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ANALYTICAL REPORT

PREPARED FOR

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

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JOB DESCRIPTION

Ford LTP - On Site

JOB NUMBER

240-185016-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

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Table of Contents

Definitions/Glossary

Client: ARCADIS US Inc
Job ID: 240-185016-1
Project/Site: Ford LTP - On Site

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.
¤	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: 240-185016-1

Laboratory: Eurofins Cleveland

Narrative

Job Narrative
240-185016-1

Receipt
The samples were received on 5/9/2023 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 2.0°C, 2.8°C, 3.3°C and 4.3°C

GC/MS VOA
Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-49_050523 (240-185016-3). Elevated reporting limits (RLs) are provided.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-23_050523 (240-185016-5). Elevated reporting limits (RLs) are provided.

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
Job ID: 240-185016-1
Project/Site: Ford LTP - On Site

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
Job ID: 240-185016-1
Project/Site: Ford LTP - On Site

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-185016-1	TRIP BLANK_160	Water	05/05/23 00:00	05/09/23 10:30
240-185016-2	MW-20_050523	Water	05/05/23 11:30	05/09/23 10:30
240-185016-3	MW-49_050523	Water	05/05/23 12:33	05/09/23 10:30
240-185016-4	MW-21_050523	Water	05/05/23 13:35	05/09/23 10:30
240-185016-5	MW-23_050523	Water	05/05/23 15:08	05/09/23 10:30

Detection Summary

Client: ARCADIS US Inc
Job ID: 240-185016-1
Project/Site: Ford LTP - On Site

Client Sample ID: TRIP BLANK_160 — Lab Sample ID: 240-185016-1

No Detections.

Client Sample ID: MW-20_050523 — Lab Sample ID: 240-185016-2

No Detections.

Client Sample ID: MW-49_050523 — Lab Sample ID: 240-185016-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	18		2.0	0.86	ug/L	1		8260D SIM	Total/NA
cis-1,2-Dichloroethene	51000		200	92	ug/L	200		8260D	Total/NA
trans-1,2-Dichloroethene	190	J	200	100	ug/L	200		8260D	Total/NA
Vinyl chloride	11000		200	90	ug/L	200		8260D	Total/NA

Client Sample ID: MW-21_050523 — Lab Sample ID: 240-185016-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	4.3		2.0	0.86	ug/L	1		8260D SIM	Total/NA
cis-1,2-Dichloroethene	5.3		1.0	0.46	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	1.7		1.0	0.51	ug/L	1		8260D	Total/NA
Vinyl chloride	13		1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: MW-23_050523 — Lab Sample ID: 240-185016-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.0	J	2.0	0.86	ug/L	1		8260D SIM	Total/NA
cis-1,2-Dichloroethene	12000		50	23	ug/L	50		8260D	Total/NA
trans-1,2-Dichloroethene	470		50	26	ug/L	50		8260D	Total/NA
Trichloroethene	1000		50	22	ug/L	50		8260D	Total/NA
Vinyl chloride	340		50	23	ug/L	50		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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

Job ID: 240-185016-1

Client Sample ID: TRIP BLANK_160
Date Collected: 05/05/23 00:00
Date Received: 05/09/23 10:30

Lab Sample ID: 240-185016-1
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			05/16/23 19:25	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/16/23 19:25	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/16/23 19:25	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/16/23 19:25	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/16/23 19:25	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/16/23 19:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 128*		*05/16/23 19:25*	*1*
Dibromofluoromethane (Surr)	*91*		*77 - 124*		*05/16/23 19:25*	*1*
Toluene-d8 (Surr)	*86*		*80 - 120*		*05/16/23 19:25*	*1*
4-Bromofluorobenzene	*85*		*76 - 120*		*05/16/23 19:25*	*1*

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

Job ID: 240-185016-1

Client Sample ID: MW-20_050523
Date Collected: 05/05/23 11:30
Date Received: 05/09/23 10:30

Lab Sample ID: 240-185016-2
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			05/18/23 11:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*75 - 133*		*05/18/23 11:51*	*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			05/17/23 00:09	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/17/23 00:09	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/17/23 00:09	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/17/23 00:09	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/17/23 00:09	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/17/23 00:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 128*		*05/17/23 00:09*	*1*
Dibromofluoromethane (Surr)	*96*		*77 - 124*		*05/17/23 00:09*	*1*
Toluene-d8 (Surr)	*85*		*80 - 120*		*05/17/23 00:09*	*1*
4-Bromofluorobenzene	*87*		*76 - 120*		*05/17/23 00:09*	*1*

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

Job ID: 240-185016-1

Client Sample ID: MW-49_050523

Date Collected: 05/05/23 12:33
Date Received: 05/09/23 10:30

Lab Sample ID: 240-185016-3

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	**18**		2.0	0.86	ug/L			05/18/23 14:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*92*		*75 - 133*		*05/18/23 14:50*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	200	U	200	98	ug/L			05/17/23 12:25	200
cis-1,2-Dichloroethene	**51000**		200	92	ug/L			05/17/23 12:25	200
Tetrachloroethene	200	U	200	88	ug/L			05/17/23 12:25	200
trans-1,2-Dichloroethene	**190**	**J**	200	100	ug/L			05/17/23 12:25	200
Trichloroethene	200	U	200	88	ug/L			05/17/23 12:25	200
Vinyl chloride	**11000**		200	90	ug/L			05/17/23 12:25	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 128*		*05/17/23 12:25*	*200*
Dibromofluoromethane (Surr)	*91*		*77 - 124*		*05/17/23 12:25*	*200*
Toluene-d8 (Surr)	*86*		*80 - 120*		*05/17/23 12:25*	*200*
4-Bromofluorobenzene	*86*		*76 - 120*		*05/17/23 12:25*	*200*

Client: ARCADIS US Inc
Job ID: 240-185016-1
Project/Site: Ford LTP - On Site

Client Sample ID: MW-21_050523
Lab Sample ID: 240-185016-4
Date Collected: 05/05/23 13:35
Matrix: Water
Date Received: 05/09/23 10:30

Method: SW846 8260D SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**4.3**		2.0	0.86	ug/L			05/18/23 15:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*92*		*75 - 133*		*05/18/23 15:12*	*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			05/17/23 12:05	1
cis-1,2-Dichloroethene	**5.3**		1.0	0.46	ug/L			05/17/23 12:05	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/17/23 12:05	1
trans-1,2-Dichloroethene	**1.7**		1.0	0.51	ug/L			05/17/23 12:05	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/17/23 12:05	1
Vinyl chloride	**13**		1.0	0.45	ug/L			05/17/23 12:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 128*		*05/17/23 12:05*	*1*
Dibromofluoromethane (Surr)	*97*		*77 - 124*		*05/17/23 12:05*	*1*
Toluene-d8 (Surr)	*86*		*80 - 120*		*05/17/23 12:05*	*1*
4-Bromofluorobenzene	*85*		*76 - 120*		*05/17/23 12:05*	*1*

Client: ARCADIS US Inc
Job ID: 240-185016-1
Project/Site: Ford LTP - On Site

Client Sample ID: MW-23_050523
Lab Sample ID: 240-185016-5
Date Collected: 05/05/23 15:08
Matrix: Water
Date Received: 05/09/23 10:30

Method: SW846 8260D SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**1.0**	**J**	2.0	0.86	ug/L			05/18/23 13:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*75 - 133*		*05/18/23 13:00*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	25	ug/L			05/17/23 01:10	50
cis-1,2-Dichloroethene	**12000**		50	23	ug/L			05/17/23 01:10	50
Tetrachloroethene	50	U	50	22	ug/L			05/17/23 01:10	50
trans-1,2-Dichloroethene	**470**		50	26	ug/L			05/17/23 01:10	50
Trichloroethene	**1000**		50	22	ug/L			05/17/23 01:10	50
Vinyl chloride	**340**		50	23	ug/L			05/17/23 01:10	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 128*		*05/17/23 01:10*	*50*
Dibromofluoromethane (Surr)	*96*		*77 - 124*		*05/17/23 01:10*	*50*
Toluene-d8 (Surr)	*87*		*80 - 120*		*05/17/23 01:10*	*50*
4-Bromofluorobenzene	*88*		*76 - 120*		*05/17/23 01:10*	*50*

Surrogate Summary

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

Job ID: 240-185016-1

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)
240-185016-1	TRIP BLANK_160	88	91	86	85
240-185016-2	MW-20_050523	100	96	85	87
240-185016-3	MW-49_050523	89	91	86	86
240-185016-4	MW-21_050523	97	97	86	85
240-185016-5	MW-23_050523	94	96	87	88
LCS 460-909502/3	Lab Control Sample	87	89	91	100
LCS 460-909656/5	Lab Control Sample	94	90	88	96
LCSD 460-909502/4	Lab Control Sample Dup	87	88	89	106
LCSD 460-909656/6	Lab Control Sample Dup	91	89	96	101
MB 460-909502/8	Method Blank	89	91	87	88
MB 460-909656/10	Method Blank	92	94	86	86

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)
240-185016-2	MW-20_050523	98
240-185016-3	MW-49_050523	92
240-185016-4	MW-21_050523	92
240-185016-5	MW-23_050523	96
LCS 460-909931/4	Lab Control Sample	94
LCSD 460-909931/12	Lab Control Sample Dup	96
MB 460-909931/7	Method Blank	96

Surrogate Legend

BFB = 4-Bromofluorobenzene

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

Lab Sample ID: MB 460-909502/8
Matrix: Water
Analysis Batch: 909502

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			05/16/23 19:04	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/16/23 19:04	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/16/23 19:04	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/16/23 19:04	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/16/23 19:04	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/16/23 19:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 128*		*05/16/23 19:04*	*1*
Dibromofluoromethane (Surr)	*91*		*77 - 124*		*05/16/23 19:04*	*1*
Toluene-d8 (Surr)	*87*		*80 - 120*		*05/16/23 19:04*	*1*
4-Bromofluorobenzene	*88*		*76 - 120*		*05/16/23 19:04*	*1*

Lab Sample ID: LCS 460-909502/3
Matrix: Water
Analysis Batch: 909502

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	16.3		ug/L		82	68 - 133		
cis-1,2-Dichloroethene			20.0	18.2		ug/L		91	78 - 121		
Tetrachloroethene			20.0	20.5		ug/L		102	70 - 127		
trans-1,2-Dichloroethene			20.0	17.9		ug/L		89	74 - 126		
Trichloroethene			20.0	18.6		ug/L		93	71 - 121		
Vinyl chloride			20.0	18.5		ug/L		92	55 - 144		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*87*		*70 - 128*
Dibromofluoromethane (Surr)	*89*		*77 - 124*
Toluene-d8 (Surr)	*91*		*80 - 120*
4-Bromofluorobenzene	*100*		*76 - 120*

Lab Sample ID: LCSD 460-909502/4
Matrix: Water
Analysis Batch: 909502

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	17.5		ug/L		88	68 - 133	7	30
cis-1,2-Dichloroethene			20.0	17.5		ug/L		88	78 - 121	3	30
Tetrachloroethene			20.0	20.5		ug/L		103	70 - 127	0	30
trans-1,2-Dichloroethene			20.0	17.6		ug/L		88	74 - 126	2	30
Trichloroethene			20.0	18.5		ug/L		92	71 - 121	1	30
Vinyl chloride			20.0	19.0		ug/L		95	55 - 144	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*87*		*70 - 128*
Dibromofluoromethane (Surr)	*88*		*77 - 124*
Toluene-d8 (Surr)	*89*		*80 - 120*

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

Lab Sample ID: LCSD 460-909502/4
Matrix: Water
Analysis Batch: 909502

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	*106*		*76 - 120*

Lab Sample ID: MB 460-909656/10
Matrix: Water
Analysis Batch: 909656

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			05/17/23 09:21	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/17/23 09:21	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/17/23 09:21	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/17/23 09:21	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/17/23 09:21	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/17/23 09:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 128*		*05/17/23 09:21*	*1*
Dibromofluoromethane (Surr)	*94*		*77 - 124*		*05/17/23 09:21*	*1*
Toluene-d8 (Surr)	*86*		*80 - 120*		*05/17/23 09:21*	*1*
4-Bromofluorobenzene	*86*		*76 - 120*		*05/17/23 09:21*	*1*

Lab Sample ID: LCS 460-909656/5
Matrix: Water
Analysis Batch: 909656

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	22.4		ug/L		112	68 - 133
cis-1,2-Dichloroethene	20.0	21.6		ug/L		108	78 - 121
Tetrachloroethene	20.0	25.5		ug/L		127	70 - 127
trans-1,2-Dichloroethene	20.0	22.1		ug/L		111	74 - 126
Trichloroethene	20.0	20.9		ug/L		104	71 - 121
Vinyl chloride	20.0	23.9		ug/L		119	55 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 128*
Dibromofluoromethane (Surr)	*90*		*77 - 124*
Toluene-d8 (Surr)	*88*		*80 - 120*
4-Bromofluorobenzene	*96*		*76 - 120*

Lab Sample ID: LCSD 460-909656/6
Matrix: Water
Analysis Batch: 909656

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	19.6		ug/L		98	68 - 133	13	30
cis-1,2-Dichloroethene	20.0	18.8		ug/L		94	78 - 121	14	30
Tetrachloroethene	20.0	22.3		ug/L		112	70 - 127	13	30
trans-1,2-Dichloroethene	20.0	18.8		ug/L		94	74 - 126	16	30
Trichloroethene	20.0	18.7		ug/L		94	71 - 121	11	30

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

Lab Sample ID: LCSD 460-909656/6
Matrix: Water
Analysis Batch: 909656

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
Vinyl chloride			20.0	20.8		ug/L		104	55 - 144	14	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 128*
Dibromofluoromethane (Surr)	*89*		*77 - 124*
Toluene-d8 (Surr)	*96*		*80 - 120*
4-Bromofluorobenzene	*101*		*76 - 120*

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

Lab Sample ID: MB 460-909931/7
Matrix: Water
Analysis Batch: 909931

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			05/18/23 08:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*75 - 133*		*05/18/23 08:26*	*1*

Lab Sample ID: LCS 460-909931/4
Matrix: Water
Analysis Batch: 909931

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	4.90		ug/L		98	57 - 124		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*94*		*75 - 133*

Lab Sample ID: LCSD 460-909931/12
Matrix: Water
Analysis Batch: 909931

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	4.91		ug/L		98	57 - 124	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*75 - 133*

QC Association Summary

Client: ARCADIS US Inc
Job ID: 240-185016-1
Project/Site: Ford LTP - On Site

GC/MS VOA

Analysis Batch: 909502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-185016-1	TRIP BLANK_160	Total/NA	Water	8260D	
240-185016-2	MW-20_050523	Total/NA	Water	8260D	
240-185016-5	MW-23_050523	Total/NA	Water	8260D	
MB 460-909502/8	Method Blank	Total/NA	Water	8260D	
LCS 460-909502/3	Lab Control Sample	Total/NA	Water	8260D	
LCSD 460-909502/4	Lab Control Sample Dup	Total/NA	Water	8260D	

Analysis Batch: 909656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-185016-3	MW-49_050523	Total/NA	Water	8260D	
240-185016-4	MW-21_050523	Total/NA	Water	8260D	
MB 460-909656/10	Method Blank	Total/NA	Water	8260D	
LCS 460-909656/5	Lab Control Sample	Total/NA	Water	8260D	
LCSD 460-909656/6	Lab Control Sample Dup	Total/NA	Water	8260D	

Analysis Batch: 909931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-185016-2	MW-20_050523	Total/NA	Water	8260D SIM	
240-185016-3	MW-49_050523	Total/NA	Water	8260D SIM	
240-185016-4	MW-21_050523	Total/NA	Water	8260D SIM	
240-185016-5	MW-23_050523	Total/NA	Water	8260D SIM	
MB 460-909931/7	Method Blank	Total/NA	Water	8260D SIM	
LCS 460-909931/4	Lab Control Sample	Total/NA	Water	8260D SIM	
LCSD 460-909931/12	Lab Control Sample Dup	Total/NA	Water	8260D SIM	

Lab Chronicle

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

Job ID: 240-185016-1

Client Sample ID: TRIP BLANK_160

Lab Sample ID: 240-185016-1

Date Collected: 05/05/23 00:00

Matrix: Water

Date Received: 05/09/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	909502	SZD	EET EDI	05/16/23 19:25

Client Sample ID: MW-20_050523

Lab Sample ID: 240-185016-2

Date Collected: 05/05/23 11:30

Matrix: Water

Date Received: 05/09/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	909502	SZD	EET EDI	05/17/23 00:09
Total/NA	Analysis	8260D SIM		1	909931	SZD	EET EDI	05/18/23 11:51

Client Sample ID: MW-49_050523

Lab Sample ID: 240-185016-3

Date Collected: 05/05/23 12:33

Matrix: Water

Date Received: 05/09/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	909656	CJM	EET EDI	05/17/23 12:25
Total/NA	Analysis	8260D SIM		1	909931	SZD	EET EDI	05/18/23 14:50

Client Sample ID: MW-21_050523

Lab Sample ID: 240-185016-4

Date Collected: 05/05/23 13:35

Matrix: Water

Date Received: 05/09/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	909656	CJM	EET EDI	05/17/23 12:05
Total/NA	Analysis	8260D SIM		1	909931	SZD	EET EDI	05/18/23 15:12

Client Sample ID: MW-23_050523

Lab Sample ID: 240-185016-5

Date Collected: 05/05/23 15:08

Matrix: Water

Date Received: 05/09/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		50	909502	SZD	EET EDI	05/17/23 01:10
Total/NA	Analysis	8260D SIM		1	909931	SZD	EET EDI	05/18/23 13:00

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: 240-185016-1
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

MICHIGAN
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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

Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc.

Client Contact	Client Project Manager: Kris Hinskey	Site Contact: Christina Weaver	Lab Contact: Mike DelMonico	COC No:
Company Name: Arcadis	Telephone: 248-994-2240	Telephone: 248-994-2240	Telephone: 330-497-9396	of COCs
Address: 28550 Cabot Drive, Suite 500	Email: kristoffer.hinskey@arcadis.com	Analysis Turnaround Time		For lab use only
City/State/Zip: Novi, MI, 48377	Sampler Name: Samantha Szpaichler	TAT if different from below: 10 day; ☐ 3 weeks ☑ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Walk-in client: Lab sampling:
Phone: 248-994-2240	Method of Shipment/Carrier:			
Project Name: Ford LTP On-Site	Shipping/Tracking No:			Job/SDG No:
Project Number: 30167538.401.03				
PO # 30167538.401.03				

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_160	5/5/23	---		1						1					N	G	X	X	X	X	X	X		1 Trip Blank
MW-20_050523	5/5/23	1130		6						6					N	G	X	X	X	X	X	X	X	3 VOAs for 8260B 3 VOAs for 8260B SIM
MW-49_050523	5/5/23	1233		6						6					N	G	X	X	X	X	X	X	X	" "
MW-21_050523	5/5/23	1335		6						6					N	G	X	X	X	X	X	X	X	" "
~~MW-19S_050523~~	~~5/5/23~~			~~6~~						~~6~~					~~N~~	~~G~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~" "~~
MW-23_050523	5/5/23	1508		6						6					N	G	X	X	X	X	X	X	X	" "

240-185016 Chain of Custody

Possible Hazard Identification
☑ Non-Hazard ☐ Flammable ☐ Skin 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.

onsite

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Arcadis	5/5/23 1558	NOVI cold storage	Arcadis	5/5/23 1558
[signature]	ARCADIS	5/8/23 / 1050	[signature]	EETA	5/8/23 / 1050
[signature]	EETA	5/8/23 / 1050	Received in Laboratory by: [signature]	Company: EETNC	Date/Time: 05-09-23 1030

5/19/2023

Eurofins - Canton Sample Receipt Form/Narrative **Login # :** 185016
Barberton Facility

Client Arcadis Site Name _____ Cooler unpacked by: Leah M. Smith

Cooler Received on 05-09-23 Opened on 05-09-23

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

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

Eurofins Cooler # EC Foam Box Client Cooler Box Other _____

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☑ See Multiple Cooler Form

IR GUN # 17 (CF +0.1 °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)?		
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 # 62112	(Yes)	No
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	(No)

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

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

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

_____

_____

_____

_____

19. SAMPLE CONDITION

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

Sample(s) _____ were received in a broken container.

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

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

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

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Login # : 185016

Eurofins - Canton Sample Receipt Multiple Cooler Form				
Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
(EC) Client Box Other	IR GUN #:	2.7	2.8	(Wet Ice) Blue Ice Dry Ice Water None
(EC) Client Box Other	IR GUN #:	3.2	3.3	(Wet Ice) Blue Ice Dry Ice Water None
(EC) Client Box Other	IR GUN #:	1.9	2.0	(Wet Ice) Blue Ice Dry Ice Water None
(EC) Client Box Other	IR GUN #:	4.2	4.3	(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
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: 240-167897.1
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 #: 240-185016-1
Address: 777 New Durham Road, ,	Due Date Requested: 5/22/2023			
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_160 (240-185016-1)	5/5/23	Eastern		Water			X		1	
MW-20_050523 (240-185016-2)	5/5/23	11:30 Eastern		Water			X	X	6	
MW-49_050523 (240-185016-3)	5/5/23	12:33 Eastern		Water			X	X	6	
MW-21_050523 (240-185016-4)	5/5/23	13:35 Eastern		Water			X	X	6	
MW-23_050523 (240-185016-5)	5/5/23	15:08 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:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/10/23 1050	EETNC	via FedEx	5/11/23 1030	EETEd.
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No | Custody Seal No.: 10 CS | Cooler Temperature(s) °C and Other Remarks: 1.4/1.4, 2.7/2.7° CORR

Page 24 of 24
5/10/2023

Login Sample Receipt Checklist

Client: ARCADIS US Inc

Job Number: 240-185016-1

Login Number: 185016
List Number: 2
Creator: Armbruster, Chris

List Source: Eurofins Edison
List Creation: 05/11/23 01:12 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 24, 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: 185016-1
Sample date: 2023-05-05
Report received by CADENA: 2023-05-23
Initial Data Verification completed by CADENA: 2023-05-24
Number of Samples:5
Sample Matrices:Water and trip blank
Test Categories:GCMS VOC
Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

There were no significant QC anomalies or exceptions to report.

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

Analytical Results Summary

CADENA Project ID: E203728
Laboratory: Eurofins Environment Testing LLC - Cleveland
Laboratory Submittal: 185016-1

		Sample Name:	TRIP BLANK_160				MW-20_050523				MW-49_050523				MW-21_050523				MW-23_050523			
		Lab Sample ID:	2401850161				2401850162				2401850163				2401850164				2401850165			
		Sample Date:	5/5/2023				5/5/2023				5/5/2023				5/5/2023				5/5/2023			
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
GC/MS VOC																					
OSW-8260D																					
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	200	ug/l	---	ND	1.0	ug/l	---	ND	50	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	51000	200	ug/l	---	5.3	1.0	ug/l	---	12000	50	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	200	ug/l	---	ND	1.0	ug/l	---	ND	50	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	190	200	ug/l	J	1.7	1.0	ug/l	---	470	50	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	200	ug/l	---	ND	1.0	ug/l	---	1000	50	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	11000	200	ug/l	---	13	1.0	ug/l	---	340	50	ug/l	---
OSW-8260DSIM																					
1,4-Dioxane	123-91-1					ND	2.0	ug/l	---	18	2.0	ug/l	---	4.3	2.0	ug/l	---	1.0	2.0	ug/l	J