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ANALYTICAL REPORT

PREPARED FOR

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ARCADIS US Inc
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Generated 5/19/2023 11:05:22 AM

JOB DESCRIPTION

Ford LTP - On Site

JOB NUMBER

240-184795-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

Job Notes

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Authorization

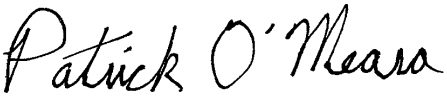

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Table of Contents

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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

Job ID: 240-184795-1

Laboratory: Eurofins Cleveland

Narrative

Job Narrative
240-184795-1

Receipt
The samples were received on 5/5/2023 @ 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 1.0°C and 1.8°C

GC/MS VOA
Method 8260D: Four surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: MW-196S_050323 (240-184795-8), (LCS 460-908833/3) and (LCSD 460-908833/4). The result has been reported and qualified.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-195S_050323 (240-184795-6) and MW-196_050323 (240-184795-7). Elevated reporting limits (RLs) are provided.

Method 8260D: Surrogate recovery for the following sample was outside the upper control limit: TRIP BLANK_162 (240-184795-1). This sample did not contain any target analytes; therefore, re-analysis was not performed.

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

Method Summary

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

Job ID: 240-184795-1

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

Protocol References:

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

Laboratory References:

EET EDI = Eurofins Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Sample Summary

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

Job ID: 240-184795-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-184795-1	TRIP BLANK_162	Water	05/02/23 00:00	05/05/23 08:00
240-184795-2	MW-194S_050223	Water	05/02/23 13:10	05/05/23 08:00
240-184795-3	MW-198S_050223	Water	05/02/23 14:52	05/05/23 08:00
240-184795-4	MW-198_050223	Water	05/02/23 16:15	05/05/23 08:00
240-184795-5	MW-194_050323	Water	05/03/23 10:57	05/05/23 08:00
240-184795-6	MW-195S_050323	Water	05/03/23 11:55	05/05/23 08:00
240-184795-7	MW-196_050323	Water	05/03/23 13:25	05/05/23 08:00
240-184795-8	MW-196S_050323	Water	05/03/23 14:36	05/05/23 08:00

Detection Summary

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

Job ID: 240-184795-1

Client Sample ID: TRIP BLANK_162 — Lab Sample ID: 240-184795-1

No Detections.

Client Sample ID: MW-194S_050223 — Lab Sample ID: 240-184795-2

No Detections.

Client Sample ID: MW-198S_050223 — Lab Sample ID: 240-184795-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.54	J	1.0	0.44	ug/L	1		8260D	Total/NA

Client Sample ID: MW-198_050223 — Lab Sample ID: 240-184795-4

No Detections.

Client Sample ID: MW-194_050323 — Lab Sample ID: 240-184795-5

No Detections.

Client Sample ID: MW-195S_050323 — Lab Sample ID: 240-184795-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	110		10	4.6	ug/L	10		8260D	Total/NA
trans-1,2-Dichloroethene	170		10	5.1	ug/L	10		8260D	Total/NA
Trichloroethene	2300		10	4.4	ug/L	10		8260D	Total/NA
Vinyl chloride	9.0	J	10	4.5	ug/L	10		8260D	Total/NA

Client Sample ID: MW-196_050323 — Lab Sample ID: 240-184795-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	1.3	J	2.0	0.98	ug/L	2		8260D	Total/NA
cis-1,2-Dichloroethene	320		2.0	0.92	ug/L	2		8260D	Total/NA
trans-1,2-Dichloroethene	100		2.0	1.0	ug/L	2		8260D	Total/NA
Trichloroethene	440		2.0	0.88	ug/L	2		8260D	Total/NA

Client Sample ID: MW-196S_050323 — Lab Sample ID: 240-184795-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	47		1.0	0.46	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	1.5		1.0	0.51	ug/L	1		8260D	Total/NA
Trichloroethene	42		1.0	0.44	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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

Job ID: 240-184795-1

Client Sample ID: TRIP BLANK_162
Date Collected: 05/02/23 00:00
Date Received: 05/05/23 08:00

Lab Sample ID: 240-184795-1
Matrix: Water

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			05/12/23 21:52	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/12/23 21:52	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/12/23 21:52	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/12/23 21:52	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/12/23 21:52	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/12/23 21:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 128*		*05/12/23 21:52*	*1*
Dibromofluoromethane (Surr)	*98*		*77 - 124*		*05/12/23 21:52*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/12/23 21:52*	*1*
4-Bromofluorobenzene	*121*	*S1+*	*76 - 120*		*05/12/23 21:52*	*1*

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

Job ID: 240-184795-1

Client Sample ID: MW-194S_050223

Date Collected: 05/02/23 13:10
Date Received: 05/05/23 08:00

Lab Sample ID: 240-184795-2

Matrix: Water

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			05/14/23 23:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*75 - 133*		*05/14/23 23:12*	*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			05/13/23 02:02	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/13/23 02:02	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/13/23 02:02	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/13/23 02:02	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/13/23 02:02	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/13/23 02:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 128*		*05/13/23 02:02*	*1*
Dibromofluoromethane (Surr)	*98*		*77 - 124*		*05/13/23 02:02*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/13/23 02:02*	*1*
4-Bromofluorobenzene	*118*		*76 - 120*		*05/13/23 02:02*	*1*

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

Job ID: 240-184795-1

Client Sample ID: MW-198S_050223

Date Collected: 05/02/23 14:52
Date Received: 05/05/23 08:00

Lab Sample ID: 240-184795-3

Matrix: Water

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			05/14/23 23:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*75 - 133*		*05/14/23 23:34*	*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			05/13/23 02:25	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/13/23 02:25	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/13/23 02:25	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/13/23 02:25	1
Trichloroethene	**0.54**	**J**	1.0	0.44	ug/L			05/13/23 02:25	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/13/23 02:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 128*		*05/13/23 02:25*	*1*
Dibromofluoromethane (Surr)	*99*		*77 - 124*		*05/13/23 02:25*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/13/23 02:25*	*1*
4-Bromofluorobenzene	*118*		*76 - 120*		*05/13/23 02:25*	*1*

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

Job ID: 240-184795-1

Client Sample ID: MW-198_050223

Date Collected: 05/02/23 16:15
Date Received: 05/05/23 08:00

Lab Sample ID: 240-184795-4

Matrix: Water

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			05/14/23 23:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*75 - 133*		*05/14/23 23:55*	*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			05/13/23 02:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/13/23 02:47	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/13/23 02:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/13/23 02:47	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/13/23 02:47	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/13/23 02:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 128*		*05/13/23 02:47*	*1*
Dibromofluoromethane (Surr)	*97*		*77 - 124*		*05/13/23 02:47*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/13/23 02:47*	*1*
4-Bromofluorobenzene	*120*		*76 - 120*		*05/13/23 02:47*	*1*

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

Job ID: 240-184795-1

Client Sample ID: MW-194_050323

Date Collected: 05/03/23 10:57
Date Received: 05/05/23 08:00

Lab Sample ID: 240-184795-5

Matrix: Water

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			05/15/23 00:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*75 - 133*		*05/15/23 00:17*	*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			05/13/23 03:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/13/23 03:10	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/13/23 03:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/13/23 03:10	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/13/23 03:10	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/13/23 03:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 128*		*05/13/23 03:10*	*1*
Dibromofluoromethane (Surr)	*98*		*77 - 124*		*05/13/23 03:10*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/13/23 03:10*	*1*
4-Bromofluorobenzene	*119*		*76 - 120*		*05/13/23 03:10*	*1*

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

Job ID: 240-184795-1

Client Sample ID: MW-195S_050323

Date Collected: 05/03/23 11:55
Date Received: 05/05/23 08:00

Lab Sample ID: 240-184795-6

Matrix: Water

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			05/15/23 00:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*75 - 133*		*05/15/23 00:39*	*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			05/13/23 03:55	10
cis-1,2-Dichloroethene	**110**		10	4.6	ug/L			05/13/23 03:55	10
Tetrachloroethene	10	U	10	4.4	ug/L			05/13/23 03:55	10
trans-1,2-Dichloroethene	**170**		10	5.1	ug/L			05/13/23 03:55	10
Trichloroethene	**2300**		10	4.4	ug/L			05/13/23 03:55	10
Vinyl chloride	**9.0**	**J**	10	4.5	ug/L			05/13/23 03:55	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 128*		*05/13/23 03:55*	*10*
Dibromofluoromethane (Surr)	*95*		*77 - 124*		*05/13/23 03:55*	*10*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/13/23 03:55*	*10*
4-Bromofluorobenzene	*120*		*76 - 120*		*05/13/23 03:55*	*10*

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

Job ID: 240-184795-1

Client Sample ID: MW-196_050323

Date Collected: 05/03/23 13:25
Date Received: 05/05/23 08:00

Lab Sample ID: 240-184795-7

Matrix: Water

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			05/15/23 01:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*75 - 133*		*05/15/23 01:00*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	**1.3**	**J**	2.0	0.98	ug/L			05/13/23 04:18	2
cis-1,2-Dichloroethene	**320**		2.0	0.92	ug/L			05/13/23 04:18	2
Tetrachloroethene	2.0	U	2.0	0.88	ug/L			05/13/23 04:18	2
trans-1,2-Dichloroethene	**100**		2.0	1.0	ug/L			05/13/23 04:18	2
Trichloroethene	**440**		2.0	0.88	ug/L			05/13/23 04:18	2
Vinyl chloride	2.0	U	2.0	0.90	ug/L			05/13/23 04:18	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 128*		*05/13/23 04:18*	*2*
Dibromofluoromethane (Surr)	*96*		*77 - 124*		*05/13/23 04:18*	*2*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/13/23 04:18*	*2*
4-Bromofluorobenzene	*119*		*76 - 120*		*05/13/23 04:18*	*2*

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

Job ID: 240-184795-1

Client Sample ID: MW-196S_050323

Date Collected: 05/03/23 14:36
Date Received: 05/05/23 08:00

Lab Sample ID: 240-184795-8

Matrix: Water

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			05/15/23 01:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*75 - 133*		*05/15/23 01:22*	*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			05/13/23 03:33	1
cis-1,2-Dichloroethene	**47**		1.0	0.46	ug/L			05/13/23 03:33	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/13/23 03:33	1
trans-1,2-Dichloroethene	**1.5**		1.0	0.51	ug/L			05/13/23 03:33	1
Trichloroethene	**42**		1.0	0.44	ug/L			05/13/23 03:33	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/13/23 03:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 128*		*05/13/23 03:33*	*1*
Dibromofluoromethane (Surr)	*96*		*77 - 124*		*05/13/23 03:33*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/13/23 03:33*	*1*
4-Bromofluorobenzene	*121*	*S1+*	*76 - 120*		*05/13/23 03:33*	*1*

Surrogate Summary

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

Job ID: 240-184795-1

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	DBFM	TOL	BFB
Lab Sample ID	Client Sample ID	(70-128)	(77-124)	(80-120)	(76-120)
240-184795-1	TRIP BLANK_162	108	98	99	121 S1+
240-184795-2	MW-194S_050223	109	98	100	118
240-184795-3	MW-198S_050223	108	99	99	118
240-184795-4	MW-198_050223	108	97	100	120
240-184795-5	MW-194_050323	109	98	99	119
240-184795-6	MW-195S_050323	106	95	99	120
240-184795-7	MW-196_050323	107	96	99	119
240-184795-8	MW-196S_050323	109	96	100	121 S1+
LCS 460-908833/3	Lab Control Sample	103	91	99	121 S1+
LCSD 460-908833/4	Lab Control Sample Dup	101	92	100	122 S1+
MB 460-908833/7	Method Blank	106	95	100	119

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		BFB
Lab Sample ID	Client Sample ID	(75-133)
240-184795-2	MW-194S_050223	94
240-184795-3	MW-198S_050223	93
240-184795-4	MW-198_050223	93
240-184795-5	MW-194_050323	94
240-184795-6	MW-195S_050323	93
240-184795-7	MW-196_050323	94
240-184795-8	MW-196S_050323	93
LCS 460-909146/4	Lab Control Sample	95
LCSD 460-909146/5	Lab Control Sample Dup	95
MB 460-909146/9	Method Blank	92

Surrogate Legend

BFB = 4-Bromofluorobenzene

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

Lab Sample ID: MB 460-908833/7
Matrix: Water
Analysis Batch: 908833

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/12/23 20:21	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/12/23 20:21	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/12/23 20:21	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/12/23 20:21	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/12/23 20:21	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/12/23 20:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 128*		*05/12/23 20:21*	*1*
Dibromofluoromethane (Surr)	*95*		*77 - 124*		*05/12/23 20:21*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/12/23 20:21*	*1*
4-Bromofluorobenzene	*119*		*76 - 120*		*05/12/23 20:21*	*1*

Lab Sample ID: LCS 460-908833/3
Matrix: Water
Analysis Batch: 908833

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	20.0	19.7		ug/L		98	68 - 133
cis-1,2-Dichloroethene	20.0	19.4		ug/L		97	78 - 121
Tetrachloroethene	20.0	20.5		ug/L		103	70 - 127
trans-1,2-Dichloroethene	20.0	19.7		ug/L		98	74 - 126
Trichloroethene	20.0	19.6		ug/L		98	71 - 121
Vinyl chloride	20.0	18.3		ug/L		92	55 - 144

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 128*
Dibromofluoromethane (Surr)	*91*		*77 - 124*
Toluene-d8 (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene	*121*	*S1+*	*76 - 120*

Lab Sample ID: LCSD 460-908833/4
Matrix: Water
Analysis Batch: 908833

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethene	20.0	20.4		ug/L		102	68 - 133	3	30
cis-1,2-Dichloroethene	20.0	20.1		ug/L		100	78 - 121	3	30
Tetrachloroethene	20.0	21.6		ug/L		108	70 - 127	5	30
trans-1,2-Dichloroethene	20.0	20.4		ug/L		102	74 - 126	4	30
Trichloroethene	20.0	20.1		ug/L		100	71 - 121	2	30
Vinyl chloride	20.0	19.0		ug/L		95	55 - 144	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 128*
Dibromofluoromethane (Surr)	*92*		*77 - 124*
Toluene-d8 (Surr)	*100*		*80 - 120*

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

Lab Sample ID: LCSD 460-908833/4
Matrix: Water
Analysis Batch: 908833

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	122	S1+	76 - 120

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

Lab Sample ID: MB 460-909146/9
Matrix: Water
Analysis Batch: 909146

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			05/14/23 22:29	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	92		75 - 133		05/14/23 22:29	1

Lab Sample ID: LCS 460-909146/4
Matrix: Water
Analysis Batch: 909146

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			5.00	4.19		ug/L		84	57 - 124		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	95		75 - 133

Lab Sample ID: LCSD 460-909146/5
Matrix: Water
Analysis Batch: 909146

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane			5.00	4.28		ug/L		86	57 - 124	2	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	95		75 - 133

QC Association Summary

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

Job ID: 240-184795-1

GC/MS VOA

Analysis Batch: 908833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-184795-1	TRIP BLANK_162	Total/NA	Water	8260D	
240-184795-2	MW-194S_050223	Total/NA	Water	8260D	
240-184795-3	MW-198S_050223	Total/NA	Water	8260D	
240-184795-4	MW-198_050223	Total/NA	Water	8260D	
240-184795-5	MW-194_050323	Total/NA	Water	8260D	
240-184795-6	MW-195S_050323	Total/NA	Water	8260D	
240-184795-7	MW-196_050323	Total/NA	Water	8260D	
240-184795-8	MW-196S_050323	Total/NA	Water	8260D	
MB 460-908833/7	Method Blank	Total/NA	Water	8260D	
LCS 460-908833/3	Lab Control Sample	Total/NA	Water	8260D	
LCSD 460-908833/4	Lab Control Sample Dup	Total/NA	Water	8260D	

Analysis Batch: 909146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-184795-2	MW-194S_050223	Total/NA	Water	8260D SIM	
240-184795-3	MW-198S_050223	Total/NA	Water	8260D SIM	
240-184795-4	MW-198_050223	Total/NA	Water	8260D SIM	
240-184795-5	MW-194_050323	Total/NA	Water	8260D SIM	
240-184795-6	MW-195S_050323	Total/NA	Water	8260D SIM	
240-184795-7	MW-196_050323	Total/NA	Water	8260D SIM	
240-184795-8	MW-196S_050323	Total/NA	Water	8260D SIM	
MB 460-909146/9	Method Blank	Total/NA	Water	8260D SIM	
LCS 460-909146/4	Lab Control Sample	Total/NA	Water	8260D SIM	
LCSD 460-909146/5	Lab Control Sample Dup	Total/NA	Water	8260D SIM	

Lab Chronicle

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

Job ID: 240-184795-1

Client Sample ID: TRIP BLANK_162
Lab Sample ID: 240-184795-1
Date Collected: 05/02/23 00:00
Matrix: Water
Date Received: 05/05/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	908833	SZD	EET EDI	05/12/23 21:52

Client Sample ID: MW-194S_050223
Lab Sample ID: 240-184795-2
Date Collected: 05/02/23 13:10
Matrix: Water
Date Received: 05/05/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	908833	SZD	EET EDI	05/13/23 02:02
Total/NA	Analysis	8260D SIM		1	909146	SZD	EET EDI	05/14/23 23:12

Client Sample ID: MW-198S_050223
Lab Sample ID: 240-184795-3
Date Collected: 05/02/23 14:52
Matrix: Water
Date Received: 05/05/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	908833	SZD	EET EDI	05/13/23 02:25
Total/NA	Analysis	8260D SIM		1	909146	SZD	EET EDI	05/14/23 23:34

Client Sample ID: MW-198_050223
Lab Sample ID: 240-184795-4
Date Collected: 05/02/23 16:15
Matrix: Water
Date Received: 05/05/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	908833	SZD	EET EDI	05/13/23 02:47
Total/NA	Analysis	8260D SIM		1	909146	SZD	EET EDI	05/14/23 23:55

Client Sample ID: MW-194_050323
Lab Sample ID: 240-184795-5
Date Collected: 05/03/23 10:57
Matrix: Water
Date Received: 05/05/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	908833	SZD	EET EDI	05/13/23 03:10
Total/NA	Analysis	8260D SIM		1	909146	SZD	EET EDI	05/15/23 00:17

Client Sample ID: MW-195S_050323
Lab Sample ID: 240-184795-6
Date Collected: 05/03/23 11:55
Matrix: Water
Date Received: 05/05/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	908833	SZD	EET EDI	05/13/23 03:55
Total/NA	Analysis	8260D SIM		1	909146	SZD	EET EDI	05/15/23 00:39

Lab Chronicle

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

Job ID: 240-184795-1

Client Sample ID: MW-196_050323

Lab Sample ID: 240-184795-7

Date Collected: 05/03/23 13:25

Matrix: Water

Date Received: 05/05/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2	908833	SZD	EET EDI	05/13/23 04:18
Total/NA	Analysis	8260D SIM		1	909146	SZD	EET EDI	05/15/23 01:00

Client Sample ID: MW-196S_050323

Lab Sample ID: 240-184795-8

Date Collected: 05/03/23 14:36

Matrix: Water

Date Received: 05/05/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	908833	SZD	EET EDI	05/13/23 03:33
Total/NA	Analysis	8260D SIM		1	909146	SZD	EET EDI	05/15/23 01:22

Laboratory References:

EET EDI = Eurofins Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Accreditation/Certification Summary

Client: ARCADIS US Inc
Job ID: 240-184795-1
Project/Site: Ford LTP - On Site

Laboratory: Eurofins Edison

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

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0818	01-30-24
DE Haz. Subst. Cleanup Act (HSCA)	State	N/A	01-01-24
Georgia	State	12028 (NJ)	06-30-23
Massachusetts	State	M-NJ312	06-30-23
New Jersey	NELAP	12028	06-30-23
New York	NELAP	11452	04-01-24
Pennsylvania	NELAP	68-00522	03-01-24
Rhode Island	State	LAO00376	12-30-23
USDA	US Federal Programs	P330-20-00244	11-03-23

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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

Client Contact	
Company Name: Arcadis	Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other
Address: 28550 Cabot Drive, Suite 500	Client Project Manager: Kris Hinskey
City/State/Zip: Novi, MI, 48377	Telephone: 248-994-2240
Phone: 248-994-2240	Email: kristoffer.hinskey@arcadis.com
Project Name: Ford LTP On-Site	Sampler Name: Samantha Szpaichler
Project Number: 30167538.401.03	Method of Shipment/Carrier:
PO # 30167538.401.03	Shipping/Tracking No:

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

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

TestAmerica Laboratories, Inc.
COC No:
of COCs

For lab use only
Walk-in client
Lab sampling
Job/SDG No:

Analysis Turnaround Time
TAT if different from below: 10 day
☐ 3 weeks
☑ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other	Filtered Sample (Y / N)	Composite=C / Grab=G	1,1-DCE 8260B	cis-1,2-DCE 8260B	Trans-1,2-DCE 8260B	PCE 8260B	TCE 8260B	Vinyl Chloride 8260B	1,4-Dioxane 8260B SIM	Sample Specific Notes / Special Instructions
TRIP BLANK_162	5/3/23	---		1						1					N	G	X	X	X	X	X	X		1 Trip Blank
MW-194S_050223	5/2/23	13:10		6						6					N	G	X	X	X	X	X	X	X	3 VOAs for 8260B 3 VOAs for 8260B SIM
MW-198S_050223	5/2/23	14:52		6						6					N	G	X	X	X	X	X	X	X	" "
MW-198_050223	5/2/23	16:15		6						6					N	G	X	X	X	X	X	X	X	" "
MW-194_050323	5/3/23	10:57		6						6					N	G	X	X	X	X	X	X	X	" "
MW-195S_050323	5/3/23	11:55		6						6					N	G	X	X	X	X	X	X	X	" "
MW-196_050323	5/3/23	13:25		6						6					N	G	X	X	X	X	X	X	X	" "
MW-196S_050323	5/3/23	14:36		6						6					N	G	X	X	X	X	X	X	X	" "
~~MW-197S_050323~~ SS 5/3/23	~~5/3/23~~			~~6~~						~~6~~					~~N~~	~~G~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~" "~~

Possible Hazard Identification
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed ...)
☐ Return to Client ☑ Disposal ...

Special Instructions/QC Requirements & Comments:

Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203728
Level IV Reporting requested.

Onsite Ford LTP

240-184795 Chain of Custody

MICHIGAN
190

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Arcadis	5/3/23 15:40	Novi cold storage	Arcadis	5/3/23 15:40
[signature]	ARCADIS	5/4/23 1035	[signature]	EETA	5/4/23 1035
[signature]	EETA	5/4/23 10:40	Received in Laboratory by: Mandily Black	EETNC	5-5-23 8:00

Eurofins - Canton Sample Receipt Form/Narrative **Login # :** 184795
Barberton Facility

Client Arcadis Site Name

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

Cooler unpacked by: Marcella Blu

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

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

Eurofins Cooler # eetnc 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 # _____ (CF _____ °C) 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)
-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)?	(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# **HC208070**
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 # _____	(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) MW-198S, MW-196S 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: _____

Login #: 184795

Eurofins - Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
(EC circled) Client Box Other	IR GUN #: 22	1.0	1.0	(Wet Ice circled) Blue Ice Dry Ice Water None
(EC circled) Client Box Other	IR GUN #: 22	1.8	1.8	(Wet Ice circled) Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

WI-NC-099 Cooler Receipt Form Page 2 - Multiple Coolers

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: DelMonico, Michael	Carrier Tracking No(s):	COC No: 240-167789.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Michael.DelMonico@et.eurofinsus.com	State of Origin: Michigan	Page: Page 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note):		Job #: 240-184795-1
Address: 777 New Durham Road, ,	Due Date Requested: 5/18/2023			
City: Edison	TAT Requested (days):			
State, Zip: NJ, 08817				
Phone: 732-549-3900(Tel) 732-549-3679(Fax)	PO #:			
Email:	WO #:			
Project Name: Ford LTP - On Site	Project #: 24015353			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) VOCs (Short List)	8260D_SIM/5030C	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
TRIP BLANK_162 (240-184795-1)	5/2/23	Eastern		Water			X		1	
MW-194S_050223 (240-184795-2)	5/2/23	13:10 Eastern		Water			X	X	6	
MW-198S_050223 (240-184795-3)	5/2/23	14:52 Eastern		Water			X	X	6	
MW-198_050223 (240-184795-4)	5/2/23	16:15 Eastern		Water			X	X	6	
MW-194_050323 (240-184795-5)	5/3/23	10:57 Eastern		Water			X	X	6	
MW-195S_050323 (240-184795-6)	5/3/23	11:55 Eastern		Water			X	X	6	
MW-196_050323 (240-184795-7)	5/3/23	13:25 Eastern		Water			X	X	6	
MW-196S_050323 (240-184795-8)	5/3/23	14:36 Eastern		Water			X	X	6	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: FedEx

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	5823 1333	EEINC	Bhavish	5/9/23 10:30	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
		IR-9 2.1c 12.1c

Login Sample Receipt Checklist

Client: ARCADIS US Inc

Job Number: 240-184795-1

Login Number: 184795
List Number: 2
Creator: Armbruster, Chris

List Source: Eurofins Edison
List Creation: 05/09/23 01:20 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

DATA VERIFICATION REPORT

May 19, 2023

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

CADENA project ID: E203728
Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil
Project number: 30167538.401.03- onsite groundwater
Event Specific Scope of Work References: Sample COC
Laboratory: Eurofins Environment Testing LLC - Cleveland
Laboratory submittal: 184795-1
Sample date: 2023-05-02 2023-05-03
Report received by CADENA: 2023-05-19
Initial Data Verification completed by CADENA: 2023-05-19
Number of Samples:8
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:

SUR - GCMS VOC sample -008 surrogate recoveries were outliers biased high for 1 out of 4 surrogates. These client sample results should be considered to be estimated and qualified with J flags if detected. Non-detect results do not require qualification.

GCMS VOC samples -001 SURROGATE recoveries were outliers biased high for at least 1 surrogate. Associated client sample results were non-detect so qualification was not required based on these high bias QC outliers.

GCMS VOC LCS/LCSD surrogate recovery outliers did not result in qualification of client sample data.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, LCS/LCD 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 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 contaminates) 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 contaminates) 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.

Qualified Results Summary

CADENA Project ID: E203728
Laboratory: Eurofins Environment Testing LLC - Cleveland
Laboratory Submittal: 184795-1

Sample Name: MW-196S_050323
Lab Sample ID: 2401847958
Sample Date: 5/3/2023

Analyte	Cas No.	Result	Report Limit	Units	Valid Qualifier
GC/MS VOC					
OSW-8260D					
cis-1,2-Dichloroethene	156-59-2	47	1.0	ug/l	J
trans-1,2-Dichloroethene	156-60-5	1.5	1.0	ug/l	J
Trichloroethene	79-01-6	42	1.0	ug/l	J

Analytical Results Summary

CADENA Project ID: E203728
Laboratory: Eurofins Environment Testing LLC - Cleveland
Laboratory Submittal: 184795-1

		Sample Name:	TRIP BLANK_162				MW-194S_050223				MW-198S_050223				MW-198_050223				MW-194_050323				MW-195S_050323				MW-196_050323				MW-196S_050323			
		Lab Sample ID:	2401847951				2401847952				2401847953				2401847954				2401847955				2401847956				2401847957				2401847958			
		Sample Date:	5/2/2023				5/2/2023				5/2/2023				5/2/2023				5/3/2023				5/3/2023				5/3/2023				5/3/2023			
Analyte	Cas No.		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	Result	Report Limit	Units	Valid Qualifier
GC/MS VOC																																		
OSW-8260D																																		
1,1-Dichloroethene	75-35-4		ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	10	ug/l	---	1.3	2.0	ug/l	J	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2		ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	110	10	ug/l	---	320	2.0	ug/l	---	47	1.0	ug/l	J
Tetrachloroethene	127-18-4		ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	10	ug/l	---	ND	2.0	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	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	170	10	ug/l	---	100	2.0	ug/l	---	1.5	1.0	ug/l	J
Trichloroethene	79-01-6		ND	1.0	ug/l	---	ND	1.0	ug/l	---	0.54	1.0	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---	2300	10	ug/l	---	440	2.0	ug/l	---	42	1.0	ug/l	J
Vinyl chloride	75-01-4		ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	9.0	10	ug/l	J	ND	2.0	ug/l	---	ND	1.0	ug/l	---
OSW-8260DSIM																																		
1,4-Dioxane	123-91-1						ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---