

7/8/2019

Mr. Jim Tomalia  
Arcadis U.S., Inc.  
28550 Cabot Dr.  
Suite 500  
Novi MI 48377

Project Name: Ford LTP  
Project #: MI001454.0004  
Workorder #: 1906588

Dear Mr. Jim Tomalia

The following report includes the data for the above referenced project for sample(s) received on 6/27/2019 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Ausha Scott  
Project Manager

**WORK ORDER #: 1906588**

Work Order Summary

<b>CLIENT:</b>	Mr. Jim Tomalia Arcadis U.S., Inc. 28550 Cabot Dr. Suite 500 Novi, MI 48377	<b>BILL TO:</b>	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
<b>PHONE:</b>	517-819-0356	<b>P.O. #</b>	MI001454.0004.0001B
<b>FAX:</b>		<b>PROJECT #</b>	MI001454.0004 Ford LTP
<b>DATE RECEIVED:</b>	06/27/2019	<b>CONTACT:</b>	Ausha Scott
<b>DATE COMPLETED:</b>	07/03/2019		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SVMP-27-4.5_062419	TO-15	5.5 "Hg	15 psi
02A	SVMP-12-3.5_062419	TO-15	6.0 "Hg	15 psi
03A	SVMP-22-3.0_062519	TO-15	5.5 "Hg	15 psi
04A	SVMP-23-3.0_062519	TO-15	3.5 "Hg	15 psi
05A	SVMP-24-4.0_062519	TO-15	4.5 "Hg	15 psi
06A	Lab Blank	TO-15	NA	NA
07A	CCV	TO-15	NA	NA
08A	LCS	TO-15	NA	NA
08AA	LCSD	TO-15	NA	NA

CERTIFIED BY:   
 \_\_\_\_\_  
 Technical Director

DATE: 07/03/19

Certification numbers: AZ Licensure AZ0775, FL NELAP - E8 , LA NELAP - 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP CA009332018-10, VA NELAP - 9505, WA NELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005-011, Effective date: 10/18/2018, Expiration date: 10/17/2019.

Eurofins Air Toxics LLC. certifies that the test results contained in this report meet all requirements of the NELAC standards

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**LABORATORY NARRATIVE**  
**EPA Method TO-15**  
**Arcadis U.S., Inc.**  
**Workorder# 1906588**

Five 1 Liter Summa Canister (100% Certified) samples were received on June 27, 2019. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified may be false positives.

**Definition of Data Qualifying Flags**

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

EPA METHOD TO-15 GC/MS FULL SCAN  
 Ford LTP

<b>Client ID:</b>	SVMP-27-4.5_062419	<b>Date/Time Analyzed:</b>	7/1/19 07:55 PM
<b>Lab ID:</b>	1906588-01A	<b>Dilution Factor:</b>	2.47
<b>Date/Time Collected:</b>	6/24/19 11:57 AM	<b>Instrument/Filename:</b>	msd17.i / 17070113
<b>Media:</b>	1 Liter Summa Canister (100% Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	2.2	3.9	4.9	Not Detected
1,4-Dioxane	123-91-1	9.4	13	18	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.4	3.9	4.9	Not Detected
Tetrachloroethene	127-18-4	3.4	6.7	8.4	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.5	3.9	4.9	Not Detected
Trichloroethene	79-01-6	2.4	5.3	6.6	Not Detected
Vinyl Chloride	75-01-4	1.3	2.5	3.2	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	99
4-Bromofluorobenzene	460-00-4	70-130	100
Toluene-d8	2037-26-5	70-130	100

EPA METHOD TO-15 GC/MS FULL SCAN  
 Ford LTP

<b>Client ID:</b>	SVMP-12-3.5_062419	<b>Date/Time Analyzed:</b>	7/1/19 06:03 PM
<b>Lab ID:</b>	1906588-02A	<b>Dilution Factor:</b>	2.52
<b>Date/Time Collected:</b>	6/24/19 03:08 PM	<b>Instrument/Filename:</b>	msd17.i / 17070111
<b>Media:</b>	1 Liter Summa Canister (100% Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	2.2	4.0	5.0	Not Detected
1,4-Dioxane	123-91-1	9.6	14	18	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.4	4.0	5.0	Not Detected
Tetrachloroethene	127-18-4	3.4	6.8	8.5	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.5	4.0	5.0	Not Detected
Trichloroethene	79-01-6	2.4	5.4	6.8	Not Detected
Vinyl Chloride	75-01-4	1.3	2.6	3.2	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	100
Toluene-d8	2037-26-5	70-130	103

EPA METHOD TO-15 GC/MS FULL SCAN  
 Ford LTP

<b>Client ID:</b>	SVMP-22-3.0_062519	<b>Date/Time Analyzed:</b>	7/1/19 05:35 PM
<b>Lab ID:</b>	1906588-03A	<b>Dilution Factor:</b>	2.47
<b>Date/Time Collected:</b>	6/25/19 10:28 AM	<b>Instrument/Filename:</b>	msd17.i / 17070110
<b>Media:</b>	1 Liter Summa Canister (100% Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	2.2	3.9	4.9	Not Detected
1,4-Dioxane	123-91-1	9.4	13	18	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.4	3.9	4.9	Not Detected
Tetrachloroethene	127-18-4	3.4	6.7	8.4	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.5	3.9	4.9	Not Detected
Trichloroethene	79-01-6	2.4	5.3	6.6	Not Detected
Vinyl Chloride	75-01-4	1.3	2.5	3.2	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	104

EPA METHOD TO-15 GC/MS FULL SCAN  
 Ford LTP

<b>Client ID:</b>	SVMP-23-3.0_062519	<b>Date/Time Analyzed:</b>	7/1/19 05:07 PM
<b>Lab ID:</b>	1906588-04A	<b>Dilution Factor:</b>	2.29
<b>Date/Time Collected:</b>	6/25/19 11:38 AM	<b>Instrument/Filename:</b>	msd17.i / 17070109
<b>Media:</b>	1 Liter Summa Canister (100% Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	2.0	3.6	4.5	Not Detected
1,4-Dioxane	123-91-1	8.7	12	16	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.3	3.6	4.5	Not Detected
Tetrachloroethene	127-18-4	3.1	6.2	7.8	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.4	3.6	4.5	Not Detected
Trichloroethene	79-01-6	2.2	4.9	6.2	Not Detected
Vinyl Chloride	75-01-4	1.2	2.3	2.9	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	100
Toluene-d8	2037-26-5	70-130	102

EPA METHOD TO-15 GC/MS FULL SCAN  
 Ford LTP

<b>Client ID:</b>	SVMP-24-4.0_062519	<b>Date/Time Analyzed:</b>	7/1/19 04:38 PM
<b>Lab ID:</b>	1906588-05A	<b>Dilution Factor:</b>	2.38
<b>Date/Time Collected:</b>	6/25/19 01:30 PM	<b>Instrument/Filename:</b>	msd17.i / 17070108
<b>Media:</b>	1 Liter Summa Canister (100% Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	2.1	3.8	4.7	Not Detected
1,4-Dioxane	123-91-1	9.1	13	17	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.3	3.8	4.7	Not Detected
Tetrachloroethene	127-18-4	3.2	6.4	8.1	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.4	3.8	4.7	Not Detected
Trichloroethene	79-01-6	2.3	5.1	6.4	Not Detected
Vinyl Chloride	75-01-4	1.2	2.4	3.0	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	96
4-Bromofluorobenzene	460-00-4	70-130	97
Toluene-d8	2037-26-5	70-130	101



EPA METHOD TO-15 GC/MS FULL SCAN  
 Ford LTP

<b>Client ID:</b>	Lab Blank	<b>Date/Time Analyzed:</b>	7/1/19 02:50 PM
<b>Lab ID:</b>	1906588-06A	<b>Dilution Factor:</b>	1.00
<b>Date/Time Collected:</b>	NA - Not Applicable	<b>Instrument/Filename:</b>	msd17.i / 17070106a
<b>Media:</b>	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.87	1.6	2.0	Not Detected
1,4-Dioxane	123-91-1	3.8	5.4	7.2	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.56	1.6	2.0	Not Detected
Tetrachloroethene	127-18-4	1.4	2.7	3.4	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.59	1.6	2.0	Not Detected
Trichloroethene	79-01-6	0.97	2.1	2.7	Not Detected
Vinyl Chloride	75-01-4	0.51	1.0	1.3	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	95
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	103

EPA METHOD TO-15 GC/MS FULL SCAN  
 Ford LTP

<b>Client ID:</b>	CCV	<b>Date/Time Analyzed:</b>	7/1/19 10:01 AM
<b>Lab ID:</b>	1906588-07A	<b>Dilution Factor:</b>	1.00
<b>Date/Time Collected:</b>	NA - Not Applicable	<b>Instrument/Filename:</b>	msd17.i / 17070102
<b>Media:</b>	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	101
1,4-Dioxane	123-91-1	106
cis-1,2-Dichloroethene	156-59-2	116
Tetrachloroethene	127-18-4	97
trans-1,2-Dichloroethene	156-60-5	108
Trichloroethene	79-01-6	105
Vinyl Chloride	75-01-4	108

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	100
4-Bromofluorobenzene	460-00-4	70-130	98
Toluene-d8	2037-26-5	70-130	103

EPA METHOD TO-15 GC/MS FULL SCAN  
 Ford LTP

<b>Client ID:</b>	LCS	<b>Date/Time Analyzed:</b>	7/1/19 10:28 AM
<b>Lab ID:</b>	1906588-08A	<b>Dilution Factor:</b>	1.00
<b>Date/Time Collected:</b>	NA - Not Applicable	<b>Instrument/Filename:</b>	msd17.i / 17070103
<b>Media:</b>	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	94
1,4-Dioxane	123-91-1	108
cis-1,2-Dichloroethene	156-59-2	122
Tetrachloroethene	127-18-4	98
trans-1,2-Dichloroethene	156-60-5	91
Trichloroethene	79-01-6	107
Vinyl Chloride	75-01-4	106

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	102
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	107

\* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN  
 Ford LTP

<b>Client ID:</b>	LCSD	<b>Date/Time Analyzed:</b>	7/1/19 10:55 AM
<b>Lab ID:</b>	1906588-08AA	<b>Dilution Factor:</b>	1.00
<b>Date/Time Collected:</b>	NA - Not Applicable	<b>Instrument/Filename:</b>	msd17.i / 17070104
<b>Media:</b>	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	90
1,4-Dioxane	123-91-1	104
cis-1,2-Dichloroethene	156-59-2	119
Tetrachloroethene	127-18-4	102
trans-1,2-Dichloroethene	156-60-5	88
Trichloroethene	79-01-6	104
Vinyl Chloride	75-01-4	104

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	99
4-Bromofluorobenzene	460-00-4	70-130	100
Toluene-d8	2037-26-5	70-130	103

\* % Recovery is calculated using unrounded analytical results.