

## ANALYTICAL REPORT

Eurofins TestAmerica, Canton  
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North Canton, OH 44720  
Tel: (330)497-9396

Laboratory Job ID: 240-150263-1  
Client Project/Site: Ford LTP - On Site

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

Attn: Kristoffer Hinskey



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Authorized for release by:  
6/11/2021 2:12:55 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 - On Site

Job ID: 240-150263-1

## 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.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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 - On Site

Job ID: 240-150263-1

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## Job ID: 240-150263-1

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Laboratory: Eurofins TestAmerica, Canton

### Narrative

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#### Job Narrative 240-150263-1

### Comments

No additional comments.

### Receipt

The samples were received on 5/26/2021 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 0.8° C.

### GC/MS VOA

Method 8260B SIM: The following volatiles samples were diluted due to foaming at the time of purging during the original sample analysis: MW-199S\_052121 (240-150263-4). Elevated reporting limits (RLs) are provided.

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

### VOA Prep

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

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# Method Summary

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

Job ID: 240-150263-1

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

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# Sample Summary

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

Job ID: 240-150263-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-150263-1	TRIP BLANK_134	Water	05/21/21 00:00	05/28/21 08:00	
240-150263-2	MW-113_052121	Water	05/21/21 09:35	05/28/21 08:00	
240-150263-3	MW-124_052121	Water	05/21/21 10:40	05/28/21 08:00	
240-150263-4	MW-199S_052121	Water	05/21/21 11:45	05/28/21 08:00	

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- 10
- 11
- 12
- 13
- 14

# Detection Summary

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

Job ID: 240-150263-1

**Client Sample ID: TRIP BLANK\_134**

**Lab Sample ID: 240-150263-1**

No Detections.

**Client Sample ID: MW-113\_052121**

**Lab Sample ID: 240-150263-2**

No Detections.

**Client Sample ID: MW-124\_052121**

**Lab Sample ID: 240-150263-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.2		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.24	J	1.0	0.19	ug/L	1		8260B	Total/NA
Vinyl chloride	0.28	J	1.0	0.20	ug/L	1		8260B	Total/NA

**Client Sample ID: MW-199S\_052121**

**Lab Sample ID: 240-150263-4**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.19	J	1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	0.41	J	1.0	0.20	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

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

Job ID: 240-150263-1

**Client Sample ID: TRIP BLANK\_134**

**Lab Sample ID: 240-150263-1**

**Date Collected: 05/21/21 00:00**

**Matrix: Water**

**Date Received: 05/28/21 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			06/04/21 06:00	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			06/04/21 06:00	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			06/04/21 06:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/04/21 06:00	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			06/04/21 06:00	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			06/04/21 06:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		75 - 130		06/04/21 06:00	1
4-Bromofluorobenzene (Surr)	77		47 - 134		06/04/21 06:00	1
Toluene-d8 (Surr)	95		69 - 122		06/04/21 06:00	1
Dibromofluoromethane (Surr)	85		78 - 129		06/04/21 06:00	1



# Client Sample Results

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

Job ID: 240-150263-1

**Client Sample ID: MW-113\_052121**

**Lab Sample ID: 240-150263-2**

Date Collected: 05/21/21 09:35

Matrix: Water

Date Received: 05/28/21 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			06/03/21 20:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		70 - 133					06/03/21 20:01	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			06/04/21 06:22	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			06/04/21 06:22	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			06/04/21 06:22	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/04/21 06:22	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			06/04/21 06:22	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			06/04/21 06:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		75 - 130					06/04/21 06:22	1
4-Bromofluorobenzene (Surr)	79		47 - 134					06/04/21 06:22	1
Toluene-d8 (Surr)	91		69 - 122					06/04/21 06:22	1
Dibromofluoromethane (Surr)	80		78 - 129					06/04/21 06:22	1

# Client Sample Results

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

Job ID: 240-150263-1

**Client Sample ID: MW-124\_052121**

**Lab Sample ID: 240-150263-3**

Date Collected: 05/21/21 10:40

Matrix: Water

Date Received: 05/28/21 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			06/03/21 20:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 133		06/03/21 20:26	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			06/04/21 06:45	1
<b>cis-1,2-Dichloroethene</b>	<b>2.2</b>		1.0	0.16	ug/L			06/04/21 06:45	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			06/04/21 06:45	1
<b>trans-1,2-Dichloroethene</b>	<b>0.24</b>	<b>J</b>	1.0	0.19	ug/L			06/04/21 06:45	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			06/04/21 06:45	1
<b>Vinyl chloride</b>	<b>0.28</b>	<b>J</b>	1.0	0.20	ug/L			06/04/21 06:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		75 - 130		06/04/21 06:45	1
4-Bromofluorobenzene (Surr)	80		47 - 134		06/04/21 06:45	1
Toluene-d8 (Surr)	92		69 - 122		06/04/21 06:45	1
Dibromofluoromethane (Surr)	82		78 - 129		06/04/21 06:45	1

# Client Sample Results

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

Job ID: 240-150263-1

**Client Sample ID: MW-199S\_052121**

**Lab Sample ID: 240-150263-4**

**Date Collected: 05/21/21 11:45**

**Matrix: Water**

**Date Received: 05/28/21 08:00**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	4.0	U	4.0	1.7	ug/L			06/03/21 20:51	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		70 - 133		06/03/21 20:51	2

**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			06/04/21 07:07	1
<b>cis-1,2-Dichloroethene</b>	<b>0.19</b>	<b>J</b>	1.0	0.16	ug/L			06/04/21 07:07	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			06/04/21 07:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/04/21 07:07	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			06/04/21 07:07	1
<b>Vinyl chloride</b>	<b>0.41</b>	<b>J</b>	1.0	0.20	ug/L			06/04/21 07:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		75 - 130		06/04/21 07:07	1
4-Bromofluorobenzene (Surr)	94		47 - 134		06/04/21 07:07	1
Toluene-d8 (Surr)	104		69 - 122		06/04/21 07:07	1
Dibromofluoromethane (Surr)	94		78 - 129		06/04/21 07:07	1

# Surrogate Summary

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

Job ID: 240-150263-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-150046-E-3 MS	Matrix Spike	82	82	91	77 S1-
240-150046-E-3 MSD	Matrix Spike Duplicate	89	88	98	85
240-150263-1	TRIP BLANK_134	91	77	95	85
240-150263-2	MW-113_052121	87	79	91	80
240-150263-3	MW-124_052121	89	80	92	82
240-150263-4	MW-199S_052121	100	94	104	94
LCS 240-488891/36	Lab Control Sample	101	96	110	94
MB 240-488891/6	Method Blank	105	91	109	97

### 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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (70-133)
240-150123-H-4 MS	Matrix Spike	83
240-150123-M-4 MSD	Matrix Spike Duplicate	84
240-150263-2	MW-113_052121	84
240-150263-3	MW-124_052121	85
240-150263-4	MW-199S_052121	80
LCS 240-488853/4	Lab Control Sample	82
MB 240-488853/5	Method Blank	82

### Surrogate Legend

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

# QC Sample Results

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

Job ID: 240-150263-1

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

**Lab Sample ID: MB 240-488891/6**  
**Matrix: Water**  
**Analysis Batch: 488891**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/03/21 23:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			06/03/21 23:37	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			06/03/21 23:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/03/21 23:37	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			06/03/21 23:37	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			06/03/21 23:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		75 - 130		06/03/21 23:37	1
4-Bromofluorobenzene (Surr)	91		47 - 134		06/03/21 23:37	1
Toluene-d8 (Surr)	109		69 - 122		06/03/21 23:37	1
Dibromofluoromethane (Surr)	97		78 - 129		06/03/21 23:37	1

**Lab Sample ID: LCS 240-488891/36**  
**Matrix: Water**  
**Analysis Batch: 488891**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.3		ug/L		103	73 - 129
cis-1,2-Dichloroethene	10.0	10.8		ug/L		108	75 - 124
Tetrachloroethene	10.0	10.3		ug/L		103	70 - 125
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 130
Trichloroethene	10.0	9.59		ug/L		96	71 - 121
Vinyl chloride	10.0	11.7		ug/L		117	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		75 - 130
4-Bromofluorobenzene (Surr)	96		47 - 134
Toluene-d8 (Surr)	110		69 - 122
Dibromofluoromethane (Surr)	94		78 - 129

**Lab Sample ID: 240-150046-E-3 MS**  
**Matrix: Water**  
**Analysis Batch: 488891**

**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	140	U	1430	971		ug/L		68	64 - 132
cis-1,2-Dichloroethene	790		1430	1900		ug/L		78	68 - 121
Tetrachloroethene	210		1430	1760		ug/L		108	52 - 129
trans-1,2-Dichloroethene	140	U	1430	1150		ug/L		81	69 - 126
Trichloroethene	110	J	1430	1270		ug/L		82	56 - 124
Vinyl chloride	140	U	1430	1710		ug/L		119	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	82		75 - 130
4-Bromofluorobenzene (Surr)	82		47 - 134
Toluene-d8 (Surr)	91		69 - 122

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# QC Sample Results

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

Job ID: 240-150263-1

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

**Lab Sample ID: 240-150046-E-3 MS**  
**Matrix: Water**  
**Analysis Batch: 488891**

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

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
Dibromofluoromethane (Surr)	77	S1-	78 - 129

**Lab Sample ID: 240-150046-E-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 488891**

**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
1,1-Dichloroethene	140	U	1430	1090		ug/L		77	64 - 132	12	35
cis-1,2-Dichloroethene	790		1430	1990		ug/L		84	68 - 121	4	35
Tetrachloroethene	210		1430	1840		ug/L		114	52 - 129	5	35
trans-1,2-Dichloroethene	140	U	1430	1170		ug/L		82	69 - 126	2	35
Trichloroethene	110	J	1430	1350		ug/L		87	56 - 124	6	35
Vinyl chloride	140	U	1430	1760		ug/L		123	49 - 136	3	35

  

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	89		75 - 130
4-Bromofluorobenzene (Surr)	88		47 - 134
Toluene-d8 (Surr)	98		69 - 122
Dibromofluoromethane (Surr)	85		78 - 129

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

**Lab Sample ID: MB 240-488853/5**  
**Matrix: Water**  
**Analysis Batch: 488853**

**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			06/03/21 14:14	1

  

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		70 - 133		06/03/21 14:14	1

**Lab Sample ID: LCS 240-488853/4**  
**Matrix: Water**  
**Analysis Batch: 488853**

**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	10.3		ug/L		103	80 - 135

  

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

**Lab Sample ID: 240-150123-H-4 MS**  
**Matrix: Water**  
**Analysis Batch: 488853**

**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	4.0	U F1	20.0	22.0		ug/L		110	46 - 170

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# QC Sample Results

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

Job ID: 240-150263-1

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

<u>Surrogate</u>	<u>MS</u> <u>%Recovery</u>	<u>MS</u> <u>Qualifier</u>	<u>Limits</u>
1,2-Dichloroethane-d4 (Surr)	83		70 - 133

**Lab Sample ID: 240-150123-M-4 MSD**  
**Matrix: Water**  
**Analysis Batch: 488853**

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

<u>Analyte</u>	<u>Sample</u> <u>Result</u>	<u>Sample</u> <u>Qualifier</u>	<u>Spike</u> <u>Added</u>	<u>MSD</u> <u>Result</u>	<u>MSD</u> <u>Qualifier</u>	<u>Unit</u>	<u>D</u>	<u>%Rec</u>	<u>%Rec.</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>Limit</u>
1,4-Dioxane	4.0	U F1	20.0	21.9		ug/L		109	46 - 170	1	26

<u>Surrogate</u>	<u>MSD</u> <u>%Recovery</u>	<u>MSD</u> <u>Qualifier</u>	<u>Limits</u>
1,2-Dichloroethane-d4 (Surr)	84		70 - 133

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# QC Association Summary

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

Job ID: 240-150263-1

## GC/MS VOA

### Analysis Batch: 488853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-150263-2	MW-113_052121	Total/NA	Water	8260B SIM	
240-150263-3	MW-124_052121	Total/NA	Water	8260B SIM	
240-150263-4	MW-199S_052121	Total/NA	Water	8260B SIM	
MB 240-488853/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-488853/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-150123-H-4 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-150123-M-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

### Analysis Batch: 488891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-150263-1	TRIP BLANK_134	Total/NA	Water	8260B	
240-150263-2	MW-113_052121	Total/NA	Water	8260B	
240-150263-3	MW-124_052121	Total/NA	Water	8260B	
240-150263-4	MW-199S_052121	Total/NA	Water	8260B	
MB 240-488891/6	Method Blank	Total/NA	Water	8260B	
LCS 240-488891/36	Lab Control Sample	Total/NA	Water	8260B	
240-150046-E-3 MS	Matrix Spike	Total/NA	Water	8260B	
240-150046-E-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	



# Lab Chronicle

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

Job ID: 240-150263-1

**Client Sample ID: TRIP BLANK\_134**

**Lab Sample ID: 240-150263-1**

**Date Collected: 05/21/21 00:00**

**Matrix: Water**

**Date Received: 05/28/21 08:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	488891	06/04/21 06:00	LEE	TAL CAN

**Client Sample ID: MW-113\_052121**

**Lab Sample ID: 240-150263-2**

**Date Collected: 05/21/21 09:35**

**Matrix: Water**

**Date Received: 05/28/21 08:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	488891	06/04/21 06:22	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	488853	06/03/21 20:01	CS	TAL CAN

**Client Sample ID: MW-124\_052121**

**Lab Sample ID: 240-150263-3**

**Date Collected: 05/21/21 10:40**

**Matrix: Water**

**Date Received: 05/28/21 08:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	488891	06/04/21 06:45	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	488853	06/03/21 20:26	CS	TAL CAN

**Client Sample ID: MW-199S\_052121**

**Lab Sample ID: 240-150263-4**

**Date Collected: 05/21/21 11:45**

**Matrix: Water**

**Date Received: 05/28/21 08:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	488891	06/04/21 07:07	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		2	488853	06/03/21 20:51	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 - On Site

Job ID: 240-150263-1

## 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.



0710-00

Chain of Custody Record

MICHIGAN  
190

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING

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

<b>Client Contact</b> Company Name: Arcadis Address: 28550 Cabot Drive, Suite 500 City/State/Zip: Novi, MI, 48377 Phone: 248-994-2240 Project Name: Ford LTP On-Site Project Number: 30080642.401.03 PO # 30080642.401.03		<b>Regulatory program:</b> <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other	
<b>Client Project Manager: Kris Hinskey</b> Telephone: 248-994-2240 Email: kristoffer.hinskey@arcadis.com		<b>Site Contact: Julia McClafferty</b> Telephone: 734-644-5131	
<b>Sampler Name:</b> Emma Witherspoon		<b>Lab Contact: Mike DelMonico</b> Telephone: 330-497-9396	
<b>Method of Shipment/Carrier:</b> Shipping/Tracking No:		<b>Analyses</b> Walk-in client Lab sampling Job/SDG No:	
<b>Sample Identification</b>		<b>Filtered Sample (Y/N)</b> Composite C / Grab G	
Sample Date	Sample Time	Matrix	Analysis Turnaround Time
		Alr	TAT if different from below
		Aqueous	10 day
		Sediment	<input type="checkbox"/> 3 weeks
		Solid	<input checked="" type="checkbox"/> 2 weeks
		Other	<input type="checkbox"/> 1 week
			<input type="checkbox"/> 2 days
			<input type="checkbox"/> 1 day
			Other: _____
			Containers & Preservatives
			HCl
			HNO3
			H2SO4
			NaOH
			ZnAc
			Upret
			Other: _____
			1,1-DCE 8260B
			cis-1,2-DCE 8260B
			Trans-1,2-DCE 8260B
			PCE 8260B
			TCE 8260B
			Vinyl Chloride 8260B
			1,4-Dioxane 8260B SIM
			1 Trip Blank
			3 VOAs for 8260B
			3 VOAs for 8260B SIM
			Sample Specific Notes / Special Instructions:



**Possible Hazard Identification**  
 Non-Hazard  Flammable  Irritant  Poison B  Unknown

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

Relinquished by: <i>Emma Witherspoon</i>	Company: Arcadis	Date/Time: 5/21/21 1330	Received by: <i>Novi Cold Storage</i>	Company: Arcadis	Date/Time: 5/21/21 1330
Relinquished by: <i>Julia McClafferty</i>	Company: Arcadis	Date/Time: 5/25/21 1030	Received by: <i>Amank Pathak</i>	Company: ETA	Date/Time: 5/25/21 10:31
Relinquished by: <i>Amank Pathak</i>	Company: ETA	Date/Time: 5/25/21 1051	Received by: <i>Adam Grant</i>	Company: ETA	Date/Time: 5-26-21 0900

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Client Arcadis Site Name \_\_\_\_\_ Cooler unpacked by: Trent C  
 Cooler Received on 5-26-21 Opened on 5-26-21  
 FedEx: 1<sup>st</sup> Grd Exp UPS FAS Copper 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-11 (CF +0.1 °C) Observed Cooler Temp. 0.7 °C Corrected Cooler Temp. 0.8 °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 1  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)?
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# HC022887
14. Were VOAs on the COC?  Yes  No
15. Were air bubbles >6 mm in any VOA vials?  Yes  No  NA ● ← Larger than this.
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # Covered  Yes  No
17. Was a LL Hg or Me Hg trip blank present?  Yes  No

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

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal Voice Mail Other \_\_\_\_\_  
 Concerning \_\_\_\_\_

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

19. SAMPLE CONDITION  
 Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.  
 Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION  
 Sample(s) \_\_\_\_\_ were further preserved in the laboratory.  
 Time preserved: \_\_\_\_\_ Preservative(s) added/Lot number(s): \_\_\_\_\_  
 VOA Sample Preservation - Date/Time VOAs Frozen: \_\_\_\_\_