

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-149526-1
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:
5/29/2021 11:18:14 AM

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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: 240-149526-1

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: 240-149526-1

Job ID: 240-149526-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-149526-1

Comments

No additional comments.

Receipt

The samples were received on 5/15/2021 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.0° 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.

- 1
- 2
- 3
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- 5
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- 11
- 12
- 13
- 14

Method Summary

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

Job ID: 240-149526-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	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 TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

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

Job ID: 240-149526-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-149526-1	TRIP BLANK_76	Water	05/13/21 00:00	05/15/21 08:00	
240-149526-2	MW-87_051321	Water	05/13/21 10:01	05/15/21 08:00	
240-149526-3	MW-87S_051321	Water	05/13/21 10:56	05/15/21 08:00	

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

Detection Summary

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

Job ID: 240-149526-1

Client Sample ID: TRIP BLANK_76

Lab Sample ID: 240-149526-1

No Detections.

Client Sample ID: MW-87_051321

Lab Sample ID: 240-149526-2

No Detections.

Client Sample ID: MW-87S_051321

Lab Sample ID: 240-149526-3

No Detections.

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

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

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

Job ID: 240-149526-1

Client Sample ID: TRIP BLANK_76

Lab Sample ID: 240-149526-1

Date Collected: 05/13/21 00:00

Matrix: Water

Date Received: 05/15/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/26/21 14:49	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/26/21 14:49	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/26/21 14:49	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/26/21 14:49	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/26/21 14:49	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/26/21 14:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		75 - 130		05/26/21 14:49	1
4-Bromofluorobenzene (Surr)	93		47 - 134		05/26/21 14:49	1
Toluene-d8 (Surr)	96		69 - 122		05/26/21 14:49	1
Dibromofluoromethane (Surr)	106		78 - 129		05/26/21 14:49	1

Client Sample Results

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

Job ID: 240-149526-1

Client Sample ID: MW-87_051321

Lab Sample ID: 240-149526-2

Date Collected: 05/13/21 10:01

Matrix: Water

Date Received: 05/15/21 08:00

Method: 8260B 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			05/19/21 01:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		70 - 133		05/19/21 01:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/26/21 19:26	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/26/21 19:26	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/26/21 19:26	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/26/21 19:26	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/26/21 19:26	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/26/21 19:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		75 - 130		05/26/21 19:26	1
4-Bromofluorobenzene (Surr)	87		47 - 134		05/26/21 19:26	1
Toluene-d8 (Surr)	93		69 - 122		05/26/21 19:26	1
Dibromofluoromethane (Surr)	98		78 - 129		05/26/21 19:26	1

Client Sample Results

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

Job ID: 240-149526-1

Client Sample ID: MW-87S_051321

Lab Sample ID: 240-149526-3

Date Collected: 05/13/21 10:56

Matrix: Water

Date Received: 05/15/21 08:00

Method: 8260B 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			05/21/21 17:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		70 - 133		05/21/21 17:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/26/21 19:49	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/26/21 19:49	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/26/21 19:49	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/26/21 19:49	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/26/21 19:49	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/26/21 19:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		75 - 130		05/26/21 19:49	1
4-Bromofluorobenzene (Surr)	89		47 - 134		05/26/21 19:49	1
Toluene-d8 (Surr)	95		69 - 122		05/26/21 19:49	1
Dibromofluoromethane (Surr)	100		78 - 129		05/26/21 19:49	1

Surrogate Summary

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

Job ID: 240-149526-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-149470-D-4 MSD	Matrix Spike Duplicate	94	93	95	98
240-149470-G-4 MS	Matrix Spike	91	98	97	95
240-149526-1	TRIP BLANK_76	107	93	96	106
240-149526-2	MW-87_051321	96	87	93	98
240-149526-3	MW-87S_051321	99	89	95	100
240-149526-3 MS	MW-87S-MS_051321	93	94	94	95
240-149526-3 MSD	MW-87S-MSD_051321	96	96	96	97
LCS 240-487605/5	Lab Control Sample	90	95	95	93
MB 240-487605/7	Method Blank	94	91	93	95

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(70-133)
240-149470-H-4 MS	Matrix Spike	84
240-149470-N-4 MSD	Matrix Spike Duplicate	81
240-149526-2	MW-87_051321	83
240-149526-3	MW-87S_051321	82
240-149526-3 MS	MW-87S-MS_051321	85
240-149526-3 MSD	MW-87S-MSD_051321	81
LCS 240-486375/4	Lab Control Sample	82
LCS 240-486956/4	Lab Control Sample	82
MB 240-486375/5	Method Blank	83
MB 240-486956/5	Method Blank	80

Surrogate Legend

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

QC Sample Results

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

Job ID: 240-149526-1

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

Lab Sample ID: MB 240-487605/7
Matrix: Water
Analysis Batch: 487605

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/26/21 12:31	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/26/21 12:31	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/26/21 12:31	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/26/21 12:31	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/26/21 12:31	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/26/21 12:31	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	94		75 - 130		05/26/21 12:31	1
4-Bromofluorobenzene (Surr)	91		47 - 134		05/26/21 12:31	1
Toluene-d8 (Surr)	93		69 - 122		05/26/21 12:31	1
Dibromofluoromethane (Surr)	95		78 - 129		05/26/21 12:31	1

Lab Sample ID: LCS 240-487605/5
Matrix: Water
Analysis Batch: 487605

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

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1-Dichloroethene	25.0	25.3		ug/L		101	73 - 129
cis-1,2-Dichloroethene	25.0	23.2		ug/L		93	75 - 124
Tetrachloroethene	25.0	23.3		ug/L		93	70 - 125
trans-1,2-Dichloroethene	25.0	24.2		ug/L		97	74 - 130
Trichloroethene	25.0	22.9		ug/L		92	71 - 121
Vinyl chloride	25.0	24.1		ug/L		97	61 - 134

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	90		75 - 130
4-Bromofluorobenzene (Surr)	95		47 - 134
Toluene-d8 (Surr)	95		69 - 122
Dibromofluoromethane (Surr)	93		78 - 129

Lab Sample ID: 240-149470-D-4 MSD
Matrix: Water
Analysis Batch: 487605

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

Analyte	Sample Sample		Spike Added	MSD MSD		Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier		Result	Qualifier						
1,1-Dichloroethene	1.0	U	25.0	25.2		ug/L		101	64 - 132	1	35
cis-1,2-Dichloroethene	0.38	J	25.0	23.1		ug/L		91	68 - 121	0	35
Tetrachloroethene	1.0	U	25.0	22.7		ug/L		91	52 - 129	2	35
trans-1,2-Dichloroethene	1.0	U	25.0	24.2		ug/L		97	69 - 126	0	35
Trichloroethene	1.0	U	25.0	23.1		ug/L		92	56 - 124	3	35
Vinyl chloride	3.4		25.0	26.7		ug/L		93	49 - 136	0	35

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	94		75 - 130
4-Bromofluorobenzene (Surr)	93		47 - 134
Toluene-d8 (Surr)	95		69 - 122

QC Sample Results

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

Job ID: 240-149526-1

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

Lab Sample ID: 240-149470-D-4 MSD
Matrix: Water
Analysis Batch: 487605

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

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD Qualifier</i>	<i>MSD Limits</i>
<i>Dibromofluoromethane (Surr)</i>	98		78 - 129

Lab Sample ID: 240-149470-G-4 MS
Matrix: Water
Analysis Batch: 487605

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	25.0	25.4		ug/L		101	64 - 132
cis-1,2-Dichloroethene	0.38	J	25.0	23.0		ug/L		91	68 - 121
Tetrachloroethene	1.0	U	25.0	23.1		ug/L		92	52 - 129
trans-1,2-Dichloroethene	1.0	U	25.0	24.2		ug/L		97	69 - 126
Trichloroethene	1.0	U	25.0	22.4		ug/L		90	56 - 124
Vinyl chloride	3.4		25.0	26.7		ug/L		93	49 - 136

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS Qualifier</i>	<i>MS Limits</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	91		75 - 130
<i>4-Bromofluorobenzene (Surr)</i>	98		47 - 134
<i>Toluene-d8 (Surr)</i>	97		69 - 122
<i>Dibromofluoromethane (Surr)</i>	95		78 - 129

Lab Sample ID: 240-149526-3 MS
Matrix: Water
Analysis Batch: 487605

Client Sample ID: MW-87S-MS_051321
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	25.0	23.6		ug/L		95	64 - 132
cis-1,2-Dichloroethene	1.0	U	25.0	21.5		ug/L		86	68 - 121
Tetrachloroethene	1.0	U	25.0	21.0		ug/L		84	52 - 129
trans-1,2-Dichloroethene	1.0	U	25.0	22.8		ug/L		91	69 - 126
Trichloroethene	1.0	U	25.0	20.7		ug/L		83	56 - 124
Vinyl chloride	1.0	U	25.0	21.4		ug/L		85	49 - 136

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS Qualifier</i>	<i>MS Limits</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	93		75 - 130
<i>4-Bromofluorobenzene (Surr)</i>	94		47 - 134
<i>Toluene-d8 (Surr)</i>	94		69 - 122
<i>Dibromofluoromethane (Surr)</i>	95		78 - 129

Lab Sample ID: 240-149526-3 MSD
Matrix: Water
Analysis Batch: 487605

Client Sample ID: MW-87S-MSD_051321
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	25.0	25.4		ug/L		102	64 - 132	7	35
cis-1,2-Dichloroethene	1.0	U	25.0	23.5		ug/L		94	68 - 121	9	35
Tetrachloroethene	1.0	U	25.0	22.7		ug/L		91	52 - 129	8	35
trans-1,2-Dichloroethene	1.0	U	25.0	23.8		ug/L		95	69 - 126	4	35
Trichloroethene	1.0	U	25.0	22.9		ug/L		91	56 - 124	10	35

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-149526-1

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

Lab Sample ID: 240-149526-3 MSD
Matrix: Water
Analysis Batch: 487605

Client Sample ID: MW-87S-MSD_051321
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl chloride	1.0	U	25.0	23.6		ug/L		94	49 - 136	10	35
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
1,2-Dichloroethane-d4 (Surr)	96		75 - 130								
4-Bromofluorobenzene (Surr)	96		47 - 134								
Toluene-d8 (Surr)	96		69 - 122								
Dibromofluoromethane (Surr)	97		78 - 129								

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

Lab Sample ID: MB 240-486375/5
Matrix: Water
Analysis Batch: 486375

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			05/18/21 16:05	1
Surrogate	%Recovery	MB Qualifier	MB Limits						
1,2-Dichloroethane-d4 (Surr)	83		70 - 133						
							Prepared	Analyzed	Dil Fac
								05/18/21 16:05	1

Lab Sample ID: LCS 240-486375/4
Matrix: Water
Analysis Batch: 486375

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.5		ug/L		105	80 - 135
Surrogate	%Recovery	LCS Qualifier	LCS Limits				
1,2-Dichloroethane-d4 (Surr)	82		70 - 133				

Lab Sample ID: 240-149470-H-4 MS
Matrix: Water
Analysis Batch: 486375

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.3	J	10.0	12.4		ug/L		111	46 - 170
Surrogate	%Recovery	MS Qualifier	MS Limits						
1,2-Dichloroethane-d4 (Surr)	84		70 - 133						

Lab Sample ID: 240-149470-N-4 MSD
Matrix: Water
Analysis Batch: 486375

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	1.3	J	10.0	11.5		ug/L		102	46 - 170	8	26

Eurofins TestAmerica, Canton

QC Sample Results

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

Job ID: 240-149526-1

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

Lab Sample ID: 240-149470-N-4 MSD
Matrix: Water
Analysis Batch: 486375

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	81		70 - 133

Lab Sample ID: MB 240-486956/5
Matrix: Water
Analysis Batch: 486956

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			05/21/21 13:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		70 - 133		05/21/21 13:40	1

Lab Sample ID: LCS 240-486956/4
Matrix: Water
Analysis Batch: 486956

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.8		ug/L		108	80 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	82		70 - 133

Lab Sample ID: 240-149526-3 MS
Matrix: Water
Analysis Batch: 486956

Client Sample ID: MW-87S-MS_051321
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	10.3		ug/L		103	46 - 170

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	85		70 - 133

Lab Sample ID: 240-149526-3 MSD
Matrix: Water
Analysis Batch: 486956

Client Sample ID: MW-87S-MSD_051321
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	10.3		ug/L		103	46 - 170	0	26

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	81		70 - 133

QC Association Summary

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

Job ID: 240-149526-1

GC/MS VOA

Analysis Batch: 486375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-149526-2	MW-87_051321	Total/NA	Water	8260B SIM	
MB 240-486375/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-486375/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-149470-H-4 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-149470-N-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 486956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-149526-3	MW-87S_051321	Total/NA	Water	8260B SIM	
MB 240-486956/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-486956/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-149526-3 MS	MW-87S-MS_051321	Total/NA	Water	8260B SIM	
240-149526-3 MSD	MW-87S-MSD_051321	Total/NA	Water	8260B SIM	

Analysis Batch: 487605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-149526-1	TRIP BLANK_76	Total/NA	Water	8260B	
240-149526-2	MW-87_051321	Total/NA	Water	8260B	
240-149526-3	MW-87S_051321	Total/NA	Water	8260B	
MB 240-487605/7	Method Blank	Total/NA	Water	8260B	
LCS 240-487605/5	Lab Control Sample	Total/NA	Water	8260B	
240-149470-D-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
240-149470-G-4 MS	Matrix Spike	Total/NA	Water	8260B	
240-149526-3 MS	MW-87S-MS_051321	Total/NA	Water	8260B	
240-149526-3 MSD	MW-87S-MSD_051321	Total/NA	Water	8260B	

Lab Chronicle

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

Job ID: 240-149526-1

Client Sample ID: TRIP BLANK_76

Lab Sample ID: 240-149526-1

Date Collected: 05/13/21 00:00

Matrix: Water

Date Received: 05/15/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	487605	05/26/21 14:49	SAM	TAL CAN

Client Sample ID: MW-87_051321

Lab Sample ID: 240-149526-2

Date Collected: 05/13/21 10:01

Matrix: Water

Date Received: 05/15/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	487605	05/26/21 19:26	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	486375	05/19/21 01:59	CS	TAL CAN

Client Sample ID: MW-87S_051321

Lab Sample ID: 240-149526-3

Date Collected: 05/13/21 10:56

Matrix: Water

Date Received: 05/15/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	487605	05/26/21 19:49	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	486956	05/21/21 17:55	CS	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

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

Job ID: 240-149526-1

Laboratory: Eurofins TestAmerica, 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	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21 *
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

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



09/10

Chain of Custody Record

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

Regulatory program: DW NPDES RCRA Other

Client Project Manager: Kris Hinskey
 Telephone: 248-994-2240
 Email: kristoffer.hinskey@arcadis.com

Site Contact: Julia McClafferty
 Telephone: 734-644-5131
 Lab Contact: Mike DeMonico
 Telephone: 330-497-9396

Company Name: Arcadis
 Address: 28550 Cabot Drive, Suite 500
 City/State/Zip: Novi, MI, 48377
 Phone: 248-994-2240

Project Name: Ford LTP Off-Site
 Project Number: 3088642.402.04
 PO # 3088642.402.04

TestAmerica Laboratories, Inc.
 COC No: _____

1 of 1 COCs

For lab use only

Walk-in client

Lab sampling

Job/SDG No: _____

Sample Specific Notes / Special Instructions:

Sample Identification	Matrix		Containers & Preservatives						Filtered Sample (Y/N)	Composite (C/Grab)	Analyses						Sample Specific Notes / Special Instructions
	Air	Other:	H2SO4	HNO3	HCl	NaOH	ZnAc	Tapres			Other:	1-DCE 8260B	cis-1,2-DCE 8260B	Trans-1,2-DCE 8260B	PCE 8260B	TCE 8260B	
TRIP Blank 76	X				1					X	X	X	X	X	X	X	1 Trip Blank
MW-87-051321	X				6					X	X	X	X	X	X	X	3 VOAs for 8260B 3 VOAs for 8260B SIM
MW-87S-051321	X				6					X	X	X	X	X	X	X	3 VOAs for 8260B 3 VOAs for 8260B SIM
MW-87S-MS-051321	X				6					X	X	X	X	X	X	X	3 VOAs for 8260B 3 VOAs for 8260B SIM
MW-87S-MSD-051321	X				6					X	X	X	X	X	X	X	3 VOAs for 8260B 3 VOAs for 8260B SIM

Sample Date Sample Time

05/13/21 10:01

05/13/21 10:56

L L

Shipping/Tracking No: _____

Sampler Name: Gary Schaefer

Method of Shipment/Carrier: _____

Analysis Turnaround Time: 10 day

Analysis: 3 weeks
2 weeks
1 week
2 days
1 day

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return to Client Disposal By Lab Archive For _____ Months

240-149526 Chain of Custody

Company	Date/Time	Received by
Arcadis	05/13/21 1330	Novi Cold Storage
Arcadis	5/14/21 1215	Frank Peltner
EPA	5/14/21 1452	Adam Gemert

Submit all results through Cadena at tomalia@cadenaco.com. Cadena #E203631

Level IV Reporting requested.

Special Instructions/OC Requirements & Comments:

Eurofins TestAmerica Canton Sample Receipt Form/Narrative		Login # <u>149526</u>
Canton Facility		
Client <u>ArCADIS</u>	Site Name _____	Cooler unpacked by <u>Adam [Signature]</u>
Cooler Received on <u>5-15-21</u>	Opened on <u>5-17-21</u>	
FedEx <input type="checkbox"/> 1st Grd <input type="checkbox"/> Exp <input type="checkbox"/> UPS <input type="checkbox"/> FAS <input type="checkbox"/> Clipper <input checked="" type="checkbox"/>	Client Drop Off <input type="checkbox"/> TestAmerica Courier <input type="checkbox"/> Other <input type="checkbox"/>	
Receipt After-hours Drop-off Date/Time		Storage Location
TestAmerica Cooler # <u>41</u>	Foam Box <input type="checkbox"/>	Client Cooler <input type="checkbox"/>
Packing material used <u>Bubble Wrap</u>	Foam <input type="checkbox"/>	Plastic Bag <input type="checkbox"/>
COOLANT <u>Wet Ice</u>	Blue Ice <input type="checkbox"/>	Dry Ice <input type="checkbox"/>
	Water <input type="checkbox"/>	None <input type="checkbox"/>
1 Cooler temperature upon receipt	<input type="checkbox"/> See Multiple Cooler Form	
IR GUN# IR-11 (CF +0.1 °C)	Observed Cooler Temp <u>09</u> °C	Corrected Cooler Temp <u>10</u> °C
IR GUN #IR-12 (CF +0.2 °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</u>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Tests that are not checked for pH by Receiving: VOAs Oil and Grease TOC
-Were the seals on the outside of the cooler(s) signed & dated?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/>	
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
-Were tamper/custody seals intact and uncompromised?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/>	
3 Shippers' packing slip attached to the cooler(s)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
4 Did custody papers accompany the sample(s)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
5 Were the custody papers relinquished & signed in the appropriate place?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
6 Was/were the person(s) who collected the samples clearly identified on the COC?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
7 Did all bottles arrive in good condition (Unbroken)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
8 Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
9 For each sample, does the COC specify preservatives <input checked="" type="checkbox"/> (Y/N), # of containers <input checked="" type="checkbox"/> (Y/N), and sample type of grab/comp <input checked="" type="checkbox"/> (Y/N)?		
10 Were correct bottle(s) used for the test(s) indicated?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
11 Sufficient quantity received to perform indicated analyses?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
12 Are these work share samples and all listed on the COC?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
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 <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/>	pH Strip Lot# <u>HC022887</u>
14 Were VOAs on the COC?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
15 Were air bubbles >6 mm in any VOA vials? ← Larger than this	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/>	
16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # <u>Caverza</u>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
17 Was a LL Hg or Me Hg trip blank present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
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 _____

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 _____