

ANALYTICAL REPORT

PREPARED FOR

Attn: Kristoffer Hinskey
ARCADIS U.S., Inc.
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JOB DESCRIPTION

Ford LTP - On Site

JOB NUMBER

240-180867-1

Eurofins Canton

Job Notes

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of Eurofins Environment Testing North Central, LLC and its client. All questions regarding this report should be directed to the Eurofins Environment Testing North Central, LLC Project Manager who has signed this report.

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Authorization



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Definitions/Glossary

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

Job ID: 240-180867-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
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/Site: Ford LTP - On Site

Job ID: 240-180867-1

Job ID: 240-180867-1

Laboratory: Eurofins Canton

Narrative

**Job Narrative
240-180867-1**

Receipt

The samples were received on 2/24/2023 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 0.3°C

GC/MS VOA

Method 8260D: The MS/MSD for batch 563499 was not reported because the parent sample needed re-analyzed. TRIP BLANK_172 (240-180867-1), MW-196_022223 (240-180867-2) and MW-196S_022223 (240-180867-3)

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



Method Summary

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

Job ID: 240-180867-1

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

Protocol References:

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

Laboratory References:

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

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- 12
- 13
- 14

Sample Summary

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

Job ID: 240-180867-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-180867-1	TRIP BLANK_172	Water	02/22/23 00:00	02/24/23 08:00
240-180867-2	MW-196_022223	Water	02/22/23 10:03	02/24/23 08:00
240-180867-3	MW-196S_022223	Water	02/22/23 11:10	02/24/23 08:00

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- 10
- 11
- 12
- 13
- 14

Detection Summary

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

Job ID: 240-180867-1

Client Sample ID: TRIP BLANK_172

Lab Sample ID: 240-180867-1

No Detections.

Client Sample ID: MW-196_022223

Lab Sample ID: 240-180867-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	360		10	4.6	ug/L	10		8260D	Total/NA
trans-1,2-Dichloroethene	120		10	5.1	ug/L	10		8260D	Total/NA
Trichloroethene	420		10	4.4	ug/L	10		8260D	Total/NA

Client Sample ID: MW-196S_022223

Lab Sample ID: 240-180867-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	59		2.0	0.92	ug/L	2		8260D	Total/NA
trans-1,2-Dichloroethene	1.3	J	2.0	1.0	ug/L	2		8260D	Total/NA
Trichloroethene	45		2.0	0.88	ug/L	2		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Canton

Client Sample Results

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

Job ID: 240-180867-1

Client Sample ID: TRIP BLANK_172

Lab Sample ID: 240-180867-1

Date Collected: 02/22/23 00:00

Matrix: Water

Date Received: 02/24/23 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			02/27/23 17:44	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/27/23 17:44	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/27/23 17:44	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/27/23 17:44	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/27/23 17:44	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/27/23 17:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		62 - 137		02/27/23 17:44	1
4-Bromofluorobenzene (Surr)	120		56 - 136		02/27/23 17:44	1
Toluene-d8 (Surr)	97		78 - 122		02/27/23 17:44	1
Dibromofluoromethane (Surr)	111		73 - 120		02/27/23 17:44	1

Client Sample Results

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

Job ID: 240-180867-1

Client Sample ID: MW-196_022223

Lab Sample ID: 240-180867-2

Date Collected: 02/22/23 10:03

Matrix: Water

Date Received: 02/24/23 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			03/03/23 03:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		66 - 120					03/03/23 03:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	10	U	10	4.9	ug/L			02/27/23 18:09	10
cis-1,2-Dichloroethene	360		10	4.6	ug/L			02/27/23 18:09	10
Tetrachloroethene	10	U	10	4.4	ug/L			02/27/23 18:09	10
trans-1,2-Dichloroethene	120		10	5.1	ug/L			02/27/23 18:09	10
Trichloroethene	420		10	4.4	ug/L			02/27/23 18:09	10
Vinyl chloride	10	U	10	4.5	ug/L			02/27/23 18:09	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		62 - 137					02/27/23 18:09	10
4-Bromofluorobenzene (Surr)	123		56 - 136					02/27/23 18:09	10
Toluene-d8 (Surr)	97		78 - 122					02/27/23 18:09	10
Dibromofluoromethane (Surr)	109		73 - 120					02/27/23 18:09	10

Client Sample Results

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

Job ID: 240-180867-1

Client Sample ID: MW-196S_022223

Lab Sample ID: 240-180867-3

Date Collected: 02/22/23 11:10

Matrix: Water

Date Received: 02/24/23 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			03/03/23 04:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		66 - 120					03/03/23 04:18	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	2.0	U	2.0	0.98	ug/L			02/27/23 18:34	2
cis-1,2-Dichloroethene	59		2.0	0.92	ug/L			02/27/23 18:34	2
Tetrachloroethene	2.0	U	2.0	0.88	ug/L			02/27/23 18:34	2
trans-1,2-Dichloroethene	1.3	J	2.0	1.0	ug/L			02/27/23 18:34	2
Trichloroethene	45		2.0	0.88	ug/L			02/27/23 18:34	2
Vinyl chloride	2.0	U	2.0	0.90	ug/L			02/27/23 18:34	2
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		62 - 137					02/27/23 18:34	2
4-Bromofluorobenzene (Surr)	119		56 - 136					02/27/23 18:34	2
Toluene-d8 (Surr)	96		78 - 122					02/27/23 18:34	2
Dibromofluoromethane (Surr)	112		73 - 120					02/27/23 18:34	2

Surrogate Summary

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

Job ID: 240-180867-1

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)
240-180867-1	TRIP BLANK_172	117	120	97	111
240-180867-2	MW-196_022223	115	123	97	109
240-180867-3	MW-196S_022223	111	119	96	112
LCS 240-563499/5	Lab Control Sample	109	120	97	106
MB 240-563499/9	Method Blank	112	117	96	108

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)
240-180867-2	MW-196_022223	96
240-180867-3	MW-196S_022223	90
240-180869-B-2 MSD	Matrix Spike Duplicate	85
240-180869-D-2 MS	Matrix Spike	86
LCS 240-564077/4	Lab Control Sample	86
MB 240-564077/6	Method Blank	86

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-180867-1

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

Lab Sample ID: MB 240-563499/9
Matrix: Water
Analysis Batch: 563499

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			02/27/23 13:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			02/27/23 13:12	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			02/27/23 13:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			02/27/23 13:12	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			02/27/23 13:12	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/27/23 13:12	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	112		62 - 137		02/27/23 13:12	1
4-Bromofluorobenzene (Surr)	117		56 - 136		02/27/23 13:12	1
Toluene-d8 (Surr)	96		78 - 122		02/27/23 13:12	1
Dibromofluoromethane (Surr)	108		73 - 120		02/27/23 13:12	1

Lab Sample ID: LCS 240-563499/5
Matrix: Water
Analysis Batch: 563499

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	20.0	20.9		ug/L		105	63 - 134
cis-1,2-Dichloroethene	20.0	19.1		ug/L		96	77 - 123
Tetrachloroethene	20.0	18.7		ug/L		94	76 - 123
trans-1,2-Dichloroethene	20.0	19.3		ug/L		96	75 - 124
Trichloroethene	20.0	19.3		ug/L		97	70 - 122
Vinyl chloride	20.0	18.7		ug/L		94	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	109		62 - 137
4-Bromofluorobenzene (Surr)	120		56 - 136
Toluene-d8 (Surr)	97		78 - 122
Dibromofluoromethane (Surr)	106		73 - 120

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

Lab Sample ID: MB 240-564077/6
Matrix: Water
Analysis Batch: 564077

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			03/03/23 03:29	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	86		66 - 120		03/03/23 03:29	1

QC Sample Results

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

Job ID: 240-180867-1

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

Lab Sample ID: LCS 240-564077/4

Matrix: Water

Analysis Batch: 564077

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	9.38		ug/L		94	80 - 122
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	86		66 - 120				

Lab Sample ID: 240-180869-B-2 MSD

Matrix: Water

Analysis Batch: 564077

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	RPD Limit
1,4-Dioxane	2.0	U	10.0	10.7		ug/L		107	51 - 153	7	16
Surrogate	%Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	85		66 - 120								

Lab Sample ID: 240-180869-D-2 MS

Matrix: Water

Analysis Batch: 564077

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	11.4		ug/L		114	51 - 153
Surrogate	%Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	86		66 - 120						

QC Association Summary

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

Job ID: 240-180867-1

GC/MS VOA

Analysis Batch: 563499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-180867-1	TRIP BLANK_172	Total/NA	Water	8260D	
240-180867-2	MW-196_022223	Total/NA	Water	8260D	
240-180867-3	MW-196S_022223	Total/NA	Water	8260D	
MB 240-563499/9	Method Blank	Total/NA	Water	8260D	
LCS 240-563499/5	Lab Control Sample	Total/NA	Water	8260D	

Analysis Batch: 564077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-180867-2	MW-196_022223	Total/NA	Water	8260D SIM	
240-180867-3	MW-196S_022223	Total/NA	Water	8260D SIM	
MB 240-564077/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-564077/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-180869-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	
240-180869-D-2 MS	Matrix Spike	Total/NA	Water	8260D SIM	

Lab Chronicle

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

Job ID: 240-180867-1

Client Sample ID: TRIP BLANK_172

Lab Sample ID: 240-180867-1

Date Collected: 02/22/23 00:00

Matrix: Water

Date Received: 02/24/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	563499	HMB	EET CAN	02/27/23 17:44

Client Sample ID: MW-196_022223

Lab Sample ID: 240-180867-2

Date Collected: 02/22/23 10:03

Matrix: Water

Date Received: 02/24/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	563499	HMB	EET CAN	02/27/23 18:09
Total/NA	Analysis	8260D SIM		1	564077	BAJ	EET CAN	03/03/23 03:54

Client Sample ID: MW-196S_022223

Lab Sample ID: 240-180867-3

Date Collected: 02/22/23 11:10

Matrix: Water

Date Received: 02/24/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2	563499	HMB	EET CAN	02/27/23 18:34
Total/NA	Analysis	8260D SIM		1	564077	BAJ	EET CAN	03/03/23 04:18

Laboratory References:

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

Accreditation/Certification Summary

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

Job ID: 240-180867-1

Laboratory: Eurofins Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-27-23 *
Connecticut	State	PH-0590	12-31-23
Florida	NELAP	E87225	06-30-23
Georgia	State	4062	02-27-23 *
Illinois	NELAP	200004	07-31-23
Iowa	State	421	06-01-23
Kentucky (UST)	State	112225	02-27-23 *
Kentucky (WW)	State	KY98016	12-31-23
Michigan	State	9135	02-27-23 *
Minnesota	NELAP	039-999-348	12-31-23
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-23
New York	NELAP	10975	04-01-23
Ohio	State	8303	02-27-23 *
Ohio VAP	State	CL0024	02-27-23 *
Oregon	NELAP	4062	02-28-24
Pennsylvania	NELAP	68-00340	08-31-23
Texas	NELAP	T104704517-22-17	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.



Eurofins - Canton Sample Receipt Form/Narrative
Barberton Facility

Login #: 180867

Client Arcadis Site Name Ford-Livonia

Cooler unpacked by: [Signature]

Cooler Received on 2-24-23 Opened on 2-24-23

FedEx: 1st Grd Exp UPS FAS (Clipper) 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 # IR-13 (CF -0.2 °C) Observed Cooler Temp. 0.2 °C Corrected Cooler Temp. _____ °C
- IR GUN # IR-16 (CF -0.1 °C) Observed Cooler Temp. 0.4 °C Corrected Cooler Temp. 0.3 °C
- IR GUN # IR-17 (CF -0.3 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

- 2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 - 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
 - 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)?
 - 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# HC203864
 - 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 # 0122016 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



March 06, 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: 30146655.401.03- onsite groundwater
Event Specific Scope of Work References: Sample COC
Laboratory: Eurofins Environment Testing LLC - Barberton
Laboratory submittal: 180867-1
Sample date: 2023-02-22
Report received by CADENA: 2023-03-03
Initial Data Verification completed by CADENA: 2023-03-06
Number of Samples:3
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 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.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

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 - Barberton

Laboratory Submittal: 180867-1

Sample Name:	TRIP BLANK_172	MW-196_022223	MW-196S_022223
Lab Sample ID:	2401808671	2401808672	2401808673
Sample Date:	2/22/2023	2/22/2023	2/22/2023

Analyte	Cas No.	TRIP BLANK_172				MW-196_022223				MW-196S_022223			
		Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier
GC/MS VOC													
<u>OSW-8260D</u>													
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	10	ug/l	---	ND	2.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	360	10	ug/l	---	59	2.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	10	ug/l	---	ND	2.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	120	10	ug/l	---	1.3	2.0	ug/l	J
Trichloroethene	79-01-6	ND	1.0	ug/l	---	420	10	ug/l	---	45	2.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	10	ug/l	---	ND	2.0	ug/l	---
<u>OSW-8260DSIM</u>													
1,4-Dioxane	123-91-1					ND	2.0	ug/l	---	ND	2.0	ug/l	---