


ANALYTICAL REPORT

Eurofins Canton
180 S. Van Buren Avenue
Barberton, OH 44203
Tel: (330)497-9396

Laboratory Job ID: 240-166734-1
Client Project/Site: Ford LTP - Off Site

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:

5/27/2022 7:10:30 PM

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Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

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

Job ID: 240-166734-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

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

Job ID: 240-166734-1

Job ID: 240-166734-1

Laboratory: Eurofins Canton

Narrative

Job Narrative
240-166734-1

Comments

No additional comments.

Receipt

The samples were received on 5/17/2022 @ 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.6° C and 2.1° C.

Receipt Exceptions

The COC states that 6 vials were sent for each sample. Only 3 containers were received.

GC/MS VOA

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

VOA Prep

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

Method Summary

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

Job ID: 240-166734-1

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

Protocol References:

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

Laboratory References:

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

Sample Summary

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

Job ID: 240-166734-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-166734-1	TRIP BLANK_106	Water	05/13/22 00:00	05/17/22 09:30
240-166734-2	MW-203_051322	Water	05/13/22 09:45	05/17/22 09:30
240-166734-3	MW-203S_051322	Water	05/13/22 10:55	05/17/22 09:30

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

Detection Summary

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

Job ID: 240-166734-1

Client Sample ID: TRIP BLANK_106

Lab Sample ID: 240-166734-1

No Detections.

Client Sample ID: MW-203_051322

Lab Sample ID: 240-166734-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	53		20	9.2	ug/L	20		8260D	Total/NA
trans-1,2-Dichloroethene	120		20	10	ug/L	20		8260D	Total/NA
Trichloroethene	880		20	8.8	ug/L	20		8260D	Total/NA

Client Sample ID: MW-203S_051322

Lab Sample ID: 240-166734-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.0		1.0	0.46	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	5.2		1.0	0.51	ug/L	1		8260D	Total/NA
Trichloroethene	33		1.0	0.44	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 240-166734-1

Client Sample ID: TRIP BLANK_106

Lab Sample ID: 240-166734-1

Date Collected: 05/13/22 00:00

Matrix: Water

Date Received: 05/17/22 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/25/22 15:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/25/22 15:30	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/25/22 15:30	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/25/22 15:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		62 - 137		05/25/22 15:30	1
4-Bromofluorobenzene (Surr)	95		56 - 136		05/25/22 15:30	1
Toluene-d8 (Surr)	101		78 - 122		05/25/22 15:30	1
Dibromofluoromethane (Surr)	93		73 - 120		05/25/22 15:30	1

Client Sample Results

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

Job ID: 240-166734-1

Client Sample ID: MW-203_051322

Lab Sample ID: 240-166734-2

Date Collected: 05/13/22 09:45

Matrix: Water

Date Received: 05/17/22 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	53		20	9.2	ug/L			05/25/22 15:52	20
trans-1,2-Dichloroethene	120		20	10	ug/L			05/25/22 15:52	20
Trichloroethene	880		20	8.8	ug/L			05/25/22 15:52	20
Vinyl chloride	20	U	20	9.0	ug/L			05/25/22 15:52	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		62 - 137		05/25/22 15:52	20
4-Bromofluorobenzene (Surr)	94		56 - 136		05/25/22 15:52	20
Toluene-d8 (Surr)	100		78 - 122		05/25/22 15:52	20
Dibromofluoromethane (Surr)	95		73 - 120		05/25/22 15:52	20

Client Sample Results

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

Job ID: 240-166734-1

Client Sample ID: MW-203S_051322

Lab Sample ID: 240-166734-3

Date Collected: 05/13/22 10:55

Matrix: Water

Date Received: 05/17/22 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	2.0		1.0	0.46	ug/L			05/25/22 18:07	1
trans-1,2-Dichloroethene	5.2		1.0	0.51	ug/L			05/25/22 18:07	1
Trichloroethene	33		1.0	0.44	ug/L			05/25/22 18:07	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/25/22 18:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		62 - 137		05/25/22 18:07	1
4-Bromofluorobenzene (Surr)	97		56 - 136		05/25/22 18:07	1
Toluene-d8 (Surr)	103		78 - 122		05/25/22 18:07	1
Dibromofluoromethane (Surr)	97		73 - 120		05/25/22 18:07	1

Surrogate Summary

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

Job ID: 240-166734-1

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	DCA (62-137)	BFB (56-136)	TOL (78-122)	DBFM (73-120)
240-166734-1	TRIP BLANK_106	103	95	101	93
240-166734-2	MW-203_051322	103	94	100	95
240-166734-2 MS	MW-203_051322	99	109	107	94
240-166734-2 MSD	MW-203_051322	100	107	105	94
240-166734-3	MW-203S_051322	106	97	103	97
LCS 240-527876/5	Lab Control Sample	97	106	104	93
MB 240-527876/8	Method Blank	104	99	103	95

Surrogate Legend

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

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

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

Job ID: 240-166734-1

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

Lab Sample ID: MB 240-527876/8

Matrix: Water

Analysis Batch: 527876

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/25/22 11:45	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/25/22 11:45	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/25/22 11:45	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/25/22 11:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		62 - 137		05/25/22 11:45	1
4-Bromofluorobenzene (Surr)	99		56 - 136		05/25/22 11:45	1
Toluene-d8 (Surr)	103		78 - 122		05/25/22 11:45	1
Dibromofluoromethane (Surr)	95		73 - 120		05/25/22 11:45	1

Lab Sample ID: LCS 240-527876/5

Matrix: Water

Analysis Batch: 527876

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,2-Dichloroethene	20.0	19.0		ug/L		95	77 - 123
trans-1,2-Dichloroethene	20.0	20.2		ug/L		101	75 - 124
Trichloroethene	20.0	19.1		ug/L		96	70 - 122
Vinyl chloride	20.0	17.1		ug/L		85	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		62 - 137
4-Bromofluorobenzene (Surr)	106		56 - 136
Toluene-d8 (Surr)	104		78 - 122
Dibromofluoromethane (Surr)	93		73 - 120

Lab Sample ID: 240-166734-2 MS

Matrix: Water

Analysis Batch: 527876

Client Sample ID: MW-203_051322

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,2-Dichloroethene	53		400	430		ug/L		94	66 - 128
trans-1,2-Dichloroethene	120		400	515		ug/L		98	56 - 136
Trichloroethene	880		400	1190		ug/L		79	61 - 124
Vinyl chloride	20	U	400	332		ug/L		83	43 - 157

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		62 - 137
4-Bromofluorobenzene (Surr)	109		56 - 136
Toluene-d8 (Surr)	107		78 - 122
Dibromofluoromethane (Surr)	94		73 - 120

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QC Sample Results

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

Job ID: 240-166734-1

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

Lab Sample ID: 240-166734-2 MSD

Matrix: Water

Analysis Batch: 527876

Client Sample ID: MW-203_051322

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	53		400	428		ug/L		94	66 - 128	1	14
trans-1,2-Dichloroethene	120		400	511		ug/L		97	56 - 136	1	15
Trichloroethene	880		400	1190		ug/L		78	61 - 124	0	15
Vinyl chloride	20	U	400	336		ug/L		84	43 - 157	1	24

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
1,2-Dichloroethane-d4 (Surr)	100		62 - 137
4-Bromofluorobenzene (Surr)	107		56 - 136
Toluene-d8 (Surr)	105		78 - 122
Dibromofluoromethane (Surr)	94		73 - 120

QC Association Summary

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

Job ID: 240-166734-1

GC/MS VOA

Analysis Batch: 527876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-166734-1	TRIP BLANK_106	Total/NA	Water	8260D	
240-166734-2	MW-203_051322	Total/NA	Water	8260D	
240-166734-3	MW-203S_051322	Total/NA	Water	8260D	
MB 240-527876/8	Method Blank	Total/NA	Water	8260D	
LCS 240-527876/5	Lab Control Sample	Total/NA	Water	8260D	
240-166734-2 MS	MW-203_051322	Total/NA	Water	8260D	
240-166734-2 MSD	MW-203_051322	Total/NA	Water	8260D	

Lab Chronicle

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

Job ID: 240-166734-1

Client Sample ID: TRIP BLANK_106

Lab Sample ID: 240-166734-1

Date Collected: 05/13/22 00:00

Matrix: Water

Date Received: 05/17/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	527876	05/25/22 15:30	TJL1	TAL CAN

Client Sample ID: MW-203_051322

Lab Sample ID: 240-166734-2

Date Collected: 05/13/22 09:45

Matrix: Water

Date Received: 05/17/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		20	527876	05/25/22 15:52	TJL1	TAL CAN

Client Sample ID: MW-203S_051322

Lab Sample ID: 240-166734-3

Date Collected: 05/13/22 10:55

Matrix: Water

Date Received: 05/17/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	527876	05/25/22 18:07	TJL1	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

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

Job ID: 240-166734-1

Laboratory: Eurofins Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-27-23
Connecticut	State	PH-0590	12-31-23
Florida	NELAP	E87225	06-30-22
Georgia	State	4062	02-23-22 *
Illinois	NELAP	200004	07-31-22
Iowa	State	421	06-01-23
Kentucky (UST)	State	112225	02-27-23
Kentucky (WW)	State	KY98016	12-31-22
Minnesota	NELAP	039-999-348	12-31-22
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-22
New York	NELAP	10975	04-01-23
Ohio	State	8303	02-23-23
Ohio VAP	State	CL0024	02-27-23
Oregon	NELAP	4062	02-27-23
Pennsylvania	NELAP	68-00340	08-31-22
Texas	NELAP	T104704517-22-16	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-23
West Virginia DEP	State	210	12-31-22

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

Eurofins Canton

[illegible]


Eurofins TestAmerica Canton Sample Receipt Form/Narrative				Login # : <u>166734</u>	
Canton Facility					
Client <u>Arcadis</u>		Site Name <u>Ford LTP</u>		Cooler unpacked by: <u>DNR</u>	
Cooler Received on <u>5-17-22</u>		Opened on <u>5-17-22</u>			
FedEx: 1 st Grd. <u>(Exp)</u> UPS FAS Clipper		Client Drop Off		TestAmerica Courier Other	
Receipt After-hours: Drop-off Date/Time					
TestAmerica Cooler # <u>TA</u>		Foam Box		Client Cooler	
Packing material used: <u>Bubble Wrap</u>		Foam		Plastic Bag	
COOLANT: <u>Wet Ice</u>		Blue Ice		Dry Ice	
		Water		None	
1. Cooler temperature upon receipt		<input checked="" type="checkbox"/> See Multiple Cooler Form			
IR GUN# IR-13 (CF 0.0 °C)		Observed Cooler Temp. _____ °C		Corrected Cooler Temp. _____ °C	
IR GUN #IR-15 (CF -0.7°C)		Observed Cooler Temp. _____ °C		Corrected Cooler Temp. _____ °C	
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity <u>1 ea</u>		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
-Were the seals on the outside of the cooler(s) signed & dated?		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No NA	
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No NA	
-Were tamper/custody seals intact and uncompromised?		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No NA	
3. Shippers' packing slip attached to the cooler(s)?		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
4. Did custody papers accompany the sample(s)?		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
5. Were the custody papers relinquished & signed in the appropriate place?		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
6. Was/were the person(s) who collected the samples clearly identified on the COC?		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
7. Did all bottles arrive in good condition (Unbroken)?		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
10. Were correct bottle(s) used for the test(s) indicated?		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
11. Sufficient quantity received to perform indicated analyses?		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
12. Are these work share samples and all listed on the COC?		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> 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?		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No NA pH Strip Lot# <u>HC157842</u>	
14. Were VOAs on the COC?		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
15. Were air bubbles >6 mm in any VOA vials? Larger than this.		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No NA	
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # <u>01042016</u>		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
17. Was a LL Hg or Me Hg trip blank present?		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other					
Concerning _____					

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES <input type="checkbox"/> additional next page		Samples processed by:
<u>COC states 6 vials received. Received 3x40</u>		
<u>vials for samples. <u>DNR</u> 5/17/22</u>		
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: _____		

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- 9
- 10
- 11
- 12
- 13
- 14

W1-NC-099 Cooler Receipt Form Page 2 – Multiple Coolers

Client Contact Company Name: Arcadis Address: 28550 Cabot Drive, Suite 500 City/State/Zip: Novi, MI, 48377 Phone: 248-994-2240 Project Name: Ford LTP Oil-Site Project Number: 30080642.402.04 PO # 30080642.402.04		Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other		Client Project Manager: Kris Hinskey Telephone: 269-832-7478 Email: Kristoffer.Hinskey@arcadis.com		Lab Contact: Mike DelMonico Telephone: 330-966-9783		TestAmerica Laboratories, Inc. COC No: 1 of 1 COCs For lab use only	
Sample Identification Sample Date: 5/13/22 Sample Time: 0945 Sample Date: 5/13/22 Sample Time: 1055		Matrix Air: 1 Aqueous: 3 Sediment: 3 Solid: 3		Containers & Preservatives HCl: 1 HNO3: 3 H2SO4: 3 NaOH: 3 ZnOH: 3 Unpres: 3 Other: 3		Analysis Turnaround Time FAT if different from below: 10 day 3 weeks 2 weeks 1 week 2 days 1 day		Analyses 1,1-DCE 8260D cis-1,2-DCE 8260D Trans-1,2-DCE 8260D PCE 8260D TCE 8260D Vinyl Chloride 8260D 1,4-Dioxane 8260D SIM	
TRIP BLANK_106 MW-203_051322 MW-203_051322		1 3 3		1 3 3		1 3 3		1 3 3	
Sample Specific Notes / Special Instructions: 1 Trip Blank 3 VOAs for 8260D 3 VOAs for 8260D SIM									



240-166734 Chain of Custody

Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Special Instructions/OC Requirements & Comments: Sample Address: ROWSH 12447 LEVAN Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203631 Level IV Reporting requested.			
Relinquished by: CHRISTIAN GARRIDO / [Signature] Date/Time: 5/13/22 1330 Company: ARCADIS	Received by: NOVA COLO STORAGE Date/Time: 5/13/22 1330 Company: ARCADIS		
Relinquished by: [Signature] Date/Time: 5/16/22 1200 Company: ARCADIS	Received by: [Signature] Date/Time: 5/16/22 1200 Company: FETA		
Relinquished by: [Signature] Date/Time: 5/16/22 1250 Company: FETA	Received in Laboratory by: [Signature] Date/Time: 5/16/22 1250 Company: FETA		

Eurofins TestAmerica Canton Sample Receipt Form/Narrative Login # : 166734

Canton Facility

Client Arcadis Site Name Ford LTP Cooler unpacked by: DWR

Cooler Received on 5-17-22 Opened on 5-17-22

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

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

TestAmerica Cooler # TA Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other


COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☒ See Multiple Cooler Form
 IR GUN# IR-13 (CF 0.0 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
 IR GUN #IR-15 (CF -0.7°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 ea Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA
 -Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No
 4. Did custody papers accompany the sample(s)? Yes No
 5. Were the custody papers relinquished & signed in the appropriate place? Yes No
 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
 7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No
 9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? Yes No
 10. Were correct bottle(s) used for the test(s) indicated? Yes No
 11. Sufficient quantity received to perform indicated analyses? Yes No
 12. Are these work share samples and all listed on the COC? Yes No

If yes, Questions 13-17 have been checked at the originating laboratory.

13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC157842
 14. Were VOAs on the COC? Yes No
 15. Were air bubbles >6 mm in any VOA vials? Yes  Larger than this. Yes No NA
 16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 01042016 Yes No
 17. Was a LL Hg or Me Hg trip blank present? Yes No

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

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

COC states 6 vials received. Received 3x40
vials for samples. DWR 5/17/22

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: _____

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

W1-NC-099 Cooler Receipt Form Page 2 - Multiple Coolers

ANALYTICAL REPORT

Eurofins Canton
180 S. Van Buren Avenue
Barberton, OH 44203
Tel: (330)497-9396

Laboratory Job ID: 240-166506-1
Client Project/Site: Ford LTP - Off Site

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
5/26/2022 2:21:37 PM
Nicole Kalis, Project Manager I
(330)497-9396
Nicole.Kalis@et.eurofinsus.com

Designee for
Michael DelMonico, Project Manager I
(330)497-9396
Michael.DelMonico@et.eurofinsus.com

LINKS

Review your project
results through



Have a Question?



Visit us at:

www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

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

Job ID: 240-166506-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

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

Job ID: 240-166506-1

Job ID: 240-166506-1

Laboratory: Eurofins Canton

Narrative

Job Narrative
240-166506-1

Comments

No additional comments.

Receipt

The samples were received on 5/12/2022 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 4.0° C and 4.0° C.

GC/MS VOA

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

VOA Prep

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

Method Summary

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

Job ID: 240-166506-1

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

Protocol References:

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

Laboratory References:

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

Sample Summary

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

Job ID: 240-166506-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-166506-1	TRIP BLANK_80	Water	05/10/22 00:00	05/12/22 08:00
240-166506-2	MW-202_051022	Water	05/10/22 09:40	05/12/22 08:00
240-166506-3	MW-202S_051022	Water	05/10/22 10:20	05/12/22 08:00
240-166506-4	MW-206_051022	Water	05/10/22 11:40	05/12/22 08:00
240-166506-5	MW-206S_051022	Water	05/10/22 12:25	05/12/22 08:00

Detection Summary

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

Job ID: 240-166506-1

Client Sample ID: TRIP BLANK_80

Lab Sample ID: 240-166506-1

No Detections.

Client Sample ID: MW-202_051022

Lab Sample ID: 240-166506-2

No Detections.

Client Sample ID: MW-202S_051022

Lab Sample ID: 240-166506-3

No Detections.

Client Sample ID: MW-206_051022

Lab Sample ID: 240-166506-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	42		1.0	0.46	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	96		33	17	ug/L	33.333		8260D	Total/NA
Trichloroethene	1000		33	15	ug/L	33.333		8260D	Total/NA

Client Sample ID: MW-206S_051022

Lab Sample ID: 240-166506-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	0.58	J	1.0	0.51	ug/L	1		8260D	Total/NA
Trichloroethene	7.8		1.0	0.44	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Canton

Client Sample Results

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

Job ID: 240-166506-1

Client Sample ID: TRIP BLANK_80

Lab Sample ID: 240-166506-1

Date Collected: 05/10/22 00:00

Matrix: Water

Date Received: 05/12/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/20/22 13:11	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/20/22 13:11	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 13:11	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/20/22 13:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		62 - 137		05/20/22 13:11	1
4-Bromofluorobenzene (Surr)	86		56 - 136		05/20/22 13:11	1
Toluene-d8 (Surr)	97		78 - 122		05/20/22 13:11	1
Dibromofluoromethane (Surr)	104		73 - 120		05/20/22 13:11	1

Client Sample Results

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

Job ID: 240-166506-1

Client Sample ID: MW-202_051022

Lab Sample ID: 240-166506-2

Date Collected: 05/10/22 09:40

Matrix: Water

Date Received: 05/12/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/20/22 16:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/20/22 16:07	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 16:07	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/20/22 16:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		62 - 137		05/20/22 16:07	1
4-Bromofluorobenzene (Surr)	86		56 - 136		05/20/22 16:07	1
Toluene-d8 (Surr)	98		78 - 122		05/20/22 16:07	1
Dibromofluoromethane (Surr)	105		73 - 120		05/20/22 16:07	1

Client Sample Results

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

Job ID: 240-166506-1

Client Sample ID: MW-202S_051022

Lab Sample ID: 240-166506-3

Date Collected: 05/10/22 10:20

Matrix: Water

Date Received: 05/12/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/20/22 16:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/20/22 16:32	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 16:32	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/20/22 16:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		62 - 137		05/20/22 16:32	1
4-Bromofluorobenzene (Surr)	83		56 - 136		05/20/22 16:32	1
Toluene-d8 (Surr)	98		78 - 122		05/20/22 16:32	1
Dibromofluoromethane (Surr)	108		73 - 120		05/20/22 16:32	1

Client Sample Results

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

Job ID: 240-166506-1

Client Sample ID: MW-206_051022

Lab Sample ID: 240-166506-4

Date Collected: 05/10/22 11:40

Matrix: Water

Date Received: 05/12/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	42		1.0	0.46	ug/L			05/20/22 16:57	1
trans-1,2-Dichloroethene	96		33	17	ug/L			05/23/22 17:34	33.333
Trichloroethene	1000		33	15	ug/L			05/23/22 17:34	33.333
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/20/22 16:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		62 - 137		05/20/22 16:57	1
1,2-Dichloroethane-d4 (Surr)	105		62 - 137		05/23/22 17:34	33.333
4-Bromofluorobenzene (Surr)	87		56 - 136		05/20/22 16:57	1
4-Bromofluorobenzene (Surr)	107		56 - 136		05/23/22 17:34	33.333
Toluene-d8 (Surr)	98		78 - 122		05/20/22 16:57	1
Toluene-d8 (Surr)	107		78 - 122		05/23/22 17:34	33.333
Dibromofluoromethane (Surr)	108		73 - 120		05/20/22 16:57	1
Dibromofluoromethane (Surr)	113		73 - 120		05/23/22 17:34	33.333

Client Sample Results

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

Job ID: 240-166506-1

Client Sample ID: MW-206S_051022

Lab Sample ID: 240-166506-5

Date Collected: 05/10/22 12:25

Matrix: Water

Date Received: 05/12/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/23/22 16:47	1
trans-1,2-Dichloroethene	0.58	J	1.0	0.51	ug/L			05/23/22 16:47	1
Trichloroethene	7.8		1.0	0.44	ug/L			05/23/22 16:47	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/23/22 16:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		62 - 137		05/23/22 16:47	1
4-Bromofluorobenzene (Surr)	108		56 - 136		05/23/22 16:47	1
Toluene-d8 (Surr)	108		78 - 122		05/23/22 16:47	1
Dibromofluoromethane (Surr)	115		73 - 120		05/23/22 16:47	1

Surrogate Summary

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

Job ID: 240-166506-1

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	DCA (62-137)	BFB (56-136)	TOL (78-122)	DBFM (73-120)
240-166501-B-3 MS	Matrix Spike	96	106	109	103
240-166501-B-3 MSD	Matrix Spike Duplicate	99	108	107	103
240-166505-K-3 MS	Matrix Spike	102	96	99	107
240-166505-Q-3 MSD	Matrix Spike Duplicate	100	96	98	107
240-166506-1	TRIP BLANK_80	101	86	97	104
240-166506-2	MW-202_051022	103	86	98	105
240-166506-3	MW-202S_051022	102	83	98	108
240-166506-4	MW-206_051022	101	87	98	108
240-166506-4	MW-206_051022	105	107	107	113
240-166506-5	MW-206S_051022	110	108	108	115
LCS 240-527337/4	Lab Control Sample	98	98	98	106
LCS 240-527500/5	Lab Control Sample	96	107	108	102
MB 240-527337/6	Method Blank	102	87	98	104
MB 240-527500/7	Method Blank	106	107	109	112

Surrogate Legend

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

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

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

Job ID: 240-166506-1

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

Lab Sample ID: MB 240-527337/6

Matrix: Water

Analysis Batch: 527337

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/20/22 11:56	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/20/22 11:56	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 11:56	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/20/22 11:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		62 - 137		05/20/22 11:56	1
4-Bromofluorobenzene (Surr)	87		56 - 136		05/20/22 11:56	1
Toluene-d8 (Surr)	98		78 - 122		05/20/22 11:56	1
Dibromofluoromethane (Surr)	104		73 - 120		05/20/22 11:56	1

Lab Sample ID: LCS 240-527337/4

Matrix: Water

Analysis Batch: 527337

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,2-Dichloroethene	25.0	26.7		ug/L		107	77 - 123
trans-1,2-Dichloroethene	25.0	27.0		ug/L		108	75 - 124
Trichloroethene	25.0	26.7		ug/L		107	70 - 122
Vinyl chloride	12.5	11.4		ug/L		91	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		62 - 137
4-Bromofluorobenzene (Surr)	98		56 - 136
Toluene-d8 (Surr)	98		78 - 122
Dibromofluoromethane (Surr)	106		73 - 120

Lab Sample ID: 240-166505-K-3 MS

Matrix: Water

Analysis Batch: 527337

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,2-Dichloroethene	1.0	U	25.0	27.0		ug/L		108	66 - 128
trans-1,2-Dichloroethene	1.0	U	25.0	27.4		ug/L		110	56 - 136
Trichloroethene	1.0	U	25.0	26.1		ug/L		104	61 - 124
Vinyl chloride	1.0	U	25.0	22.4		ug/L		90	43 - 157

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		62 - 137
4-Bromofluorobenzene (Surr)	96		56 - 136
Toluene-d8 (Surr)	99		78 - 122
Dibromofluoromethane (Surr)	107		73 - 120

Eurofins Canton

QC Sample Results

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

Job ID: 240-166506-1

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

Lab Sample ID: 240-166505-Q-3 MSD

Matrix: Water

Analysis Batch: 527337

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	1.0	U	25.0	26.6		ug/L		106	66 - 128	2	14
trans-1,2-Dichloroethene	1.0	U	25.0	26.6		ug/L		107	56 - 136	3	15
Trichloroethene	1.0	U	25.0	25.9		ug/L		104	61 - 124	1	15
Vinyl chloride	1.0	U	25.0	22.7		ug/L		91	43 - 157	1	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		62 - 137
4-Bromofluorobenzene (Surr)	96		56 - 136
Toluene-d8 (Surr)	98		78 - 122
Dibromofluoromethane (Surr)	107		73 - 120

Lab Sample ID: MB 240-527500/7

Matrix: Water

Analysis Batch: 527500

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/23/22 13:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/23/22 13:13	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/23/22 13:13	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/23/22 13:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		62 - 137		05/23/22 13:13	1
4-Bromofluorobenzene (Surr)	107		56 - 136		05/23/22 13:13	1
Toluene-d8 (Surr)	109		78 - 122		05/23/22 13:13	1
Dibromofluoromethane (Surr)	112		73 - 120		05/23/22 13:13	1

Lab Sample ID: LCS 240-527500/5

Matrix: Water

Analysis Batch: 527500

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,2-Dichloroethene	25.0	24.4		ug/L		98	77 - 123
trans-1,2-Dichloroethene	25.0	24.5		ug/L		98	75 - 124
Trichloroethene	25.0	25.3		ug/L		101	70 - 122
Vinyl chloride	25.0	24.5		ug/L		98	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		62 - 137
4-Bromofluorobenzene (Surr)	107		56 - 136
Toluene-d8 (Surr)	108		78 - 122
Dibromofluoromethane (Surr)	102		73 - 120

Eurofins Canton

QC Sample Results

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

Job ID: 240-166506-1

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

Lab Sample ID: 240-166501-B-3 MS

Matrix: Water

Analysis Batch: 527500

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,2-Dichloroethene	8.1		179	178		ug/L		95	66 - 128
trans-1,2-Dichloroethene	7.1	U	179	170		ug/L		95	56 - 136
Trichloroethene	7.1	U	179	172		ug/L		96	61 - 124
Vinyl chloride	190		179	332		ug/L		81	43 - 157

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		62 - 137
4-Bromofluorobenzene (Surr)	106		56 - 136
Toluene-d8 (Surr)	109		78 - 122
Dibromofluoromethane (Surr)	103		73 - 120

Lab Sample ID: 240-166501-B-3 MSD

Matrix: Water

Analysis Batch: 527500

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	8.1		179	185		ug/L		99	66 - 128	4	14
trans-1,2-Dichloroethene	7.1	U	179	173		ug/L		97	56 - 136	2	15
Trichloroethene	7.1	U	179	177		ug/L		99	61 - 124	3	15
Vinyl chloride	190		179	346		ug/L		89	43 - 157	4	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		62 - 137
4-Bromofluorobenzene (Surr)	108		56 - 136
Toluene-d8 (Surr)	107		78 - 122
Dibromofluoromethane (Surr)	103		73 - 120

QC Association Summary

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

Job ID: 240-166506-1

GC/MS VOA

Analysis Batch: 527337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-166506-1	TRIP BLANK_80	Total/NA	Water	8260D	
240-166506-2	MW-202_051022	Total/NA	Water	8260D	
240-166506-3	MW-202S_051022	Total/NA	Water	8260D	
240-166506-4	MW-206_051022	Total/NA	Water	8260D	
MB 240-527337/6	Method Blank	Total/NA	Water	8260D	
LCS 240-527337/4	Lab Control Sample	Total/NA	Water	8260D	
240-166505-K-3 MS	Matrix Spike	Total/NA	Water	8260D	
240-166505-Q-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 527500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-166506-4	MW-206_051022	Total/NA	Water	8260D	
240-166506-5	MW-206S_051022	Total/NA	Water	8260D	
MB 240-527500/7	Method Blank	Total/NA	Water	8260D	
LCS 240-527500/5	Lab Control Sample	Total/NA	Water	8260D	
240-166501-B-3 MS	Matrix Spike	Total/NA	Water	8260D	
240-166501-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

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

Job ID: 240-166506-1

Client Sample ID: TRIP BLANK_80

Lab Sample ID: 240-166506-1

Date Collected: 05/10/22 00:00

Matrix: Water

Date Received: 05/12/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	527337	05/20/22 13:11	SAM	TAL CAN

Client Sample ID: MW-202_051022

Lab Sample ID: 240-166506-2

Date Collected: 05/10/22 09:40

Matrix: Water

Date Received: 05/12/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	527337	05/20/22 16:07	SAM	TAL CAN

Client Sample ID: MW-202S_051022

Lab Sample ID: 240-166506-3

Date Collected: 05/10/22 10:20

Matrix: Water

Date Received: 05/12/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	527337	05/20/22 16:32	SAM	TAL CAN

Client Sample ID: MW-206_051022

Lab Sample ID: 240-166506-4

Date Collected: 05/10/22 11:40

Matrix: Water

Date Received: 05/12/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		33.333	527500	05/23/22 17:34	SAM	TAL CAN
Total/NA	Analysis	8260D		1	527337	05/20/22 16:57	SAM	TAL CAN

Client Sample ID: MW-206S_051022

Lab Sample ID: 240-166506-5

Date Collected: 05/10/22 12:25

Matrix: Water

Date Received: 05/12/22 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	527500	05/23/22 16:47	SAM	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

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

Job ID: 240-166506-1

Laboratory: Eurofins Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-27-23
Connecticut	State	PH-0590	12-31-23
Florida	NELAP	E87225	06-30-22
Georgia	State	4062	02-23-22 *
Illinois	NELAP	200004	07-31-22
Iowa	State	421	06-01-23
Kentucky (UST)	State	112225	02-27-23
Kentucky (WW)	State	KY98016	12-31-22
Minnesota	NELAP	039-999-348	12-31-22
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-22
New York	NELAP	10975	04-01-23
Ohio	State	8303	02-23-23
Ohio VAP	State	CL0024	05-24-22
Oregon	NELAP	4062	05-24-22
Pennsylvania	NELAP	68-00340	08-31-22
Texas	NELAP	T104704517-22-16	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-23
West Virginia DEP	State	210	12-31-22

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

Eurofins Canton

Chain of Custody Record

[illegible]

Eurofins TestAmerica Canton Sample Receipt Form/Narrative Login # : 166506
Canton Facility

Client Arctadis Site Name Ford - LTP Cooler unpacked by: [Signature]
Cooler Received on 5-12-22 Opened on 5-12-22
FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other
Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # TA Foam Box Client Cooler Box Other
Packing material used: Bubble Wrap Foam Plastic Bag None Other
COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☒ See Multiple Cooler Form
IR GUN# IR-13 (CF 0.0 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
IR GUN #IR-15 (CF -0.7°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 ea Yes No
- Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
- Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA
- Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? Yes No
10. Were correct bottle(s) used for the test(s) indicated? Yes No
11. Sufficient quantity received to perform indicated analyses? Yes No
12. Are these work share samples and all listed on the COC? Yes No
If yes, Questions 13-17 have been checked at the originating laboratory.

13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC157842
14. Were VOAs on the COC? Yes No
15. Were air bubbles >6 mm in any VOA vials? Yes ☒ Larger than this. Covered Yes No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # Covered Yes No
17. Was a LL Hg or Me Hg trip blank present? Yes No

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: _____

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

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

Chain of Custody Record

[illegible]

Eurofins TestAmerica Canton Sample Receipt Form/Narrative Login # : 166506
Canton Facility

Client Arctadis Site Name Ford - LTP Cooler unpacked by: [Signature]
Cooler Received on 5-12-22 Opened on 5-12-22
FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other
Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # TA Foam Box Client Cooler Box Other
Packing material used: Bubble Wrap Foam Plastic Bag None Other
COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☒ See Multiple Cooler Form
IR GUN# IR-13 (CF 0.0 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
IR GUN #IR-15 (CF -0.7°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 ea Yes No
- Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
- Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA
- Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? Yes No
10. Were correct bottle(s) used for the test(s) indicated? Yes No
11. Sufficient quantity received to perform indicated analyses? Yes No
12. Are these work share samples and all listed on the COC? Yes No
If yes, Questions 13-17 have been checked at the originating laboratory.

13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC157842
14. Were VOAs on the COC? Yes No
15. Were air bubbles >6 mm in any VOA vials? Yes ☒ Larger than this. Covered Yes No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # Covered Yes No
17. Was a LL Hg or Me Hg trip blank present? Yes No

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: _____

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

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

DATA VERIFICATION REPORT



May 30, 2022

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631

Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater

Project number: 30080642.402.04

Event Specific Scope of Work References: Sample COC

Laboratory: Eurofins Environment Testing LLC - Barberton

Laboratory submittal: 166734-1

Sample date: 2022-05-13

Report received by CADENA: 2022-05-27

Initial Data Verification completed by CADENA: 2022-05-30

Number of Samples:3

Sample Matrices:Water

Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

There were no significant QC anomalies or exceptions to report.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

Analytical Results Summary

CADENA Project ID: E203631

Laboratory: Eurofins Environment Testing LLC - Barberton

Laboratory Submittal: 166734-1

Sample Name: TRIP BLANK_106
Lab Sample ID: 2401667341
Sample Date: 5/13/2022

MW-203_051322
2401667342
5/13/2022

MW-203S_051322
2401667343
5/13/2022

Analyte	Cas No.	Sample Name: TRIP BLANK_106				MW-203_051322				MW-203S_051322			
		Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier

GC/MS VOC

OSW-8260D

cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	53	20	ug/l	---	2.0	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	120	20	ug/l	---	5.2	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	880	20	ug/l	---	33	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	20	ug/l	---	ND	1.0	ug/l	---

DATA VERIFICATION REPORT



May 26, 2022

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: 30080642.402.04
Event Specific Scope of Work References: Sample COC
Laboratory: Eurofins Environment Testing LLC - Barberton
Laboratory submittal: 166506-1
Sample date: 2022-05-10
Report received by CADENA: 2022-05-26
Initial Data Verification completed by CADENA: 2022-05-26
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, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

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

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

Analytical Results Summary

CADENA Project ID: E203631

Laboratory: Eurofins Environment Testing LLC - Barberton

Laboratory Submittal: 166506-1

		Sample Name: TRIP BLANK_80				MW-202_051022				MW-202S_051022				MW-206_051022				MW-206S_051022			
		Lab Sample ID: 2401665061				2401665062				2401665063				2401665064				2401665065			
		Sample Date: 5/10/2022				5/10/2022				5/10/2022				5/10/2022				5/10/2022			
Analyte	Cas No.	Report		Units	Valid Qualifier	Report		Units	Valid Qualifier	Report		Units	Valid Qualifier	Report		Units	Valid Qualifier	Report		Units	Valid Qualifier
		Result	Limit			Result	Limit			Result	Limit			Result	Limit						
GC/MS VOC																					
<u>OSW-8260D</u>																					
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	42	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	96	33	ug/l	---	0.58	1.0	ug/l	J
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	1000	33	ug/l	---	7.8	1.0	ug/l	---
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	---

Ford Motor Company – Livonia Transmission Project

DATA REVIEW

Livonia, Michigan

Volatile Organic Compounds (VOC) Analysis

SDG # 240-166506-1, 240-166734-1

CADENA Verification Report: 2022-05-26, 2022-05-30

Analyses Performed By:


TestAmerica

North Canton, Ohio

Report # 45750R

Review Level: Tier III

Project: 30080642.402.02

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DATA REVIEW

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) # 240-166506-1, 240-166734-1 for samples collected in association with the Ford – Livonia, Michigan site. The review was conducted as a Tier III validation in addition to a verification/Tier II validation review performed by CADENA Inc. and included review of level IV laboratory data package completeness. Only elements of a Tier III validation effort (Tier III) include a detailed review of laboratory raw data to check for errors in calculation, calibration review, internal standard review and compound identification) and omitted deviations from the CADENA verification/Tier II report are documented in this report. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

SDGs	Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis
						VOC
240-166506-1	TRIP BLANK_80	240-166506-1	Water	05/10/2022		X
	MW-202_051022	240-166506-2	Water	05/10/2022		X
	MW-202S_051022	240-166506-3	Water	05/10/2022		X
	MW-206_051022	240-166506-4	Water	05/10/2022		X
	MW-206S_051022	240-166506-5	Water	05/10/2022		X
240-166734-1	TRIP BLANK_106	240-166734-1	Water	05/13/2022		X
	MW-203_051322	240-166734-2	Water	05/13/2022		X
	MW-203S_051322	240-166734-3	Water	05/13/2022		X

DATA REVIEW

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of Quality Assurance or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

DATA REVIEW

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Method 8260D. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified, and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
 - U The analyte was analyzed for but was not detected above the level of the reported sample quantitation limit.
 - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
 - E The compound was quantitated above the calibration range.
 - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
 - J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
 - UJ The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
 - J+ The result is an estimated quantity, but the result may be biased high.
 - J- The result is an estimated quantity, but the result may be biased low.
 - UB Analyte considered non-detect at the listed value due to associated blank contamination.
 - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
 - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

DATA REVIEW

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8260D	Water	14 days from collection to analysis	Cool to < 6 °C; pH < 2 with HCl

SDGs# 240-166506-1, 240-166734-1: All samples were analyzed within the specified holding time criteria.

2. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable, and all analyses were performed within a 12-hour tune clock.

SDGs# 240-166506-1, 240-166734-1: System performance and column resolution were acceptable.

3. Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (20%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

SDGs# 240-166506-1, 240-166734-1: All compounds associated with the initial calibrations were within the specified control limits.

3.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (20%) and RRF value greater than control limit (0.05).

SDGs# 240-166506-1, 240-166734-1: All compounds associated with the calibrations were within the specified control limits.

4. Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

SDGs# 240-166506-1, 240-166734-1: All internal standard responses were within control limits.

5. Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices.

DATA REVIEW

SDGs# 240-166506-1, 240-166734-1: A field duplicate sample is not collected for samples from this SDG.

6. Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

SDGs# 240-166506-1: All identified compounds met the specified criteria.

Sample results associated with compound that exhibited a concentration greater than the linear range of the instrument calibration are summarized in the following table.

Sample ID	Compound	Original Analysis	Diluted Analysis	Reported Analysis
MW-206_051022	trans-1,2-Dichloroethene	--	96	96 D
	Trichloroethene	--	1000	1000 D

Note: In the instance where both the original analysis and the diluted analysis sample results exhibited a concentration greater than and/or less than the calibration linear range of the instrument; the sample result exhibiting the greatest concentration will be reported as the final result.

Sample results associated with compounds exhibiting concentrations greater than the linear range are qualified as documented in the table below when reported as the final reported sample result.

Reported Sample Results	Qualification
Diluted sample result within calibration range	D
Diluted sample result less than the calibration range	DJ
Diluted sample result greater than the calibration range	EDJ
Original sample result greater than the calibration range	EJ

240-166734-1: All identified compounds met the specified criteria.

7. System Performance and Overall Assessment

SDGs# 240-166506-1, 240-166734-1: Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA REVIEW

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: 8260D	Reported		Performance Acceptable		Not Required	
	No	Yes	No	Yes		
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)						
Tier II Validation						
Holding times/Preservation		X		X		
Tier III Validation						
System performance and column resolution		X		X		
Initial calibration %RSDs		X		X		
Continuing calibration RRFs		X		X		
Continuing calibration %Ds		X		X		
Instrument tune and performance check		X		X		
Ion abundance criteria for each instrument used		X		X		
Field Duplicate RPD	X				X	
Internal standard		X		X		
Compound identification and quantitation						
A. Reconstructed ion chromatograms		X		X		
B. Quantitation Reports		X		X		
C. RT of sample compounds within the established RT windows		X		X		
D. Transcription/calculation errors present		X		X		
E. Reporting limits adjusted to reflect sample dilutions		X		X		

Notes:

%RSD Relative standard deviation

%R Percent recovery

RPD Relative percent difference

%D Percent difference

DATA REVIEW

VALIDATION PERFORMED BY: Hareesha Naik

SIGNATURE: Hareesha Naik

DATE: June 08, 2022

PEER REVIEW: Andrew Korycinski

DATE: June 12, 2022

CHAIN OF CUSTODY CORRECTED SAMPLE ANALYSIS DATA SHEETS



MICHIGAN

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

240-166506 Chain of Custody

Definitions/Glossary

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

Job ID: 240-166506-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample Results

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

Job ID: 240-166506-1

Client Sample ID: TRIP BLANK_80

Lab Sample ID: 240-166506-1

Date Collected: 05/10/22 00:00

Matrix: Water

Date Received: 05/12/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/20/22 13:11	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/20/22 13:11	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 13:11	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/20/22 13:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		62 - 137		05/20/22 13:11	1
4-Bromofluorobenzene (Surr)	86		56 - 136		05/20/22 13:11	1
Toluene-d8 (Surr)	97		78 - 122		05/20/22 13:11	1
Dibromofluoromethane (Surr)	104		73 - 120		05/20/22 13:11	1

Client Sample Results

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

Job ID: 240-166506-1

Client Sample ID: MW-202_051022

Lab Sample ID: 240-166506-2

Date Collected: 05/10/22 09:40

Matrix: Water

Date Received: 05/12/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/20/22 16:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/20/22 16:07	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 16:07	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/20/22 16:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		62 - 137		05/20/22 16:07	1
4-Bromofluorobenzene (Surr)	86		56 - 136		05/20/22 16:07	1
Toluene-d8 (Surr)	98		78 - 122		05/20/22 16:07	1
Dibromofluoromethane (Surr)	105		73 - 120		05/20/22 16:07	1

Client Sample Results

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

Job ID: 240-166506-1

Client Sample ID: MW-202S_051022

Lab Sample ID: 240-166506-3

Date Collected: 05/10/22 10:20

Matrix: Water

Date Received: 05/12/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/20/22 16:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/20/22 16:32	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/20/22 16:32	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/20/22 16:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		62 - 137		05/20/22 16:32	1
4-Bromofluorobenzene (Surr)	83		56 - 136		05/20/22 16:32	1
Toluene-d8 (Surr)	98		78 - 122		05/20/22 16:32	1
Dibromofluoromethane (Surr)	108		73 - 120		05/20/22 16:32	1

Client Sample Results

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

Job ID: 240-166506-1

Client Sample ID: MW-206_051022

Lab Sample ID: 240-166506-4

Date Collected: 05/10/22 11:40

Matrix: Water

Date Received: 05/12/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	42		1.0	0.46	ug/L			05/20/22 16:57	1
trans-1,2-Dichloroethene	96	D	33	17	ug/L			05/23/22 17:34	33.333
Trichloroethene	1000	D	33	15	ug/L			05/23/22 17:34	33.333
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/20/22 16:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		62 - 137		05/20/22 16:57	1
1,2-Dichloroethane-d4 (Surr)	105		62 - 137		05/23/22 17:34	33.333
4-Bromofluorobenzene (Surr)	87		56 - 136		05/20/22 16:57	1
4-Bromofluorobenzene (Surr)	107		56 - 136		05/23/22 17:34	33.333
Toluene-d8 (Surr)	98		78 - 122		05/20/22 16:57	1
Toluene-d8 (Surr)	107		78 - 122		05/23/22 17:34	33.333
Dibromofluoromethane (Surr)	108		73 - 120		05/20/22 16:57	1
Dibromofluoromethane (Surr)	113		73 - 120		05/23/22 17:34	33.333

Client Sample Results

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

Job ID: 240-166506-1

Client Sample ID: MW-206S_051022

Lab Sample ID: 240-166506-5

Date Collected: 05/10/22 12:25

Matrix: Water

Date Received: 05/12/22 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/23/22 16:47	1
trans-1,2-Dichloroethene	0.58	J	1.0	0.51	ug/L			05/23/22 16:47	1
Trichloroethene	7.8		1.0	0.44	ug/L			05/23/22 16:47	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/23/22 16:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		62 - 137		05/23/22 16:47	1
4-Bromofluorobenzene (Surr)	108		56 - 136		05/23/22 16:47	1
Toluene-d8 (Surr)	108		78 - 122		05/23/22 16:47	1
Dibromofluoromethane (Surr)	115		73 - 120		05/23/22 16:47	1

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240-166734 Chain of Custody

Definitions/Glossary

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

Job ID: 240-166734-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample Results

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

Job ID: 240-166734-1

Client Sample ID: TRIP BLANK_106

Lab Sample ID: 240-166734-1

Date Collected: 05/13/22 00:00

Matrix: Water

Date Received: 05/17/22 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/25/22 15:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/25/22 15:30	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/25/22 15:30	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/25/22 15:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		62 - 137		05/25/22 15:30	1
4-Bromofluorobenzene (Surr)	95		56 - 136		05/25/22 15:30	1
Toluene-d8 (Surr)	101		78 - 122		05/25/22 15:30	1
Dibromofluoromethane (Surr)	93		73 - 120		05/25/22 15:30	1

Client Sample Results

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

Job ID: 240-166734-1

Client Sample ID: MW-203_051322

Lab Sample ID: 240-166734-2

Date Collected: 05/13/22 09:45

Matrix: Water

Date Received: 05/17/22 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	53		20	9.2	ug/L			05/25/22 15:52	20
trans-1,2-Dichloroethene	120		20	10	ug/L			05/25/22 15:52	20
Trichloroethene	880		20	8.8	ug/L			05/25/22 15:52	20
Vinyl chloride	20	U	20	9.0	ug/L			05/25/22 15:52	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		62 - 137		05/25/22 15:52	20
4-Bromofluorobenzene (Surr)	94		56 - 136		05/25/22 15:52	20
Toluene-d8 (Surr)	100		78 - 122		05/25/22 15:52	20
Dibromofluoromethane (Surr)	95		73 - 120		05/25/22 15:52	20

Client Sample Results

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

Job ID: 240-166734-1

Client Sample ID: MW-203S_051322

Lab Sample ID: 240-166734-3

Date Collected: 05/13/22 10:55

Matrix: Water

Date Received: 05/17/22 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	2.0		1.0	0.46	ug/L			05/25/22 18:07	1
trans-1,2-Dichloroethene	5.2		1.0	0.51	ug/L			05/25/22 18:07	1
Trichloroethene	33		1.0	0.44	ug/L			05/25/22 18:07	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/25/22 18:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		62 - 137		05/25/22 18:07	1
4-Bromofluorobenzene (Surr)	97		56 - 136		05/25/22 18:07	1
Toluene-d8 (Surr)	103		78 - 122		05/25/22 18:07	1
Dibromofluoromethane (Surr)	97		73 - 120		05/25/22 18:07	1