

ANALYTICAL REPORT

PREPARED FOR

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Generated 3/8/2023 6:23:04 AM

JOB DESCRIPTION

Ford LTP - On-Site

JOB NUMBER

240-181009-1

Eurofins Canton

Job Notes

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Authorization



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Definitions/Glossary

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

Job ID: 240-181009-1

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: 240-181009-1

Job ID: 240-181009-1

Laboratory: Eurofins Canton

Narrative

**Job Narrative
240-181009-1**

Receipt

The samples were received on 2/25/2023 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.4°C and 0.6°C

GC/MS VOA

Method 8260D: An MS/MSD was set to be analyzed in 240-564172 however due to a malfunction the QC did not get done. The samples affected are: DUP-04 (240-181009-5)

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

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Method Summary

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

Job ID: 240-181009-1

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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Sample Summary

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

Job ID: 240-181009-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-181009-1	TRIP BLANK_154	Water	02/23/23 00:00	02/25/23 08:00
240-181009-2	MW-62_022323	Water	02/23/23 12:31	02/25/23 08:00
240-181009-3	MW-50_022323	Water	02/23/23 14:06	02/25/23 08:00
240-181009-4	MW-63_022323	Water	02/23/23 15:19	02/25/23 08:00
240-181009-5	DUP-04	Water	02/23/23 00:00	02/25/23 08:00

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- 13
- 14

Detection Summary

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

Job ID: 240-181009-1

Client Sample ID: TRIP BLANK_154

Lab Sample ID: 240-181009-1

No Detections.

Client Sample ID: MW-62_022323

Lab Sample ID: 240-181009-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.4		2.0	0.86	ug/L	1		8260D SIM	Total/NA
Vinyl chloride	0.88	J	1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: MW-50_022323

Lab Sample ID: 240-181009-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.92	J	2.0	0.86	ug/L	1		8260D SIM	Total/NA
cis-1,2-Dichloroethene	19		6.7	3.1	ug/L	6.667		8260D	Total/NA
Vinyl chloride	330		6.7	3.0	ug/L	6.667		8260D	Total/NA

Client Sample ID: MW-63_022323

Lab Sample ID: 240-181009-4

No Detections.

Client Sample ID: DUP-04

Lab Sample ID: 240-181009-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.2	J	2.0	0.86	ug/L	1		8260D SIM	Total/NA
cis-1,2-Dichloroethene	20		10	4.6	ug/L	10		8260D	Total/NA
Vinyl chloride	340		10	4.5	ug/L	10		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: 240-181009-1

Client Sample ID: TRIP BLANK_154

Lab Sample ID: 240-181009-1

Date Collected: 02/23/23 00:00

Matrix: Water

Date Received: 02/25/23 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			03/01/23 16:11	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/01/23 16:11	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/01/23 16:11	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/01/23 16:11	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/01/23 16:11	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/01/23 16:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		62 - 137		03/01/23 16:11	1
4-Bromofluorobenzene (Surr)	86		56 - 136		03/01/23 16:11	1
Toluene-d8 (Surr)	94		78 - 122		03/01/23 16:11	1
Dibromofluoromethane (Surr)	98		73 - 120		03/01/23 16:11	1

Client Sample Results

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

Job ID: 240-181009-1

Client Sample ID: MW-62_022323

Lab Sample ID: 240-181009-2

Date Collected: 02/23/23 12:31

Matrix: Water

Date Received: 02/25/23 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	2.4		2.0	0.86	ug/L			03/03/23 05:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		66 - 120					03/03/23 05:06	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			03/02/23 20:30	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/02/23 20:30	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 20:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/02/23 20:30	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 20:30	1
Vinyl chloride	0.88	J	1.0	0.45	ug/L			03/02/23 20:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		62 - 137					03/02/23 20:30	1
4-Bromofluorobenzene (Surr)	76		56 - 136					03/02/23 20:30	1
Toluene-d8 (Surr)	83		78 - 122					03/02/23 20:30	1
Dibromofluoromethane (Surr)	86		73 - 120					03/02/23 20:30	1

Client Sample Results

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

Job ID: 240-181009-1

Client Sample ID: MW-50_022323

Lab Sample ID: 240-181009-3

Date Collected: 02/23/23 14:06

Matrix: Water

Date Received: 02/25/23 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	0.92	J	2.0	0.86	ug/L			03/03/23 05:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		66 - 120					03/03/23 05:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	6.7	U	6.7	3.3	ug/L			03/02/23 22:34	6.667
cis-1,2-Dichloroethene	19		6.7	3.1	ug/L			03/02/23 22:34	6.667
Tetrachloroethene	6.7	U	6.7	2.9	ug/L			03/02/23 22:34	6.667
trans-1,2-Dichloroethene	6.7	U	6.7	3.4	ug/L			03/02/23 22:34	6.667
Trichloroethene	6.7	U	6.7	2.9	ug/L			03/02/23 22:34	6.667
Vinyl chloride	330		6.7	3.0	ug/L			03/02/23 22:34	6.667
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		62 - 137					03/02/23 22:34	6.667
4-Bromofluorobenzene (Surr)	79		56 - 136					03/02/23 22:34	6.667
Toluene-d8 (Surr)	84		78 - 122					03/02/23 22:34	6.667
Dibromofluoromethane (Surr)	88		73 - 120					03/02/23 22:34	6.667

Client Sample Results

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

Job ID: 240-181009-1

Client Sample ID: MW-63_022323

Lab Sample ID: 240-181009-4

Date Collected: 02/23/23 15:19

Matrix: Water

Date Received: 02/25/23 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 05:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		66 - 120					03/03/23 05:55	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			03/02/23 20:55	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/02/23 20:55	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 20:55	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/02/23 20:55	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 20:55	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/02/23 20:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		62 - 137					03/02/23 20:55	1
4-Bromofluorobenzene (Surr)	79		56 - 136					03/02/23 20:55	1
Toluene-d8 (Surr)	86		78 - 122					03/02/23 20:55	1
Dibromofluoromethane (Surr)	88		73 - 120					03/02/23 20:55	1

Client Sample Results

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

Job ID: 240-181009-1

Client Sample ID: DUP-04

Lab Sample ID: 240-181009-5

Date Collected: 02/23/23 00:00

Matrix: Water

Date Received: 02/25/23 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	1.2	J	2.0	0.86	ug/L			03/03/23 06:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		66 - 120					03/03/23 06:19	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			03/03/23 23:36	10
cis-1,2-Dichloroethene	20		10	4.6	ug/L			03/03/23 23:36	10
Tetrachloroethene	10	U	10	4.4	ug/L			03/03/23 23:36	10
trans-1,2-Dichloroethene	10	U	10	5.1	ug/L			03/03/23 23:36	10
Trichloroethene	10	U	10	4.4	ug/L			03/03/23 23:36	10
Vinyl chloride	340		10	4.5	ug/L			03/03/23 23:36	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		62 - 137					03/03/23 23:36	10
4-Bromofluorobenzene (Surr)	80		56 - 136					03/03/23 23:36	10
Toluene-d8 (Surr)	86		78 - 122					03/03/23 23:36	10
Dibromofluoromethane (Surr)	88		73 - 120					03/03/23 23:36	10

Surrogate Summary

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

Job ID: 240-181009-1

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)
240-180985-F-8 MS	Matrix Spike	106	91	93	98
240-180985-I-8 MSD	Matrix Spike Duplicate	104	90	93	98
240-181009-1	TRIP BLANK_154	110	86	94	98
240-181009-2	MW-62_022323	86	76	83	86
240-181009-2 MS	MW-62_022323 MS	85	81	85	86
240-181009-2 MSD	MW-62_022323 MSD	85	83	85	87
240-181009-3	MW-50_022323	85	79	84	88
240-181009-4	MW-63_022323	85	79	86	88
240-181009-5	DUP-04	87	80	86	88
LCS 240-563897/5	Lab Control Sample	110	93	92	99
LCS 240-564047/5	Lab Control Sample	81	82	86	88
LCS 240-564172/5	Lab Control Sample	85	84	86	89
MB 240-563897/8	Method Blank	108	87	90	97
MB 240-564047/8	Method Blank	84	80	86	87
MB 240-564172/8	Method Blank	83	78	83	84

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)
240-181009-2	MW-62_022323	83
240-181009-2 MS	MW-62_022323 MS	90
240-181009-2 MSD	MW-62_022323 MSD	92
240-181009-3	MW-50_022323	93
240-181009-4	MW-63_022323	81
240-181009-5	DUP-04	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: 240-181009-1

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

Lab Sample ID: MB 240-563897/8
Matrix: Water
Analysis Batch: 563897

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			03/01/23 15:46	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/01/23 15:46	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/01/23 15:46	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/01/23 15:46	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/01/23 15:46	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/01/23 15:46	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	108		62 - 137		03/01/23 15:46	1
4-Bromofluorobenzene (Surr)	87		56 - 136		03/01/23 15:46	1
Toluene-d8 (Surr)	90		78 - 122		03/01/23 15:46	1
Dibromofluoromethane (Surr)	97		73 - 120		03/01/23 15:46	1

Lab Sample ID: LCS 240-563897/5
Matrix: Water
Analysis Batch: 563897

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	16.3		ug/L		82	63 - 134
cis-1,2-Dichloroethene	20.0	18.1		ug/L		90	77 - 123
Tetrachloroethene	20.0	19.1		ug/L		95	76 - 123
trans-1,2-Dichloroethene	20.0	19.8		ug/L		99	75 - 124
Trichloroethene	20.0	19.2		ug/L		96	70 - 122
Vinyl chloride	20.0	20.7		ug/L		103	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	110		62 - 137
4-Bromofluorobenzene (Surr)	93		56 - 136
Toluene-d8 (Surr)	92		78 - 122
Dibromofluoromethane (Surr)	99		73 - 120

Lab Sample ID: 240-180985-F-8 MS
Matrix: Water
Analysis Batch: 563897

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

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
1,1-Dichloroethene	1.0	U	20.0	16.2		ug/L		81	56 - 135
cis-1,2-Dichloroethene	1.0	U	20.0	16.8		ug/L		84	66 - 128
Tetrachloroethene	1.0	U	20.0	17.4		ug/L		87	62 - 131
trans-1,2-Dichloroethene	1.0	U	20.0	17.9		ug/L		89	56 - 136
Trichloroethene	1.0	U	20.0	17.3		ug/L		87	61 - 124
Vinyl chloride	1.0	U	20.0	20.5		ug/L		103	43 - 157

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	106		62 - 137
4-Bromofluorobenzene (Surr)	91		56 - 136
Toluene-d8 (Surr)	93		78 - 122

QC Sample Results

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

Job ID: 240-181009-1

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

Lab Sample ID: 240-180985-F-8 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 563897

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	98		73 - 120

Lab Sample ID: 240-180985-I-8 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 563897

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
1,1-Dichloroethene	1.0	U	20.0	16.0		ug/L		80	56 - 135	1	26
cis-1,2-Dichloroethene	1.0	U	20.0	17.2		ug/L		86	66 - 128	3	14
Tetrachloroethene	1.0	U	20.0	18.2		ug/L		91	62 - 131	5	20
trans-1,2-Dichloroethene	1.0	U	20.0	18.0		ug/L		90	56 - 136	1	15
Trichloroethene	1.0	U	20.0	17.7		ug/L		88	61 - 124	2	15
Vinyl chloride	1.0	U	20.0	20.6		ug/L		103	43 - 157	1	24

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	104		62 - 137
4-Bromofluorobenzene (Surr)	90		56 - 136
Toluene-d8 (Surr)	93		78 - 122
Dibromofluoromethane (Surr)	98		73 - 120

Lab Sample ID: MB 240-564047/8

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 564047

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			03/02/23 15:58	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/02/23 15:58	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 15:58	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/02/23 15:58	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/02/23 15:58	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/02/23 15:58	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	84		62 - 137		03/02/23 15:58	1
4-Bromofluorobenzene (Surr)	80		56 - 136		03/02/23 15:58	1
Toluene-d8 (Surr)	86		78 - 122		03/02/23 15:58	1
Dibromofluoromethane (Surr)	87		73 - 120		03/02/23 15:58	1

Lab Sample ID: LCS 240-564047/5

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 564047

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
1,1-Dichloroethene	25.0	25.9		ug/L		104	63 - 134
cis-1,2-Dichloroethene	25.0	26.0		ug/L		104	77 - 123
Tetrachloroethene	25.0	26.3		ug/L		105	76 - 123
trans-1,2-Dichloroethene	25.0	25.0		ug/L		100	75 - 124
Trichloroethene	25.0	24.7		ug/L		99	70 - 122

Eurofins Canton

QC Sample Results

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

Job ID: 240-181009-1

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

Lab Sample ID: LCS 240-564047/5

Matrix: Water

Analysis Batch: 564047

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl chloride	12.5	12.4		ug/L		99	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	81		62 - 137
4-Bromofluorobenzene (Surr)	82		56 - 136
Toluene-d8 (Surr)	86		78 - 122
Dibromofluoromethane (Surr)	88		73 - 120

Lab Sample ID: 240-181009-2 MS

Matrix: Water

Analysis Batch: 564047

Client Sample ID: MW-62_022323 MS

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	1.0	U	25.0	22.9		ug/L		91	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	23.0		ug/L		92	66 - 128
Tetrachloroethene	1.0	U	25.0	22.3		ug/L		89	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	21.8		ug/L		87	56 - 136
Trichloroethene	1.0	U	25.0	21.0		ug/L		84	61 - 124
Vinyl chloride	0.88	J	12.5	12.2		ug/L		91	43 - 157

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	85		62 - 137
4-Bromofluorobenzene (Surr)	81		56 - 136
Toluene-d8 (Surr)	85		78 - 122
Dibromofluoromethane (Surr)	86		73 - 120

Lab Sample ID: 240-181009-2 MSD

Matrix: Water

Analysis Batch: 564047

Client Sample ID: MW-62_022323 MSD

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	25.0	23.6		ug/L		94	56 - 135	3	26
cis-1,2-Dichloroethene	1.0	U	25.0	23.3		ug/L		93	66 - 128	1	14
Tetrachloroethene	1.0	U	25.0	22.4		ug/L		90	62 - 131	0	20
trans-1,2-Dichloroethene	1.0	U	25.0	21.9		ug/L		87	56 - 136	0	15
Trichloroethene	1.0	U	25.0	21.2		ug/L		85	61 - 124	1	15
Vinyl chloride	0.88	J	12.5	12.0		ug/L		89	43 - 157	2	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	85		62 - 137
4-Bromofluorobenzene (Surr)	83		56 - 136
Toluene-d8 (Surr)	85		78 - 122
Dibromofluoromethane (Surr)	87		73 - 120

QC Sample Results

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

Job ID: 240-181009-1

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

Lab Sample ID: MB 240-564172/8
Matrix: Water
Analysis Batch: 564172

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			03/03/23 14:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/03/23 14:41	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/03/23 14:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/03/23 14:41	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/03/23 14:41	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/03/23 14:41	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	83		62 - 137		03/03/23 14:41	1
4-Bromofluorobenzene (Surr)	78		56 - 136		03/03/23 14:41	1
Toluene-d8 (Surr)	83		78 - 122		03/03/23 14:41	1
Dibromofluoromethane (Surr)	84		73 - 120		03/03/23 14:41	1

Lab Sample ID: LCS 240-564172/5
Matrix: Water
Analysis Batch: 564172

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	26.9		ug/L		108	63 - 134
cis-1,2-Dichloroethene	25.0	26.6		ug/L		106	77 - 123
Tetrachloroethene	25.0	26.3		ug/L		105	76 - 123
trans-1,2-Dichloroethene	25.0	26.0		ug/L		104	75 - 124
Trichloroethene	25.0	24.7		ug/L		99	70 - 122
Vinyl chloride	12.5	12.1		ug/L		97	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	85		62 - 137
4-Bromofluorobenzene (Surr)	84		56 - 136
Toluene-d8 (Surr)	86		78 - 122
Dibromofluoromethane (Surr)	89		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: 240-181009-1

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		LCS %Recovery	LCS Qualifier				Limits
1,2-Dichloroethane-d4 (Surr)		86					66 - 120

Lab Sample ID: 240-181009-2 MS

Matrix: Water

Analysis Batch: 564077

Client Sample ID: MW-62_022323 MS

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	2.4		10.0	13.6		ug/L		113	51 - 153
Surrogate		MS %Recovery		MS Qualifier					Limits
1,2-Dichloroethane-d4 (Surr)		90							66 - 120

Lab Sample ID: 240-181009-2 MSD

Matrix: Water

Analysis Batch: 564077

Client Sample ID: MW-62_022323 MSD

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	2.4		10.0	14.4		ug/L		121	51 - 153	6	16
Surrogate		MSD %Recovery		MSD Qualifier					Limits		
1,2-Dichloroethane-d4 (Surr)		92							66 - 120		

QC Association Summary

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

Job ID: 240-181009-1

GC/MS VOA

Analysis Batch: 563897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-181009-1	TRIP BLANK_154	Total/NA	Water	8260D	
MB 240-563897/8	Method Blank	Total/NA	Water	8260D	
LCS 240-563897/5	Lab Control Sample	Total/NA	Water	8260D	
240-180985-F-8 MS	Matrix Spike	Total/NA	Water	8260D	
240-180985-I-8 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 564047

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-181009-2	MW-62_022323	Total/NA	Water	8260D	
240-181009-3	MW-50_022323	Total/NA	Water	8260D	
240-181009-4	MW-63_022323	Total/NA	Water	8260D	
MB 240-564047/8	Method Blank	Total/NA	Water	8260D	
LCS 240-564047/5	Lab Control Sample	Total/NA	Water	8260D	
240-181009-2 MS	MW-62_022323 MS	Total/NA	Water	8260D	
240-181009-2 MSD	MW-62_022323 MSD	Total/NA	Water	8260D	

Analysis Batch: 564077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-181009-2	MW-62_022323	Total/NA	Water	8260D SIM	
240-181009-3	MW-50_022323	Total/NA	Water	8260D SIM	
240-181009-4	MW-63_022323	Total/NA	Water	8260D SIM	
240-181009-5	DUP-04	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	
240-181009-2 MS	MW-62_022323 MS	Total/NA	Water	8260D SIM	
240-181009-2 MSD	MW-62_022323 MSD	Total/NA	Water	8260D SIM	

Analysis Batch: 564172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-181009-5	DUP-04	Total/NA	Water	8260D	
MB 240-564172/8	Method Blank	Total/NA	Water	8260D	
LCS 240-564172/5	Lab Control Sample	Total/NA	Water	8260D	

Lab Chronicle

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

Job ID: 240-181009-1

Client Sample ID: TRIP BLANK_154

Lab Sample ID: 240-181009-1

Date Collected: 02/23/23 00:00

Matrix: Water

Date Received: 02/25/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	563897	TES	EET CAN	03/01/23 16:11

Client Sample ID: MW-62_022323

Lab Sample ID: 240-181009-2

Date Collected: 02/23/23 12:31

Matrix: Water

Date Received: 02/25/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	564047	SAM	EET CAN	03/02/23 20:30
Total/NA	Analysis	8260D SIM		1	564077	BAJ	EET CAN	03/03/23 05:06

Client Sample ID: MW-50_022323

Lab Sample ID: 240-181009-3

Date Collected: 02/23/23 14:06

Matrix: Water

Date Received: 02/25/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		6.667	564047	SAM	EET CAN	03/02/23 22:34
Total/NA	Analysis	8260D SIM		1	564077	BAJ	EET CAN	03/03/23 05:31

Client Sample ID: MW-63_022323

Lab Sample ID: 240-181009-4

Date Collected: 02/23/23 15:19

Matrix: Water

Date Received: 02/25/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	564047	SAM	EET CAN	03/02/23 20:55
Total/NA	Analysis	8260D SIM		1	564077	BAJ	EET CAN	03/03/23 05:55

Client Sample ID: DUP-04

Lab Sample ID: 240-181009-5

Date Collected: 02/23/23 00:00

Matrix: Water

Date Received: 02/25/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	564172	SAM	EET CAN	03/03/23 23:36
Total/NA	Analysis	8260D SIM		1	564077	BAJ	EET CAN	03/03/23 06:19

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: 240-181009-1

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

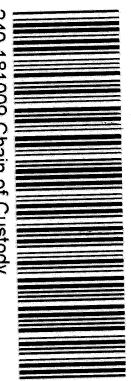
* Accreditation/Certification renewal pending - accreditation/certification considered valid.



Chain of Custody Record

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

Client Contact Company Name: Arcadis Address: 28550 Cabot Drive, Suite 500 City/State/Zip: Novi, MI, 48377 Phone: 248-994-2240 Project Name: Ford LTP On-Site Project Number: 30167538.401.03 PO # 30167538.401.03		Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other	
Client Project Manager: Kris Hinskey Telephone: 248-994-2240 Email: kristoffer.hinskey@arcadis.com Sampler Name: <i>Uchua Ferrein</i> Method of Shipment/Carrier: Shipping/Tracking No:		Site Contact: Christina Weaver Telephone: 248-994-2240 Lab Contact: Mike DeMonico Telephone: 330-497-9396	
Analysis Turnaround Time TAT if different from below: 10 day <input checked="" type="checkbox"/> 3 weeks 1 week <input type="checkbox"/> 2 weeks 2 days <input type="checkbox"/> 1 day		Analyses 1,4-Dioxane 8260B SIM Vinyl Chloride 8260B TCE 8260B PCE 8260B Trans-1,2-DCE 8260B Cis-1,2-DCE 8260B 1,1-DCE 8260B Composite C/Grab-G	
Containers & Preservatives HCl <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> ZnAc <input type="checkbox"/> NaOH <input type="checkbox"/> Other:		Matrix Air <input type="checkbox"/> Aqueous <input type="checkbox"/> Sediment <input type="checkbox"/> Solid <input type="checkbox"/> Other:	
Sample Identification TRIP BLANK_154 MW-62-022323 MW-62-MS-022323 MW-62-MSD-022323 MW-50-022323 MW-63-022323 DUP-04	Sample Date --- 0223/23 12:31 12:31 1406 1519 ---	Sample Time --- 12:31 12:31 1406 1519 ---	Filtered Sample (Y/N) NG NG NG NG NG NG NG
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	
Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203728 Level IV Reporting requested.			
Relinquished by: <i>Uchua Ferrein</i>	Company: Arcadis Date/Time: 02/23/23 1645	Received by: <i>Novi cold storage</i> Company: Arcadis	Date/Time: 2/24/23/ 10:35 Company: EETA
Relinquished by: <i>Christina Weaver</i>	Company: Arcadis Date/Time: 2/24/23/	Received by: <i>Christina Weaver</i> Company: EETA	Date/Time: 2-25-23 800 Company: EETA



240-181009 Chain of Custody



Barberton Facility

Client Arca di S Site Name _____

Cooler unpacked by: Nancy Meyer

Cooler Received on 2-25-23 Opened on 2-27-23

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

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

Eurofins Cooler # _____ ~~ES~~ 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. _____ °C Corrected Cooler Temp. _____ °C
 - IR GUN # IR-16 (CF -0.1 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °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 each 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 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# HC203864
- 14. Were VOAs on the COC? Yes No
- 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 # 62070 Yes No
- 17. Was a LL Hg or Me Hg trip blank present? Yes No

Contacted PM MD Date 2/27 by AM via Verbal Voice Mail Other

Concerning #18

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES additional next page

Samples processed by:

Bottles received for 8260STM but not marked on COC. Tests logged per bottles received.

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: _____

Barberton Facility

Client Arcadis Site Name

Cooler unpacked by: Nancy Peyer

Cooler Received on 2-25-23 Opened on 2-27-23

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

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

Eurofins Cooler # ES 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. °C Corrected Cooler Temp. °C
IR GUN # IR-16 (CF -0.1 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °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 each 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 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

- 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? Larger than this Yes No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 62070 Yes No
17. Was a LL Hg or Me Hg trip blank present? Yes No

Contacted PM MD Date 2/27 by AN via Verbal Voice Mail Other

Concerning #18

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES [] additional next page

Samples processed by:

Bottles received for 8260 STM but not marked on COC. Tests logged per bottles received.

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 08, 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 - Barberton
Laboratory submittal: 181009-1
Sample date: 2023-02-23
Report received by CADENA: 2023-03-08
Initial Data Verification completed by CADENA: 2023-03-08
Number of Samples:5
Sample Matrices: Water and trip blank
Test Categories: GCMS VOC
Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

There were no significant QC anomalies or exceptions to report.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD RPD, 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 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: 181009-1

Analyte	Cas No.	Sample Name: TRIP BLANK_154				Sample Name: MW-62_022323				Sample Name: MW-50_022323				Sample Name: MW-63_022323				Sample Name: DUP-04			
		Result	Limit	Units	Valid	Result	Limit	Units	Valid	Result	Limit	Units	Valid	Result	Limit	Units	Valid	Result	Limit	Units	Valid
GC/MS VOC																					
<u>OSW-8260D</u>																					
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	6.7	ug/l	---	ND	1.0	ug/l	---	ND	10	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	19	6.7	ug/l	---	ND	1.0	ug/l	---	20	10	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	6.7	ug/l	---	ND	1.0	ug/l	---	ND	10	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	6.7	ug/l	---	ND	1.0	ug/l	---	ND	10	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	6.7	ug/l	---	ND	1.0	ug/l	---	ND	10	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	0.88	1.0	ug/l	J	330	6.7	ug/l	---	ND	1.0	ug/l	---	340	10	ug/l	---
<u>OSW-8260DSIM</u>																					
1,4-Dioxane	123-91-1					2.4	2.0	ug/l	---	0.92	2.0	ug/l	J	ND	2.0	ug/l	---	1.2	2.0	ug/l	J