

# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Megan Meckley  
Arcadis U.S., Inc.  
28550 Cabot Drive  
Suite 500  
Novi, Michigan 48377

Generated 8/21/2024 7:40:26 AM

## JOB DESCRIPTION

Ford LTP

## JOB NUMBER

240-209336-1

# 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



Generated  
8/21/2024 7:40:26 AM

Authorized for release by  
Michael DeMonico, Project Manager I  
[Michael.DeMonico@et.eurofinsus.com](mailto:Michael.DeMonico@et.eurofinsus.com)  
(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

# Definitions/Glossary

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

Job ID: 240-209336-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

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

Job ID: 240-209336-1

**Job ID: 240-209336-1**

**Eurofins Cleveland**

## Job Narrative 240-209336-1

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 and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided 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 8/13/2024 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.6°C and 4.2°C.

### GC/MS VOA

Method 8260D\_SIM: The surrogate failed in the MS, effected sample are (240-209337-E-2 MS). The MS was used for batch QC only.

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

Eurofins Cleveland

# Method Summary

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

Job ID: 240-209336-1

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



# Sample Summary

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

Job ID: 240-209336-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-209336-1	TRIP BLANK_68	Water	08/09/24 00:00	08/13/24 09:30
240-209336-2	MW-213S_080924	Water	08/09/24 12:40	08/13/24 09:30

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

# Detection Summary

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

Job ID: 240-209336-1

---

**Client Sample ID: TRIP BLANK\_68**

**Lab Sample ID: 240-209336-1**

No Detections.

---

**Client Sample ID: MW-213S\_080924**

**Lab Sample ID: 240-209336-2**

No Detections.

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

This Detection Summary does not include radiochemical test results.

Eurofins Cleveland



# Client Sample Results

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

Job ID: 240-209336-1

**Client Sample ID: TRIP BLANK\_68**

**Lab Sample ID: 240-209336-1**

Date Collected: 08/09/24 00:00

Matrix: Water

Date Received: 08/13/24 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			08/16/24 18:40	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/16/24 18:40	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/16/24 18:40	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/16/24 18:40	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/16/24 18:40	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/16/24 18:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		62 - 137		08/16/24 18:40	1
4-Bromofluorobenzene (Surr)	80		56 - 136		08/16/24 18:40	1
Toluene-d8 (Surr)	88		78 - 122		08/16/24 18:40	1
Dibromofluoromethane (Surr)	97		73 - 120		08/16/24 18:40	1

# Client Sample Results

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

Job ID: 240-209336-1

**Client Sample ID: MW-213S\_080924**

**Lab Sample ID: 240-209336-2**

Date Collected: 08/09/24 12:40

Matrix: Water

Date Received: 08/13/24 09:30

**Method: SW846 8260D SIM - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			08/19/24 13:10	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	115		68 - 127					08/19/24 13:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			08/16/24 19:05	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/16/24 19:05	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/16/24 19:05	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/16/24 19:05	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/16/24 19:05	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/16/24 19:05	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	100		62 - 137					08/16/24 19:05	1
4-Bromofluorobenzene (Surr)	85		56 - 136					08/16/24 19:05	1
Toluene-d8 (Surr)	93		78 - 122					08/16/24 19:05	1
Dibromofluoromethane (Surr)	90		73 - 120					08/16/24 19:05	1

# Surrogate Summary

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

Job ID: 240-209336-1

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA	BFB	TOL	DBFM
		(62-137)	(56-136)	(78-122)	(73-120)
240-209336-1	TRIP BLANK_68	111	80	88	97
240-209336-2	MW-213S_080924	100	85	93	90
240-209337-B-2 MS	Matrix Spike	95	106	100	97
240-209337-B-2 MSD	Matrix Spike Duplicate	95	107	97	98
LCS 240-623601/5	Lab Control Sample	87	94	90	91
MB 240-623601/9	Method Blank	101	79	83	90

### 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

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(68-127)
240-209336-2	MW-213S_080924	115
240-209337-E-2 MS	Matrix Spike	131 S1+
240-209337-E-2 MSD	Matrix Spike Duplicate	127
LCS 240-623779/4	Lab Control Sample	107
MB 240-623779/6	Method Blank	113

### Surrogate Legend

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

# QC Sample Results

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

Job ID: 240-209336-1

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

**Lab Sample ID: MB 240-623601/9**

**Matrix: Water**

**Analysis Batch: 623601**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			08/16/24 12:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/16/24 12:24	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/16/24 12:24	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/16/24 12:24	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/16/24 12:24	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/16/24 12:24	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	101		62 - 137		08/16/24 12:24	1
4-Bromofluorobenzene (Surr)	79		56 - 136		08/16/24 12:24	1
Toluene-d8 (Surr)	83		78 - 122		08/16/24 12:24	1
Dibromofluoromethane (Surr)	90		73 - 120		08/16/24 12:24	1

**Lab Sample ID: LCS 240-623601/5**

**Matrix: Water**

**Analysis Batch: 623601**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,2-Dichloroethene	25.0	24.2		ug/L		97	77 - 123
Tetrachloroethene	25.0	24.5		ug/L		98	76 - 123
trans-1,2-Dichloroethene	25.0	23.9		ug/L		95	75 - 124
Trichloroethene	25.0	23.2		ug/L		93	70 - 122
Vinyl chloride	12.5	11.2		ug/L		89	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	87		62 - 137
4-Bromofluorobenzene (Surr)	94		56 - 136
Toluene-d8 (Surr)	90		78 - 122
Dibromofluoromethane (Surr)	91		73 - 120

**Lab Sample ID: 240-209337-B-2 MS**

**Matrix: Water**

**Analysis Batch: 623601**

**Client Sample ID: Matrix Spike**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	25.0	19.6		ug/L		78	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	23.9		ug/L		96	66 - 128
Tetrachloroethene	1.0	U	25.0	21.4		ug/L		85	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	22.0		ug/L		88	56 - 136
Trichloroethene	1.0	U	25.0	20.3		ug/L		81	61 - 124
Vinyl chloride	1.0	U	12.5	10.4		ug/L		83	43 - 157

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	95		62 - 137
4-Bromofluorobenzene (Surr)	106		56 - 136
Toluene-d8 (Surr)	100		78 - 122

Eurofins Cleveland

# QC Sample Results

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

Job ID: 240-209336-1

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

**Lab Sample ID: 240-209337-B-2 MS**  
**Matrix: Water**  
**Analysis Batch: 623601**

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

	<i>MS</i>	<i>MS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
Dibromofluoromethane (Surr)	97		73 - 120

**Lab Sample ID: 240-209337-B-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 623601**

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

Analyte	Sample		Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
1,1-Dichloroethene	1.0	U	25.0	21.8		ug/L		87	56 - 135	11	26	
cis-1,2-Dichloroethene	1.0	U	25.0	24.9		ug/L		100	66 - 128	4	14	
Tetrachloroethene	1.0	U	25.0	23.7		ug/L		95	62 - 131	11	20	
trans-1,2-Dichloroethene	1.0	U	25.0	23.4		ug/L		94	56 - 136	6	15	
Trichloroethene	1.0	U	25.0	22.0		ug/L		88	61 - 124	8	15	
Vinyl chloride	1.0	U	12.5	11.5		ug/L		92	43 - 157	10	24	

	<i>MSD</i>	<i>MSD</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	95		62 - 137
4-Bromofluorobenzene (Surr)	107		56 - 136
Toluene-d8 (Surr)	97		78 - 122
Dibromofluoromethane (Surr)	98		73 - 120

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

**Lab Sample ID: MB 240-623779/6**  
**Matrix: Water**  
**Analysis Batch: 623779**

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

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			08/19/24 10:25	1

	<i>MB</i>	<i>MB</i>						
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>		
1,2-Dichloroethane-d4 (Surr)	113		68 - 127		08/19/24 10:25	1		

**Lab Sample ID: LCS 240-623779/4**  
**Matrix: Water**  
**Analysis Batch: 623779**

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

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec
		Result	Qualifier				
1,4-Dioxane	10.0	7.84		ug/L		78	75 - 121

	<i>LCS</i>	<i>LCS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	107		68 - 127

**Lab Sample ID: 240-209337-E-2 MS**  
**Matrix: Water**  
**Analysis Batch: 623779**

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

Analyte	Sample		Spike Added	MS		Unit	D	%Rec	%Rec
	Result	Qualifier		Result	Qualifier				
1,4-Dioxane	2.0	U	10.0	8.11		ug/L		81	20 - 180

Eurofins Cleveland

# QC Sample Results

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

Job ID: 240-209336-1

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

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	131	S1+	68 - 127

**Lab Sample ID: 240-209337-E-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 623779**

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

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
1,4-Dioxane	2.0	U	10.0	9.36		ug/L		94	20 - 180	14	20

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	127		68 - 127

# QC Association Summary

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

Job ID: 240-209336-1

## GC/MS VOA

### Analysis Batch: 623601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-209336-1	TRIP BLANK_68	Total/NA	Water	8260D	
240-209336-2	MW-213S_080924	Total/NA	Water	8260D	
MB 240-623601/9	Method Blank	Total/NA	Water	8260D	
LCS 240-623601/5	Lab Control Sample	Total/NA	Water	8260D	
240-209337-B-2 MS	Matrix Spike	Total/NA	Water	8260D	
240-209337-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

### Analysis Batch: 623779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-209336-2	MW-213S_080924	Total/NA	Water	8260D SIM	
MB 240-623779/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-623779/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-209337-E-2 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-209337-E-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

# Lab Chronicle

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

Job ID: 240-209336-1

**Client Sample ID: TRIP BLANK\_68**

**Lab Sample ID: 240-209336-1**

Date Collected: 08/09/24 00:00

Matrix: Water

Date Received: 08/13/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	623601	MS	EET CLE	08/16/24 18:40

**Client Sample ID: MW-213S\_080924**

**Lab Sample ID: 240-209336-2**

Date Collected: 08/09/24 12:40

Matrix: Water

Date Received: 08/13/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	623601	MS	EET CLE	08/16/24 19:05
Total/NA	Analysis	8260D SIM		1	623779	MS	EET CLE	08/19/24 13:10

**Laboratory References:**

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

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



# Accreditation/Certification Summary

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

Job ID: 240-209336-1

## 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	08-31-25
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-27-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	07-03-25
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	08-31-25
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

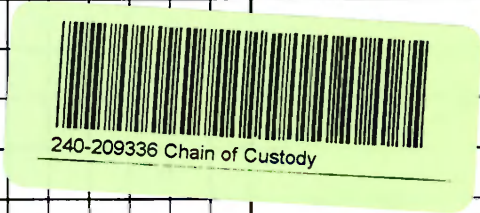
# MICHIGAN 190

## TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

<b>Client Contact</b>		Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other										TestAmerica Laboratories, Inc.					
Company Name: Arcadis		Client Project Manager: Kris Hinskey			Site Contact: Christina Weaver			Lab Contact: Mike DelMonico				COC No:					
Address: 28550 Cabot Drive, Suite 500		Telephone: 248-994-2240			Telephone: 248-994-2240			Telephone: 330-497-9396				1 of 1 COCs					
City/State/Zip: Novi, MI, 48377		Email: kristoffer.hinskey@arcadis.com			<b>Analysis Turnaround Time</b>				<b>Analyses</b>				For lab use only				
Phone: 248-994-2240		Sampler Name: <i>Jerry Myers</i>			TAT if different from below: 10 day <input checked="" type="checkbox"/> 3 weeks <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day				Filtered Sample (Y/N) Composite=C / Grab=G 1,1-DCE 8260D cis-1,2-DCE 8260D Trans-1,2-DCE 8260D PCE 8260D TCE 8260D Vinyl Chloride 8260D 1,4-Dioxane 8260D SIM				Walk-in client				
Project Name: Ford LTP		Method of Shipment/Carrier:											Lab sampling				
Project Number: 30206169.0401.03		Shipping/Tracking No:											Job/SDG No:				
PO # US3410018772													Sample Specific Notes / Special Instructions:				
Sample Identification		Sample Date	Sample Time	Matrix					Containers & Preservatives								
				Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other:		
✓ TRIP BLANK_ 68		---	---	1													1 Trip Blank
✓ MW-2135-080924		08/09/24	12:40	6													3 VOAs for 8260D 3 VOAs for 8260D SIM
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown										Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months							
Special Instructions/QC Requirements & Comments: <i>E. Road</i> Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203728 Level IV Reporting requested.																	
Relinquished by: <i>[Signature]</i>		Company: Arcadis		Date/Time: 08/09/24 14:30		Received by: <i>[Signature]</i>		Company: Arcadis		Date/Time: 08/09/24 14:30							
Relinquished by: <i>[Signature]</i>		Company: Arcadis		Date/Time: 8/12/24 12:25		Received by: <i>[Signature]</i>		Company: EETA		Date/Time: 8/12/24 12:25							
Relinquished by: <i>[Signature]</i>		Company: EETA		Date/Time: 8/12/24 13:38		Received in Laboratory by: <i>[Signature]</i>		Company: EC		Date/Time: 8-13-24 9:00							



©2008 TestAmerica Laboratories, Inc. All rights reserved. TestAmerica & Design are trademarks of TestAmerica Laboratories, Inc.



Eurofins - Cleveland Sample Receipt Form/Narrative Login # \_\_\_\_\_  
 Barberon Facility

Client Amadis Site Name \_\_\_\_\_  
 Cooler Received on 8-13-24 Opened on 8-13-24 Cooler unpacked by: \_\_\_\_\_

FedEx: 1<sup>st</sup> Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other \_\_\_\_\_  
 Receipt After-hours Drop-off Date/Time \_\_\_\_\_ Storage Location \_\_\_\_\_

Eurofins Cooler # FC Foam Box Client Cooler Box Other \_\_\_\_\_  
 Packing material used. Bubble Wrap Foam Plastic Bag None Other \_\_\_\_\_

COOLANT Wet Ice Blue Ice Dry Ice Water None  
 1 Cooler temperature upon receipt  See Multiple Cooler Form

IR GUN # 22 (CF -0.1 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp \_\_\_\_\_ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2  
 -Were the seals on the outside of the cooler(s) signed & dated?  Yes  No  NA  
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?  Yes  No  NA  
 -Were tamper/custody seals intact and uncompromised?  Yes  No  NA

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

3 Shippers' packing slip attached to the cooler(s)?  Yes  No  
 4 Did custody papers accompany the sample(s)?  Yes  No  
 5 Were the custody papers relinquished & signed in the appropriate place?  Yes  No  
 6 Was/were the person(s) who collected the samples clearly identified on the COC?  Yes  No  
 7 Did all bottles arrive in good condition (Unbroken)?  Yes  No  
 8 Could all bottle labels (ID/Date/Time) be reconciled with the COC?  Yes  No  
 9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?  Yes  No  
 10 Were correct bottle(s) used for the test(s) indicated?  Yes  No  
 11 Sufficient quantity received to perform indicated analyses?  Yes  No  
 12. Are these work share samples and all listed on the COC?  Yes  No  
 If yes, Questions 13-17 have been checked at the originating laboratory  
 13 Were all preserved sample(s) at the correct pH upon receipt?  Yes  No  NA pH Strip Lot# HC442471  
 14 Were VOAs on the COC?  Yes  No  
 15 Were air bubbles >6 mm in any VOA vials?  Yes  No  NA Larger than this.  
 16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # \_\_\_\_\_  
 17 Was a LL Hg or Me Hg trip blank present?  Yes  No

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal Voice Mail Other \_\_\_\_\_  
 Concerning \_\_\_\_\_

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES  additional next page Samples processed by: \_\_\_\_\_

19. SAMPLE CONDITION  
 Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired  
 Sample(s) \_\_\_\_\_ were received in a broken container  
 Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter (Notify PM)

20. SAMPLE PRESERVATION  
 Sample(s) \_\_\_\_\_ were further preserved in the laboratory  
 Time preserved. \_\_\_\_\_ Preservative(s) added/Lot number(s). \_\_\_\_\_  
 VOA Sample Preservation - Date/Time VOAs Frozen. \_\_\_\_\_



Temperature readings:

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u> pH	<u>Preservation</u> Temp	<u>Preservation</u> Added	<u>Preservation</u> Lot Number
TRIP BLANK_68	240-209336-A-1	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-213S_080924	240-209336-A-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-213S_080924	240-209336-B-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-213S_080924	240-209336-C-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-213S_080924	240-209336-D-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-213S_080924	240-209336-E-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-213S_080924	240-209336-G-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____

Login #: \_\_\_\_\_

Eurofins - Cleveland Sample Receipt Multiple Cooler Form

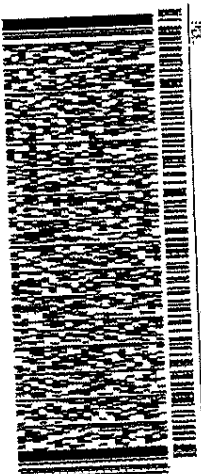
Cooler Description (Circle)		IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
EC Client box Other	IR GUN #: <u>22</u>	3.7	4.3	3.6	Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice
EC Client box Other	IR GUN #: _____				Wet Ice Water None Blue Ice Dry Ice

See Temperature Excursion Form

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

TO EUROFINS BARBERTON  
 EUROFINS BARBERTON  
 180 S. VAN BUREN AVENUE

BARBERTON OH 44203

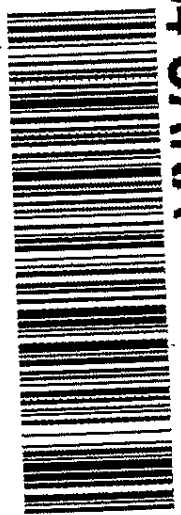


TUE - 13 AUG 10:30A  
 PRIORITY OVERNIGHT

1 of 2  
 TRK# 7779 2816 6368  
 # MASTER #

64 CAKA

44203  
 OH-US CLE

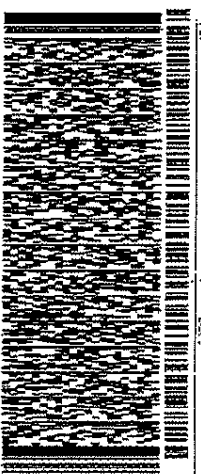


Part # 159469-434 MTW EXP 03/25  
<https://www.fedex.com/shipping/shipmentConfirmationAction.handle?method=doContinue>

2 2:34 4:36 PM

TO EUROFINS BARBERTON  
 EUROFINS BARBERTON  
 180 S. VAN BUREN AVENUE

BARBERTON OH 44203

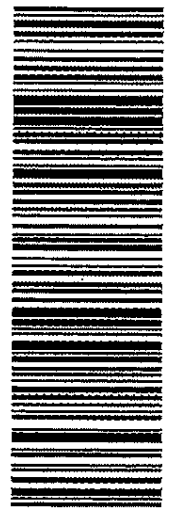


TUE - 13 AUG 10:30A  
 PRIORITY OVERNIGHT

2 of 2  
 TRK# 7779 2816 6596  
 Mstr# 7779 2816 6368

64 CAKA

44203  
 OH-US CLE



8/21/2024  
<https://www.fedex.com/shipping/shipmentConfirmationAction.handle?method=doContinue>  
 Page 22 of 26

2 2:34 4:36 PM

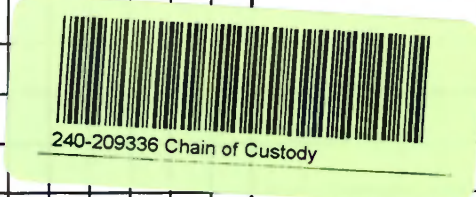
### Chain of Custody Record

MICHIGAN  
190

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

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

<b>Client Contact</b>			<b>Regulatory program:</b> <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other _____													<b>TestAmerica Laboratories, Inc.</b>											
Company Name: Arcadis			Client Project Manager: Kris Hinskey				Site Contact: Christina Weaver				Lab Contact: Mike DelMonico					COC No:											
Address: 28550 Cabot Drive, Suite 500			Telephone: 248-994-2240				Telephone: 248-994-2240				Telephone: 330-497-9396					1 of 1 COCs											
City/State/Zip: Novi, MI, 48377			Email: kristoffer.hinskey@arcadis.com				<b>Analysis Turnaround Time</b>						<b>Analyses</b>						<b>For lab use only</b>								
Phone: 248-994-2240			Sampler Name: <i>Jeremy Meers</i>				TAT if different from below						<input type="checkbox"/> 3 weeks <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day						Walk-in client								
Project Name: Ford LTP			Method of Shipment/Carrier:				10 day												Lab sampling								
Project Number: 30206169.0401.03			Shipping/Tracking No:				Filtered Sample (Y/N) Composite=C/Grab=G 1,1-DCE 8260D cis-1,2-DCE 8260D Trans-1,2-DCE 8260D PCE 8260D TCE 8260D Vinyl Chloride 8260D 1,4-Dioxane 8260D SIM						Job/SDG No:														
PO # US3410018772													Matrix Air Aqueous Sediment Solid Other: Containers & Preservatives H2SO4 HNO3 HCl NaOH TAs/ NaOH Unpres Other:						Sample Specific Notes / Special Instructions:								
Sample Identification		Sample Date	Sample Time	Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl	NaOH							TAs/ NaOH	Unpres	Other:	Filtered Sample (Y/N)	Composite=C/Grab=G	1,1-DCE 8260D	cis-1,2-DCE 8260D	Trans-1,2-DCE 8260D	PCE 8260D
TRIP BLANK_ 08		---	---	1							1					NG	X	X	X	X	X	X			1 Trip Blank		
MW-2135-080924		08/09/24	12:40	6							6					NG	X	X	X	X	X	X			3 VOAs for 8260D 3 VOAs for 8260D SIM		
<b>Possible Hazard Identification</b>												<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>															
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> flammable <input type="checkbox"/> skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown												<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months															
<b>Special Instructions/QC Requirements &amp; Comments:</b> <i>E. Road</i>																											
Submit all results through Cadena at jtormalia@cadenaco.com. Cadona #E203728 Level IV Reporting requested.																											
Relinquished by: <i>[Signature]</i>				Company: <i>Arcadis</i>				Date/Time: <i>08/09/24 14:30</i>				Received by: <i>Novi Cold Storage</i>				Company: <i>Arcadis</i>				Date/Time: <i>08/09/24 14:30</i>							
Relinquished by: <i>[Signature]</i>				Company: <i>Arcadis</i>				Date/Time: <i>8/12/24 12:25</i>				Received by: <i>[Signature]</i>				Company: <i>EETA</i>				Date/Time: <i>8/12/24 12:25</i>							
Relinquished by: <i>[Signature]</i>				Company: <i>EETA</i>				Date/Time: <i>8/12/24 13:38</i>				Received in Laboratory by: <i>[Signature]</i>				Company: <i>EC</i>				Date/Time: <i>8/13/24 9:00</i>							



©2008 TestAmerica Laboratories, Inc. All rights reserved.  
TestAmerica & Design™ are trademarks of TestAmerica Laboratories, Inc.

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

Eurofins - Cleveland Sample Receipt Form/Narrative  
 Barberton Facility  
 Login # \_\_\_\_\_

Client Amadis Site Name \_\_\_\_\_  
 Cooler Received on 8-13-24 Opened on 8-13-24  
 FedEx: 1<sup>st</sup> Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other \_\_\_\_\_  
 Receipt After-hours Drop-off Date/Time \_\_\_\_\_ Storage Location \_\_\_\_\_

Eurofins Cooler # FC Foam Box Client Cooler Box Other \_\_\_\_\_  
 Packing material used Bubble Wrap Foam Plastic Bag None Other \_\_\_\_\_  
 COOLANT: Wet Ice Blue Ice Dry Ice Water None \_\_\_\_\_  
 See Multiple Cooler Form

1 Cooler temperature upon receipt \_\_\_\_\_ °C Corrected Cooler Temp \_\_\_\_\_ °C  
 IR GUN # 22 (CF 0.1 °C) Observed Cooler Temp \_\_\_\_\_ °C

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

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2
    - Were the seals on the outside of the cooler(s) signed & dated?  Yes  No  NA
    - Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?  Yes  No  NA
    - Were tamper/custody seals intact and uncompromised?  Yes  No  NA
  - 3 Shippers' packing slip attached to the cooler(s)?  Yes  No  NA
  - 4 Did custody papers accompany the sample(s)?  Yes  No  NA
  - 5 Were the custody papers relinquished & signed in the appropriate place?  Yes  No  NA
  - 6 Was/were the person(s) who collected the samples clearly identified on the COC?  Yes  No  NA
  - 7 Did all bottles arrive in good condition (Unbroken)?  Yes  No  NA
  - 8 Could all bottle labels (ID/Date/Time) be reconciled with the COC?  Yes  No  NA
  - 9 For each sample, does the COC specify preservatives  (Y/N), # of containers  (Y/N), and sample type of grab/comp  (Y/N)?  Yes  No  NA
  - 10 Were correct bottle(s) used for the test(s) indicated?  Yes  No  NA
  - 11 Sufficient quantity received to perform indicated analyses?  Yes  No  NA
  - 12 Are these work share samples and all listed on the COC?  Yes  No  NA
  - 13 Were all preserved sample(s) at the correct pH upon receipt?  Yes  No  NA pH Strip Lot# HC442471
  14. Were VOAs on the COC?  Yes  No  NA
  - 15 Were air bubbles >6 mm in any VOA vials?  Larger than this.  Yes  No  NA
  - 16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # \_\_\_\_\_  Yes  No  NA
  - 17 Was a LL Hg or Me Hg trip blank present?  Yes  No  NA
- Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal Voice Mail Other \_\_\_\_\_  
 Concerning \_\_\_\_\_

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES  additional next page  Samples processed by: \_\_\_\_\_

19. SAMPLE CONDITION  
 Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container  
 Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter (Notify PM)

20. SAMPLE PRESERVATION  
 Sample(s) \_\_\_\_\_ were further preserved in the laboratory  
 Time preserved \_\_\_\_\_ Preservative(s) added/Lot number(s) \_\_\_\_\_  
 VOA Sample Preservation - Date/Time VOAs Frozen \_\_\_\_\_





8/13/2024

# LogIn Container Summary Report

240-209336

8/21/2024

## Temperature readings

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u> <u>pH</u>	<u>Preservation</u> <u>Temp</u>	<u>Preservation</u> <u>Added</u>	<u>Preservation</u> <u>Lot Number</u>
TRIP BLANK_68	240-209336-A-1	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-213S_080924	240-209336-A-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-213S_080924	240-209336-B-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-213S_080924	240-209336-C-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-213S_080924	240-209336-D-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-213S_080924	240-209336-E-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
MW-213S_080924	240-209336-G-2	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____



# DATA VERIFICATION REPORT



August 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: 30206169.0401.04\_WA-02  
Event Specific Scope of Work References: Sample COC  
Laboratory: Eurofins Environment Testing LLC - Cleveland  
Laboratory submittal: 209336-1  
Sample date: 2024-08-09  
Report received by CADENA: 2024-08-20  
Initial Data Verification completed by CADENA: 2024-08-21  
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.**

The following minor QC exceptions or missing information were noted:

GCMS VOC SIM MS surrogate recovery outliers did not result in qualification of client sample data.

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 <http://clms.cadenaco.com/index.cfm>.

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.
B	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 contaminants) 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.
E	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 contaminants) 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.

