 00 1 22 10	Email: kristoffer.hinskey@arcadis.com	Analysis Turnaround Time	Analyses	For lab use only
hone: 248-994-2240	Sampler Name:	TAT if different from below		Walk-in client
roject Name: Ford LTP	Noch Dounte	10 day 2 weeks		Lab sampling
roject Number: 30206169.0401.03	Method of Shipment/Carrier:	L l week		
O # US3410018772	Shipping/Tracking No:	Containers & Preservatives	260D 50D	Job/SDG No:
	Matrix	Containers & Procryatives	60D 66D 660 660 660 660 660 660 660 660	
Sample Identification		Other: H2SO4 H1C03 H1C1 NaOH VaAK NaOH Vinpits Other: Filtered Sat		Sample Specific Notes / Special Instructions:
	1	1 N G	X X X X X X X	1 Trip Blank
MW-2165_050824	05/08/24 061300 6	G NG	$\times$ $\times$ $\times$ $\times$ $\times$ $\times$ $\times$ $\times$ $\times$	3 VOAs for 8260D 3 VOAs for 8260D SIM
	6 AA. 43			
	412. (J	E LURI A DA LI	A A A A A A A A A A A A A A A A A A A	
		240-204322 Chair	1 of Custody	
				MICHIGA
				MICIO
				190
Possible Hazard Identification			if samples are retained longer than 1 month) By Lub Archive For Months	
Non-Hazard Tammable in Ir ecial Instructions/QC Requirements & Comments: ->		Return to Client Disposal H	By Lub Archive For Months	
ibmit all results through Cadena at jtomalia@cadena	4851 nodsnarth;	Dallyare (SS	)	
evel IV Reporting requested.	aco.com. Gaudila #E203728	ı		
clinquished by:	Company: Date:Time:	Received by:	Company:	Date Time: / a 4 / 1 - 2 - 2
Noch Donnie	Arreads 05/09/		storage Arcadis	05/08/24/17:00
elinquished by:	Company: Areadis 51912	4 0900 Received by	Company EETA	5/10/24 0906
chiquished by: A how NDIN	Company Date Time Date Time 5/17/2	Received in Laboratory by:	Y ROVER COMPETAC	Date Time: (-24 800
Cinca Wallow			Y ROYER EETNC	0.11-10

02000, Testamonca Labirationes, Inc. All rupits reserved Testamonca a Design of an indemnarks of Testamonca Labirationes, Inc.

5

~ .

#### Client Sample ID: TRIP BLANK\_40

#### Date Collected: 05/08/24 00:00

Date Received: 05/11/24 08:00

Method: SW846 8260D - Volati	ile Organic Comp	ounds by G	C/MS						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/18/24 19:59	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/18/24 19:59	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 19:59	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/18/24 19:59	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 19:59	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/18/24 19:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		62 - 137			-		05/18/24 19:59	1
4-Bromofluorobenzene (Surr)	98		56 - 136					05/18/24 19:59	1
Toluene-d8 (Surr)	98		78 - 122					05/18/24 19:59	1

73 - 120

#### Client Sample ID: MW-216S\_050824

#### Date Collected: 05/08/24 12:42

Dibromofluoromethane (Surr)

Dibromofluoromethane (Surr)

#### Date Received: 05/11/24 08:00

Method: SW846 8260D SIM - Vol	atile Organic C	ompounds	(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			05/16/24 23:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		68 - 127					05/16/24 23:14	1

#### Method: SW846 8260D - Volatile Organic Compounds by GC/MS

94

92

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/18/24 20:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/18/24 20:23	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 20:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/18/24 20:23	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 20:23	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/18/24 20:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		62 _ 137			-		05/18/24 20:23	1
4-Bromofluorobenzene (Surr)	97		56 - 136					05/18/24 20:23	1
Toluene-d8 (Surr)	98		78 - 122					05/18/24 20:23	1

73 - 120

#### Lab Sample ID: 240-204322-1 Matrix: Water

05/18/24 19:59

05/18/24 20:23

Lab Sample ID: 240-204322-2

1

1

Matrix: Water