

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

Ford LTP - On Site

JOB NUMBER

240-200372-1

Eurofins Cleveland

Job Notes

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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



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Definitions/Glossary

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

Job ID: 240-200372-1

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: Ford LTP - On Site

Job ID: 240-200372-1

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Job Narrative 240-200372-1

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

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

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

Receipt

The samples were received on 3/2/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.4°C and 3.8°C.

GC/MS VOA

Method 8260D: The MSD for batch 240-605521 was analyzed outside of the tune time, due to an instrument fault. This is a batch QC sample; therefore, the data have been reported.

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: 240-200372-1

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

Protocol References:

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

Laboratory References:

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



Sample Summary

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

Job ID: 240-200372-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-200372-1	TRIP BLANK_85	Water	02/29/24 00:00	03/02/24 08:00
240-200372-2	MW-46_022924	Water	02/29/24 10:30	03/02/24 08:00
240-200372-3	MW-70_022924	Water	02/29/24 11:25	03/02/24 08:00
240-200372-4	DUP-04	Water	02/29/24 00:00	03/02/24 08:00
240-200372-5	MW-45_022924	Water	02/29/24 12:55	03/02/24 08:00
240-200372-6	MW-67_022924	Water	02/29/24 14:05	03/02/24 08:00
240-200372-7	MW-58_022924	Water	02/29/24 15:10	03/02/24 08:00

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

Detection Summary

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

Job ID: 240-200372-1

Client Sample ID: TRIP BLANK_85

Lab Sample ID: 240-200372-1

No Detections.

Client Sample ID: MW-46_022924

Lab Sample ID: 240-200372-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.8	J	2.0	0.86	ug/L	1		8260D SIM	Total/NA
cis-1,2-Dichloroethene	0.59	J	1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	2.7		1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: MW-70_022924

Lab Sample ID: 240-200372-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	6.1		2.0	0.86	ug/L	1		8260D SIM	Total/NA
cis-1,2-Dichloroethene	150		13	5.8	ug/L	12.5		8260D	Total/NA
Vinyl chloride	480		13	5.6	ug/L	12.5		8260D	Total/NA

Client Sample ID: DUP-04

Lab Sample ID: 240-200372-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	6.2		2.0	0.86	ug/L	1		8260D SIM	Total/NA
cis-1,2-Dichloroethene	150		40	18	ug/L	40		8260D	Total/NA
Vinyl chloride	500		40	18	ug/L	40		8260D	Total/NA

Client Sample ID: MW-45_022924

Lab Sample ID: 240-200372-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	22		10	4.6	ug/L	10		8260D	Total/NA
Vinyl chloride	150		10	4.5	ug/L	10		8260D	Total/NA

Client Sample ID: MW-67_022924

Lab Sample ID: 240-200372-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.7		1.0	0.46	ug/L	1		8260D	Total/NA
Trichloroethene	41		1.0	0.44	ug/L	1		8260D	Total/NA
Vinyl chloride	0.58	J	1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: MW-58_022924

Lab Sample ID: 240-200372-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.0		2.0	0.86	ug/L	1		8260D SIM	Total/NA
Vinyl chloride	0.54	J	1.0	0.45	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 240-200372-1

Client Sample ID: TRIP BLANK_85

Lab Sample ID: 240-200372-1

Date Collected: 02/29/24 00:00

Matrix: Water

Date Received: 03/02/24 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			03/08/24 21:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/08/24 21:34	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/08/24 21:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/08/24 21:34	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/08/24 21:34	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/08/24 21:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		62 - 137		03/08/24 21:34	1
4-Bromofluorobenzene (Surr)	84		56 - 136		03/08/24 21:34	1
Toluene-d8 (Surr)	101		78 - 122		03/08/24 21:34	1
Dibromofluoromethane (Surr)	98		73 - 120		03/08/24 21:34	1

Client Sample Results

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

Job ID: 240-200372-1

Client Sample ID: MW-46_022924

Lab Sample ID: 240-200372-2

Date Collected: 02/29/24 10:30

Matrix: Water

Date Received: 03/02/24 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	1.8	J	2.0	0.86	ug/L			03/08/24 05:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		68 - 127					03/08/24 05:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			03/09/24 00:29	1
cis-1,2-Dichloroethene	0.59	J	1.0	0.46	ug/L			03/09/24 00:29	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/09/24 00:29	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/09/24 00:29	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/09/24 00:29	1
Vinyl chloride	2.7		1.0	0.45	ug/L			03/09/24 00:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		62 - 137					03/09/24 00:29	1
4-Bromofluorobenzene (Surr)	84		56 - 136					03/09/24 00:29	1
Toluene-d8 (Surr)	103		78 - 122					03/09/24 00:29	1
Dibromofluoromethane (Surr)	99		73 - 120					03/09/24 00:29	1

Client Sample Results

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

Job ID: 240-200372-1

Client Sample ID: MW-70_022924

Lab Sample ID: 240-200372-3

Date Collected: 02/29/24 11:25

Matrix: Water

Date Received: 03/02/24 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	6.1		2.0	0.86	ug/L			03/08/24 05:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		68 - 127					03/08/24 05:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	13	U	13	6.1	ug/L			03/09/24 00:54	12.5
cis-1,2-Dichloroethene	150		13	5.8	ug/L			03/09/24 00:54	12.5
Tetrachloroethene	13	U	13	5.5	ug/L			03/09/24 00:54	12.5
trans-1,2-Dichloroethene	13	U	13	6.4	ug/L			03/09/24 00:54	12.5
Trichloroethene	13	U	13	5.5	ug/L			03/09/24 00:54	12.5
Vinyl chloride	480		13	5.6	ug/L			03/09/24 00:54	12.5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		62 - 137					03/09/24 00:54	12.5
4-Bromofluorobenzene (Surr)	82		56 - 136					03/09/24 00:54	12.5
Toluene-d8 (Surr)	101		78 - 122					03/09/24 00:54	12.5
Dibromofluoromethane (Surr)	100		73 - 120					03/09/24 00:54	12.5

Client Sample Results

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

Job ID: 240-200372-1

Client Sample ID: DUP-04

Lab Sample ID: 240-200372-4

Date Collected: 02/29/24 00:00

Matrix: Water

Date Received: 03/02/24 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	6.2		2.0	0.86	ug/L			03/08/24 06:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		68 - 127					03/08/24 06:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	40	U	40	20	ug/L			03/09/24 01:19	40
cis-1,2-Dichloroethene	150		40	18	ug/L			03/09/24 01:19	40
Tetrachloroethene	40	U	40	18	ug/L			03/09/24 01:19	40
trans-1,2-Dichloroethene	40	U	40	20	ug/L			03/09/24 01:19	40
Trichloroethene	40	U	40	18	ug/L			03/09/24 01:19	40
Vinyl chloride	500		40	18	ug/L			03/09/24 01:19	40
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		62 - 137					03/09/24 01:19	40
4-Bromofluorobenzene (Surr)	84		56 - 136					03/09/24 01:19	40
Toluene-d8 (Surr)	102		78 - 122					03/09/24 01:19	40
Dibromofluoromethane (Surr)	99		73 - 120					03/09/24 01:19	40

Client Sample Results

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

Job ID: 240-200372-1

Client Sample ID: MW-45_022924

Lab Sample ID: 240-200372-5

Date Collected: 02/29/24 12:55

Matrix: Water

Date Received: 03/02/24 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			03/08/24 22:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		68 - 127					03/08/24 22:27	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			03/09/24 01:44	10
cis-1,2-Dichloroethene	22		10	4.6	ug/L			03/09/24 01:44	10
Tetrachloroethene	10	U	10	4.4	ug/L			03/09/24 01:44	10
trans-1,2-Dichloroethene	10	U	10	5.1	ug/L			03/09/24 01:44	10
Trichloroethene	10	U	10	4.4	ug/L			03/09/24 01:44	10
Vinyl chloride	150		10	4.5	ug/L			03/09/24 01:44	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		62 - 137					03/09/24 01:44	10
4-Bromofluorobenzene (Surr)	83		56 - 136					03/09/24 01:44	10
Toluene-d8 (Surr)	101		78 - 122					03/09/24 01:44	10
Dibromofluoromethane (Surr)	99		73 - 120					03/09/24 01:44	10

Client Sample Results

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

Job ID: 240-200372-1

Client Sample ID: MW-67_022924

Lab Sample ID: 240-200372-6

Date Collected: 02/29/24 14:05

Matrix: Water

Date Received: 03/02/24 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			03/08/24 12:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		68 - 127					03/08/24 12:33	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			03/09/24 02:09	1
cis-1,2-Dichloroethene	1.7		1.0	0.46	ug/L			03/09/24 02:09	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/09/24 02:09	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/09/24 02:09	1
Trichloroethene	41		1.0	0.44	ug/L			03/09/24 02:09	1
Vinyl chloride	0.58 J		1.0	0.45	ug/L			03/09/24 02:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		62 - 137					03/09/24 02:09	1
4-Bromofluorobenzene (Surr)	83		56 - 136					03/09/24 02:09	1
Toluene-d8 (Surr)	101		78 - 122					03/09/24 02:09	1
Dibromofluoromethane (Surr)	99		73 - 120					03/09/24 02:09	1

Client Sample Results

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

Job ID: 240-200372-1

Client Sample ID: MW-58_022924

Lab Sample ID: 240-200372-7

Date Collected: 02/29/24 15:10

Matrix: Water

Date Received: 03/02/24 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		2.0	0.86	ug/L			03/08/24 12:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		68 - 127					03/08/24 12:57	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			03/09/24 02:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/09/24 02:34	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/09/24 02:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/09/24 02:34	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/09/24 02:34	1
Vinyl chloride	0.54	J	1.0	0.45	ug/L			03/09/24 02:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		62 - 137					03/09/24 02:34	1
4-Bromofluorobenzene (Surr)	86		56 - 136					03/09/24 02:34	1
Toluene-d8 (Surr)	102		78 - 122					03/09/24 02:34	1
Dibromofluoromethane (Surr)	97		73 - 120					03/09/24 02:34	1

Surrogate Summary

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

Job ID: 240-200372-1

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)
240-200372-1	TRIP BLANK_85	105	84	101	98
240-200372-2	MW-46_022924	106	84	103	99
240-200372-3	MW-70_022924	106	82	101	100
240-200372-4	DUP-04	106	84	102	99
240-200372-5	MW-45_022924	104	83	101	99
240-200372-6	MW-67_022924	106	83	101	99
240-200372-7	MW-58_022924	104	86	102	97
240-200378-C-2 MS	Matrix Spike	98	103	103	97
240-200378-C-2 MSD	Matrix Spike Duplicate	96	101	104	95
LCS 240-605521/4	Lab Control Sample	98	103	105	97
MB 240-605521/31	Method Blank	106	92	103	99

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 (68-127)
240-200367-F-2 MS	Matrix Spike	115
240-200367-F-2 MSD	Matrix Spike Duplicate	114
240-200372-2	MW-46_022924	111
240-200372-3	MW-70_022924	111
240-200372-4	DUP-04	111
240-200372-5	MW-45_022924	107
240-200372-6	MW-67_022924	103
240-200372-7	MW-58_022924	115
240-200378-B-2 MS	Matrix Spike	112
240-200378-B-2 MSD	Matrix Spike Duplicate	123
240-200381-C-4 MS	Matrix Spike	107
240-200381-C-4 MSD	Matrix Spike Duplicate	107
LCS 240-605381/4	Lab Control Sample	106
LCS 240-605411/5	Lab Control Sample	110
LCS 240-605526/3	Lab Control Sample	108
MB 240-605381/6	Method Blank	107
MB 240-605411/7	Method Blank	111
MB 240-605526/5	Method Blank	84

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-200372-1

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

Lab Sample ID: MB 240-605521/31

Matrix: Water

Analysis Batch: 605521

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			03/08/24 19:44	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			03/08/24 19:44	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			03/08/24 19:44	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			03/08/24 19:44	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			03/08/24 19:44	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			03/08/24 19:44	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	106		62 - 137		03/08/24 19:44	1
4-Bromofluorobenzene (Surr)	92		56 - 136		03/08/24 19:44	1
Toluene-d8 (Surr)	103		78 - 122		03/08/24 19:44	1
Dibromofluoromethane (Surr)	99		73 - 120		03/08/24 19:44	1

Lab Sample ID: LCS 240-605521/4

Matrix: Water

Analysis Batch: 605521

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,2-Dichloroethene	25.0	25.7		ug/L		103	77 - 123
Tetrachloroethene	25.0	25.3		ug/L		101	76 - 123
trans-1,2-Dichloroethene	25.0	25.8		ug/L		103	75 - 124
Trichloroethene	25.0	23.8		ug/L		95	70 - 122
Vinyl chloride	12.5	11.9		ug/L		95	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	98		62 - 137
4-Bromofluorobenzene (Surr)	103		56 - 136
Toluene-d8 (Surr)	105		78 - 122
Dibromofluoromethane (Surr)	97		73 - 120

Lab Sample ID: 240-200378-C-2 MS

Matrix: Water

Analysis Batch: 605521

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	25.0	25.7		ug/L		103	56 - 135
cis-1,2-Dichloroethene	1.0	U	25.0	25.7		ug/L		103	66 - 128
Tetrachloroethene	1.0	U	25.0	23.5		ug/L		94	62 - 131
trans-1,2-Dichloroethene	1.0	U	25.0	25.8		ug/L		103	56 - 136
Trichloroethene	1.0	U	25.0	23.0		ug/L		92	61 - 124
Vinyl chloride	1.0	U	12.5	9.22		ug/L		74	43 - 157

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

Eurofins Cleveland

QC Sample Results

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

Job ID: 240-200372-1

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

Lab Sample ID: 240-200378-C-2 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 605521

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
Dibromofluoromethane (Surr)	97		73 - 120

Lab Sample ID: 240-200378-C-2 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 605521

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		95	56 - 135	8	26
cis-1,2-Dichloroethene	1.0	U	25.0	24.7		ug/L		99	66 - 128	4	14
Tetrachloroethene	1.0	U	25.0	24.0		ug/L		96	62 - 131	2	20
trans-1,2-Dichloroethene	1.0	U	25.0	24.8		ug/L		99	56 - 136	4	15
Trichloroethene	1.0	U	25.0	23.1		ug/L		92	61 - 124	0	15
Vinyl chloride	1.0	U	12.5	10.8		ug/L		86	43 - 157	16	24

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		62 - 137
4-Bromofluorobenzene (Surr)	101		56 - 136
Toluene-d8 (Surr)	104		78 - 122
Dibromofluoromethane (Surr)	95		73 - 120

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

Lab Sample ID: MB 240-605381/6

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 605381

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/07/24 21:19	1

	MB	MB							
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)	107		68 - 127		03/07/24 21:19	1			

Lab Sample ID: LCS 240-605381/4

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 605381

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	10.0	10.5		ug/L		105	75 - 121

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	106		68 - 127

Lab Sample ID: 240-200367-F-2 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 605381

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	2.0	U	10.0	11.6		ug/L		116	20 - 180

Eurofins Cleveland

QC Sample Results

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

Job ID: 240-200372-1

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

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	115		68 - 127

Lab Sample ID: 240-200367-F-2 MSD
Matrix: Water
Analysis Batch: 605381

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	11.4		ug/L		114	20 - 180	2	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	114		68 - 127

Lab Sample ID: MB 240-605411/7
Matrix: Water
Analysis Batch: 605411

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/08/24 11:22	1

	MB	MB		Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier	Limits			
1,2-Dichloroethane-d4 (Surr)	111		68 - 127		03/08/24 11:22	1

Lab Sample ID: LCS 240-605411/5
Matrix: Water
Analysis Batch: 605411

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	8.45		ug/L		84	75 - 121

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	110		68 - 127

Lab Sample ID: 240-200378-B-2 MS
Matrix: Water
Analysis Batch: 605411

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	8.46		ug/L		85	20 - 180

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	112		68 - 127

Lab Sample ID: 240-200378-B-2 MSD
Matrix: Water
Analysis Batch: 605411

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	9.54		ug/L		95	20 - 180	12	20

QC Sample Results

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

Job ID: 240-200372-1

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

Lab Sample ID: 240-200378-B-2 MSD
Matrix: Water
Analysis Batch: 605411

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	123		68 - 127

Lab Sample ID: MB 240-605526/5
Matrix: Water
Analysis Batch: 605526

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/08/24 17:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		68 - 127		03/08/24 17:27	1

Lab Sample ID: LCS 240-605526/3
Matrix: Water
Analysis Batch: 605526

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	10.5		ug/L		105	75 - 121

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		68 - 127

Lab Sample ID: 240-200381-C-4 MS
Matrix: Water
Analysis Batch: 605526

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	11.6		ug/L		116	20 - 180

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	107		68 - 127

Lab Sample ID: 240-200381-C-4 MSD
Matrix: Water
Analysis Batch: 605526

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	11.2		ug/L		112	20 - 180	3	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	107		68 - 127

QC Association Summary

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

Job ID: 240-200372-1

GC/MS VOA

Analysis Batch: 605381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200372-2	MW-46_022924	Total/NA	Water	8260D SIM	
240-200372-3	MW-70_022924	Total/NA	Water	8260D SIM	
240-200372-4	DUP-04	Total/NA	Water	8260D SIM	
MB 240-605381/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-605381/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-200367-F-2 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-200367-F-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

Analysis Batch: 605411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200372-6	MW-67_022924	Total/NA	Water	8260D SIM	
240-200372-7	MW-58_022924	Total/NA	Water	8260D SIM	
MB 240-605411/7	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-605411/5	Lab Control Sample	Total/NA	Water	8260D SIM	
240-200378-B-2 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-200378-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

Analysis Batch: 605521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200372-1	TRIP BLANK_85	Total/NA	Water	8260D	
240-200372-2	MW-46_022924	Total/NA	Water	8260D	
240-200372-3	MW-70_022924	Total/NA	Water	8260D	
240-200372-4	DUP-04	Total/NA	Water	8260D	
240-200372-5	MW-45_022924	Total/NA	Water	8260D	
240-200372-6	MW-67_022924	Total/NA	Water	8260D	
240-200372-7	MW-58_022924	Total/NA	Water	8260D	
MB 240-605521/31	Method Blank	Total/NA	Water	8260D	
LCS 240-605521/4	Lab Control Sample	Total/NA	Water	8260D	
240-200378-C-2 MS	Matrix Spike	Total/NA	Water	8260D	
240-200378-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 605526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200372-5	MW-45_022924	Total/NA	Water	8260D SIM	
MB 240-605526/5	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-605526/3	Lab Control Sample	Total/NA	Water	8260D SIM	
240-200381-C-4 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-200381-C-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

Lab Chronicle

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

Job ID: 240-200372-1

Client Sample ID: TRIP BLANK_85

Lab Sample ID: 240-200372-1

Date Collected: 02/29/24 00:00

Matrix: Water

Date Received: 03/02/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	605521	CDG	EET CLE	03/08/24 21:34

Client Sample ID: MW-46_022924

Lab Sample ID: 240-200372-2

Date Collected: 02/29/24 10:30

Matrix: Water

Date Received: 03/02/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	605521	CDG	EET CLE	03/09/24 00:29
Total/NA	Analysis	8260D SIM		1	605381	CS	EET CLE	03/08/24 05:19

Client Sample ID: MW-70_022924

Lab Sample ID: 240-200372-3

Date Collected: 02/29/24 11:25

Matrix: Water

Date Received: 03/02/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		12.5	605521	CDG	EET CLE	03/09/24 00:54
Total/NA	Analysis	8260D SIM		1	605381	CS	EET CLE	03/08/24 05:43

Client Sample ID: DUP-04

Lab Sample ID: 240-200372-4

Date Collected: 02/29/24 00:00

Matrix: Water

Date Received: 03/02/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		40	605521	CDG	EET CLE	03/09/24 01:19
Total/NA	Analysis	8260D SIM		1	605381	CS	EET CLE	03/08/24 06:07

Client Sample ID: MW-45_022924

Lab Sample ID: 240-200372-5

Date Collected: 02/29/24 12:55

Matrix: Water

Date Received: 03/02/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	605521	CDG	EET CLE	03/09/24 01:44
Total/NA	Analysis	8260D SIM		1	605526	MDH	EET CLE	03/08/24 22:27

Client Sample ID: MW-67_022924

Lab Sample ID: 240-200372-6

Date Collected: 02/29/24 14:05

Matrix: Water

Date Received: 03/02/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	605521	CDG	EET CLE	03/09/24 02:09
Total/NA	Analysis	8260D SIM		1	605411	MDH	EET CLE	03/08/24 12:33

Lab Chronicle

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

Job ID: 240-200372-1

Client Sample ID: MW-58_022924

Lab Sample ID: 240-200372-7

Date Collected: 02/29/24 15:10

Matrix: Water

Date Received: 03/02/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	605521	CDG	EET CLE	03/09/24 02:34
Total/NA	Analysis	8260D SIM		1	605411	MDH	EET CLE	03/08/24 12:57

Laboratory References:

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

- 1
- 2
- 3
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- 14

Accreditation/Certification Summary

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

Job ID: 240-200372-1

Laboratory: Eurofins Cleveland

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

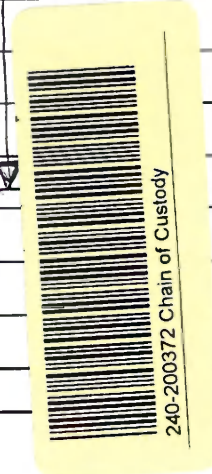
Authority	Program	Identification Number	Expiration Date
California	State	2927	02-27-24 *
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	06-30-24
New York	NELAP	10975	04-01-24
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24

* 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		Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other										TestAmerica Laboratories, Inc.													
Company Name: Arcadis		Client Project Manager: Kris Hinsky				Site Contact: Christina Weaver				Lab Contact: Mike DeMonico		COC No:													
Address: 28550 Cabot Drive, Suite 500		Telephone: 248-994-2240				Telephone: 248-994-2240				Telephone: 330-497-9396		1 of 1 COCs													
City/State/Zip: Novi, MI, 48377		Email: kristoffer.hinsky@arcadis.com				Analysis Turnaround Time				Analyses		For Lab use only													
Phone: 248-994-2240		Sampler Name: <u>Garrett Link</u>				TAT if different from below						Walk-in client													
Project Name: Ford LTP On-Site		Method of Shipment/Carrier:				10 day <input checked="" type="checkbox"/> 3 weeks <input type="checkbox"/>						Lab sampling													
Project Number: 30167538.401.03		Shipping/Tracking No:				<input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day						Job/SDG No:													
PO # 30167538.401.03				Matrix		Containers & Preservatives		Filtered Sample (Y/N)				Sample Specific Notes / Special Instructions:													
Sample Identification		Sample Date	Sample Time	Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl	NaOH	ZnAc	Surf	Urejas	Other:	Filtered	Composite=C / Grab=B	1,1-DCE 82600	Cis-1,2-DCE 82600	Trans-1,2-DCE 82600	PCE 82600	TCE 82600	Vinyl Chloride 82600	1,4-Dioxane 82600 SIM
TRIP BLANK_85		---	---	X							1						NG	X	X	X	X	X	X		1 Trip Blank
MW-46_022924		2/29/24	1030	G							G						NG	X	X	X	X	X	X		3 VOAs for 8260D 3 VOAs for 8260D SIM
MW-70_022924		2/29/24	1125	G							G						NG	X	X	X	X	X	X		
DUP-04_022924 ⁹⁴ 2/29/24		2/29/24	-	G							G						NG	X	X	X	X	X	X		
MW-45_022924		2/29/24	1255	G							G						NG	X	X	X	X	X	X		
MW-67_022924		2/29/24	1405	G							G						NG	X	X	X	X	X	X		
MW-58_022924		2/29/24	1510	G							G						NG	X	X	X	X	X	X		



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

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

Relinquished by: <u>[Signature]</u>	Company: <u>ARCADIS</u>	Date/Time: <u>2/29/24 16:10</u>	Received by: <u>Novi cold storage</u>	Company: <u>ARCADIS</u>	Date/Time: <u>2/29/24 16:10</u>
Relinquished by: <u>[Signature]</u>	Company: <u>Arcadis</u>	Date/Time: <u>3/1/24 1500</u>	Received by: <u>[Signature]</u>	Company: <u>ERT</u>	Date/Time: <u>3/1/24 1500</u>
Relinquished by: <u>[Signature]</u>	Company: <u>ERT</u>	Date/Time: <u>3/1/24 1530</u>	Received in laboratory by: <u>[Signature]</u>	Company: <u>[Signature]</u>	Date/Time: <u>3-2-24 8am</u>

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Eurofins - Cleveland Sample Receipt Form/Narrative Login # _____

Barberton Facility Cooler unpacked by: M. Kow

Client ARRADIS Site Name _____

Cooler Received on 5-23-24 Opened on 5-23-24

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

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

Eurofins Cooler # 2 Foam Box Client Cooler Box Other _____

Packing material used Bubble Wrap Foam Plastic Bag None Other _____

COOLANT Water Blue Ice Dry Ice Water None _____

1 Cooler temperature upon receipt _____ Spec Multiple Cooler Form _____

IR GUN # 17 (CF 2) Observed Cooler Temp _____ °C Corrected Cooler Temp _____ °C

2 Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 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 NA

4 Did custody papers accompany the sample(s)? Yes No NA

5 Were the custody papers relinquished & signed in the appropriate place? Yes No NA

6 Was/were the person(s) who collected the samples clearly identified on the COC? Yes No NA

7 Did all bottles arrive in good condition (Unbroken)? Yes No NA

8 Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No NA

9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? Yes No NA

10 Were correct bottle(s) used for the test(s) indicated? Yes No NA

11 Sufficient quantity received to perform indicated analyses? Yes No NA

12. Are these work share samples and all listed on the COC? Yes No NA

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# HC316719

14 Were VOAAs on the COC? Yes No NA

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 # _____ Yes No NA

17 Was a LL Hg or Me Hg trip blank present? Yes No NA

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

18 CHAIN OF CUSTODY & SAMPLE DISCREPANCIES additional next page Samples processed by: _____

19 SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired

Sample(s) _____ were received in a broken container

Sample(s) _____ were received with bubble > 6 mm in diameter (Notify PM)

20 SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory

Time preserved _____ Preservative(s) added/Lot number(s) _____

VOA Sample Preservation Date/Time VOAAs Frozen _____

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

DATA VERIFICATION REPORT



March 13, 2024

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
Event Specific Scope of Work References: Sample COC
Laboratory: Eurofins Environment Testing LLC - Cleveland
Laboratory submittal: 200372-1
Sample date: 2024-02-29
Report received by CADENA: 2024-03-12
Initial Data Verification completed by CADENA: 2024-03-13
Number of Samples:7
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, 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 - Cleveland

Laboratory Submittal: 200372-1

Analyte	Cas No.	Sample Name: TRIP BLANK_85				MW-46_022924				MW-70_022924				DUP-04				MW-45_022924				MW-67_022924				MW-58_022924			
		Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier	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	1.0	ug/l	---	ND	13	ug/l	---	ND	40	ug/l	---	ND	10	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	0.59	1.0	ug/l	J	150	13	ug/l	---	150	40	ug/l	---	22	10	ug/l	---	1.7	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	13	ug/l	---	ND	40	ug/l	---	ND	10	ug/l	---	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	---	ND	13	ug/l	---	ND	40	ug/l	---	ND	10	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	13	ug/l	---	ND	40	ug/l	---	ND	10	ug/l	---	41	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	2.7	1.0	ug/l	---	480	13	ug/l	---	500	40	ug/l	---	150	10	ug/l	---	0.58	1.0	ug/l	J	0.54	1.0	ug/l	J
<u>OSW-8260DSIM</u>																													
1,4-Dioxane	123-91-1					1.8	2.0	ug/l	J	6.1	2.0	ug/l	---	6.2	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	2.0	2.0	ug/l	---