

ANALYTICAL REPORT

PREPARED FOR

Attn: Kristoffer Hinskey
ARCADIS US Inc
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Generated 8/30/2023 5:03:32 AM

JOB DESCRIPTION

Ford LTP - On Site

JOB NUMBER

240-190409-1

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
8/30/2023 5:03:32 AM

Authorized for release by
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Definitions/Glossary

Client: ARCADIS US Inc
Project/Site: Ford LTP - On Site

Job ID: 240-190409-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
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 US Inc
Project/Site: Ford LTP - On Site

Job ID: 240-190409-1

Job ID: 240-190409-1

Laboratory: Eurofins Cleveland

Narrative

**Job Narrative
240-190409-1**

Receipt

The samples were received on 8/18/2023 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.5°C

GC/MS VOA

Method 8260D: No MS/MSD in batch 584866 due to a computer fault. TRIP BLANK_108 (240-190409-1) and MW-37_081423 (240-190409-2)

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 584866 was outside the method criteria for the following analyte(s): Vinyl chloride. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

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



Method Summary

Client: ARCADIS US Inc
Project/Site: Ford LTP - On Site

Job ID: 240-190409-1

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 US Inc
Project/Site: Ford LTP - On Site

Job ID: 240-190409-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-190409-1	TRIP BLANK_108	Water	08/14/23 00:00	08/18/23 08:00
240-190409-2	MW-37_081423	Water	08/14/23 15:05	08/18/23 08:00

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

Detection Summary

Client: ARCADIS US Inc
Project/Site: Ford LTP - On Site

Job ID: 240-190409-1

Client Sample ID: TRIP BLANK_108

Lab Sample ID: 240-190409-1

No Detections.

Client Sample ID: MW-37_081423

Lab Sample ID: 240-190409-2

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 US Inc
 Project/Site: Ford LTP - On Site

Job ID: 240-190409-1

Client Sample ID: TRIP BLANK_108

Lab Sample ID: 240-190409-1

Date Collected: 08/14/23 00:00

Matrix: Water

Date Received: 08/18/23 08:00

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			08/23/23 12:57	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/23/23 12:57	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/23/23 12:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/23/23 12:57	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/23/23 12:57	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/23/23 12:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		62 - 137		08/23/23 12:57	1
4-Bromofluorobenzene (Surr)	96		56 - 136		08/23/23 12:57	1
Toluene-d8 (Surr)	99		78 - 122		08/23/23 12:57	1
Dibromofluoromethane (Surr)	94		73 - 120		08/23/23 12:57	1

Client Sample Results

Client: ARCADIS US Inc
 Project/Site: Ford LTP - On Site

Job ID: 240-190409-1

Client Sample ID: MW-37_081423

Lab Sample ID: 240-190409-2

Date Collected: 08/14/23 15:05

Matrix: Water

Date Received: 08/18/23 08:00

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			08/28/23 18:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		66 - 120					08/28/23 18:32	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			08/23/23 13:22	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/23/23 13:22	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/23/23 13:22	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/23/23 13:22	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/23/23 13:22	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/23/23 13:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		62 - 137					08/23/23 13:22	1
4-Bromofluorobenzene (Surr)	96		56 - 136					08/23/23 13:22	1
Toluene-d8 (Surr)	101		78 - 122					08/23/23 13:22	1
Dibromofluoromethane (Surr)	96		73 - 120					08/23/23 13:22	1

Surrogate Summary

Client: ARCADIS US Inc
Project/Site: Ford LTP - On Site

Job ID: 240-190409-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (62-137)	BFB (56-136)	TOL (78-122)	DBFM (73-120)
240-190409-1	TRIP BLANK_108	96	96	99	94
240-190409-2	MW-37_081423	98	96	101	96
LCS 240-584866/4	Lab Control Sample	92	98	100	99
MB 240-584866/7	Method Blank	96	94	99	96

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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (66-120)
240-190408-C-3 MS	Matrix Spike	106
240-190408-C-3 MSD	Matrix Spike Duplicate	99
240-190409-2	MW-37_081423	89
LCS 240-585335/5	Lab Control Sample	103
MB 240-585335/7	Method Blank	103

Surrogate Legend

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

QC Sample Results

Client: ARCADIS US Inc
Project/Site: Ford LTP - On Site

Job ID: 240-190409-1

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

Lab Sample ID: MB 240-584866/7

Matrix: Water

Analysis Batch: 584866

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			08/23/23 12:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/23/23 12:32	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			08/23/23 12:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			08/23/23 12:32	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			08/23/23 12:32	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			08/23/23 12:32	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	96		62 - 137		08/23/23 12:32	1
4-Bromofluorobenzene (Surr)	94		56 - 136		08/23/23 12:32	1
Toluene-d8 (Surr)	99		78 - 122		08/23/23 12:32	1
Dibromofluoromethane (Surr)	96		73 - 120		08/23/23 12:32	1

Lab Sample ID: LCS 240-584866/4

Matrix: Water

Analysis Batch: 584866

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
1,1-Dichloroethene	25.0	25.0		ug/L		100	63 - 134
cis-1,2-Dichloroethene	25.0	25.4		ug/L		102	77 - 123
Tetrachloroethene	25.0	25.1		ug/L		101	76 - 123
trans-1,2-Dichloroethene	25.0	24.7		ug/L		99	75 - 124
Trichloroethene	25.0	24.1		ug/L		96	70 - 122
Vinyl chloride	12.5	7.99		ug/L		64	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	92		62 - 137
4-Bromofluorobenzene (Surr)	98		56 - 136
Toluene-d8 (Surr)	100		78 - 122
Dibromofluoromethane (Surr)	99		73 - 120

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

Lab Sample ID: MB 240-585335/7

Matrix: Water

Analysis Batch: 585335

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			08/28/23 12:11	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	103		66 - 120		08/28/23 12:11	1

QC Sample Results

Client: ARCADIS US Inc
Project/Site: Ford LTP - On Site

Job ID: 240-190409-1

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

Lab Sample ID: LCS 240-585335/5

Matrix: Water

Analysis Batch: 585335

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	10.0	9.91		ug/L		99	80 - 122
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	103		66 - 120				

Lab Sample ID: 240-190408-C-3 MS

Matrix: Water

Analysis Batch: 585335

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	2.0	U	10.0	10.1		ug/L		101	51 - 153
Surrogate	%Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	106		66 - 120						

Lab Sample ID: 240-190408-C-3 MSD

Matrix: Water

Analysis Batch: 585335

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
1,4-Dioxane	2.0	U	10.0	9.97		ug/L		100	51 - 153	1	16
Surrogate	%Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	99		66 - 120								

QC Association Summary

Client: ARCADIS US Inc
Project/Site: Ford LTP - On Site

Job ID: 240-190409-1

GC/MS VOA

Analysis Batch: 584866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-190409-1	TRIP BLANK_108	Total/NA	Water	8260D	
240-190409-2	MW-37_081423	Total/NA	Water	8260D	
MB 240-584866/7	Method Blank	Total/NA	Water	8260D	
LCS 240-584866/4	Lab Control Sample	Total/NA	Water	8260D	

Analysis Batch: 585335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-190409-2	MW-37_081423	Total/NA	Water	8260D SIM	
MB 240-585335/7	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-585335/5	Lab Control Sample	Total/NA	Water	8260D SIM	
240-190408-C-3 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-190408-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	



Lab Chronicle

Client: ARCADIS US Inc
Project/Site: Ford LTP - On Site

Job ID: 240-190409-1

Client Sample ID: TRIP BLANK_108

Lab Sample ID: 240-190409-1

Date Collected: 08/14/23 00:00

Matrix: Water

Date Received: 08/18/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	584866	LEE	EET CLE	08/23/23 12:57

Client Sample ID: MW-37_081423

Lab Sample ID: 240-190409-2

Date Collected: 08/14/23 15:05

Matrix: Water

Date Received: 08/18/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	584866	LEE	EET CLE	08/23/23 13:22
Total/NA	Analysis	8260D SIM		1	585335	MRL	EET CLE	08/28/23 18:32

Laboratory References:

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

Accreditation/Certification Summary

Client: ARCADIS US Inc
 Project/Site: Ford LTP - On Site

Job ID: 240-190409-1

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	02-27-24
Georgia	State	4062	02-27-24
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-28-24
Kentucky (WW)	State	KY98016	12-31-23
Michigan	State	9135	02-27-24
Minnesota	NELAP	039-999-348	12-31-23
Minnesota (Petrofund)	State	3506	08-01-23 *
New Jersey	NELAP	OH001	07-01-24
New York	NELAP	10975	04-02-24
Ohio	State	8303	02-27-24
Ohio VAP	State	ORELAP 4062	02-27-24
Oregon	NELAP	4062	02-27-24
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-23
Virginia	NELAP	460175	09-14-23
West Virginia DEP	State	210	12-31-23

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



0.4/0.5

Chain of Custody Record

MICHIGAN TestAmerica 190

THE LEADER IN ENVIRONMENTAL TESTING

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

Regulatory program: DW NPDES RCRA Other

Client Contact: Arcadis
 Address: 28550 Cabot Drive, Suite 500
 City/State/Zip: Novi, MI, 48377
 Phone: 248-994-2240

Client Project Manager: Kris Hinsky
 Telephone: 248-994-2240
 Email: kris@hinsky.com

Site Contact: Christina Weaver
 Telephone: 248-994-2240

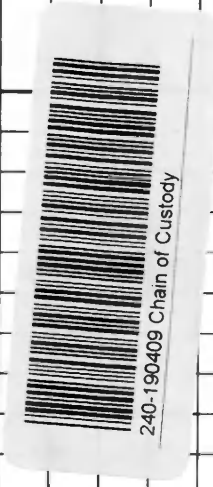
Lab Contact: Mike DeMonico
 Telephone: 330-497-9396

TestAmerica Laboratories, Inc.
 COC No: 1 of 1
 For lab use only

Analysis turnaround time:
 TAT at different from below:
 3 weeks
 10 day
 2 weeks
 1 week
 2 days
 1 day

Sampler Name: **Lottie Jay**
 Method of Shipment/Carrier:
 Shipping/Tracking No:

Sample Identification	Sample Date	Sample Time	Matrix				Containers & Preservatives				Filtered Sample (Y/N)	Composite (C/Grab/G)	Analyses							Sample Specific Notes / Special Instructions						
			Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl			NaOH	ZnAc	Others:	1-1-DCE 8260D	1,2-DCE 8260D	Trans-1,2-DCE 8260D	PCE 8260D		TCE 8260D	Vinyl Chloride 8260D	1,4-Dioxane 8260D SIM			
TRIP BLANK_108	---	---	1											X	X	X	X	X							1 Trip Blank	
MW-37-081423	8/14/23	1505	6											X	X	X	X	X	X	X	X	X	X	X		3 VOAs for 8260D 3 VOAs for 8260D SIM



Possible Hazard Identification:
 Non-Hazard Flammable Irritant Poison B Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month):
 Return to Client Disposal By Lab Archive For _____ Months

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
<i>Lottie Jay</i>	ARCADIS	8/15/23 1600	NOVI cold storage	ARCADIS	8/15/23 1600
<i>Jan Plesed</i>	ARCADIS	8/17/23 1510	Prin Plesed	EETA	8/17/23 1510
<i>Jan Plesed</i>	EETA	8/17/23 1510	Raym Dreye	EETUC	8-18-23 800

SS

Special Instructions/QC Requirements & Comments:
 Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203728
 Level IV Reporting requested.

- 1
- 2
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Eurofins - Cleveland Sample Receipt Form/Narrative
Barberton Facility

Login #: 190409

Client Arcadis Site Name _____ Cooler unpacked by: Nancy Rye
Cooler Received on 8-18-23 Opened on 8-18-23

FedEx: 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # EC ~~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. 0.6 °C Corrected Cooler Temp. 0.5 °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1
 - 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
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# HC312502
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 # Covered Yes No
17. Was a LL Hg or Me Hg trip blank present? Yes No

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

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: _____

DATA VERIFICATION REPORT



August 30, 2023

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728
Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil
Project number: 30167538.401.03- onsite groundwater
Event Specific Scope of Work References: Sample COC
Laboratory: Eurofins Environment Testing LLC - Cleveland
Laboratory submittal: 190409-1
Sample date: 2023-08-14
Report received by CADENA: 2023-08-30
Initial Data Verification completed by CADENA: 2023-08-30
Number of Samples:2
Sample Matrices:Water
Test Categories:GCMS VOC
Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

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

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

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

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <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.

Analytical Results Summary

CADENA Project ID: E203728

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory Submittal: 190409-1

Sample Name: TRIP BLANK_108 MW-37_081423
 Lab Sample ID: 2401904091 2401904092
 Sample Date: 8/14/2023 8/14/2023

Analyte	Cas No.	Report		Units	Valid Qualifier	Report		Units	Valid Qualifier
		Result	Limit			Result	Limit		
GC/MS VOC									
<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	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---
<u>OSW-8260DSIM</u>									
1,4-Dioxane	123-91-1					ND	2.0	ug/l	---