

3/14/2019  
Mr. Jim Tomalia  
Arcadis U.S., Inc.  
28550 Cabot Dr.  
Suite 500  
Novi MI 48377

Project Name: Ford LTP  
Project #: MI001454.0006  
Workorder #: 1903166

Dear Mr. Jim Tomalia

The following report includes the data for the above referenced project for sample(s) received on 3/7/2019 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 #: 1903166**

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>	MI001454.0006 Ford LTP
<b>DATE RECEIVED:</b>	03/07/2019	<b>CONTACT:</b>	Ausha Scott
<b>DATE COMPLETED:</b>	03/14/2019		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SVMP-07-3.5_030419	TO-15	2.8 "Hg	15.5 psi
02A(cancelled)	SVMP-06-4.5_030419	TO-15	0.4 "Hg	15.4 psi
03A(cancelled)	SVMP-05-4.5_030519	TO-15	1.7 psi	15.1 psi
04A	Lab Blank	TO-15	NA	NA
05A	CCV	TO-15	NA	NA
06A	LCS	TO-15	NA	NA
06AA	LCSD	TO-15	NA	NA

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

DATE: 03/14/19

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# 1903166**

Three 1 Liter Summa Canister (100% Certified) samples were received on March 07, 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**

Despite the use of flow controllers for sample collection, the final canister vacuum for samples SVMP-06-4.5\_030419 and SVMP-05-4.5\_030519 was measured at ambient pressure at the laboratory. Per client instructions, the analysis was cancelled.

**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 (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) 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-07-3.5_030419	<b>Date/Time Analyzed:</b>	3/13/19 02:12 AM
<b>Lab ID:</b>	1903166-01A	<b>Dilution Factor:</b>	2.26
<b>Date/Time Collected:</b>	3/4/19 09:59 AM	<b>Instrument/Filename:</b>	msda.i / a031225
<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	1.7	3.6	4.5	Not Detected
1,4-Dioxane	123-91-1	3.2	8.1	16	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.3	3.6	4.5	Not Detected
Tetrachloroethene	127-18-4	1.4	6.1	7.7	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.2	3.6	4.5	Not Detected
Trichloroethene	79-01-6	1.9	4.8	6.1	Not Detected
Vinyl Chloride	75-01-4	1.1	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	101
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	100

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

<b>Client ID:</b>	Lab Blank	<b>Date/Time Analyzed:</b>	3/12/19 12:50 PM
<b>Lab ID:</b>	1903166-04A	<b>Dilution Factor:</b>	1.00
<b>Date/Time Collected:</b>	NA - Not Applicable	<b>Instrument/Filename:</b>	msda.i / a031206c
<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	0.75	1.6	2.0	Not Detected
1,4-Dioxane	123-91-1	1.4	3.6	7.2	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.59	1.6	2.0	Not Detected
Tetrachloroethene	127-18-4	0.61	2.7	3.4	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.56	1.6	2.0	Not Detected
Trichloroethene	79-01-6	0.86	2.1	2.7	Not Detected
Vinyl Chloride	75-01-4	0.48	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	101
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	101

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

<b>Client ID:</b>	CCV	<b>Date/Time Analyzed:</b>	3/12/19 09:55 AM
<b>Lab ID:</b>	1903166-05A	<b>Dilution Factor:</b>	1.00
<b>Date/Time Collected:</b>	NA - Not Applicable	<b>Instrument/Filename:</b>	msda.i / a031202
<b>Media:</b>	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	105
1,4-Dioxane	123-91-1	96
cis-1,2-Dichloroethene	156-59-2	104
Tetrachloroethene	127-18-4	99
trans-1,2-Dichloroethene	156-60-5	101
Trichloroethene	79-01-6	98
Vinyl Chloride	75-01-4	102

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	101
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	102

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

<b>Client ID:</b>	LCS	<b>Date/Time Analyzed:</b>	3/12/19 11:07 AM
<b>Lab ID:</b>	1903166-06A	<b>Dilution Factor:</b>	1.00
<b>Date/Time Collected:</b>	NA - Not Applicable	<b>Instrument/Filename:</b>	msda.i / a031204
<b>Media:</b>	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	112
1,4-Dioxane	123-91-1	98
cis-1,2-Dichloroethene	156-59-2	119
Tetrachloroethene	127-18-4	104
trans-1,2-Dichloroethene	156-60-5	93
Trichloroethene	79-01-6	104
Vinyl Chloride	75-01-4	107

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	102
Toluene-d8	2037-26-5	70-130	101

\* % 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>	3/12/19 12:02 PM
<b>Lab ID:</b>	1903166-06AA	<b>Dilution Factor:</b>	1.00
<b>Date/Time Collected:</b>	NA - Not Applicable	<b>Instrument/Filename:</b>	msda.i / a031205
<b>Media:</b>	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	111
1,4-Dioxane	123-91-1	100
cis-1,2-Dichloroethene	156-59-2	121
Tetrachloroethene	127-18-4	101
trans-1,2-Dichloroethene	156-60-5	92
Trichloroethene	79-01-6	103
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	101
4-Bromofluorobenzene	460-00-4	70-130	100
Toluene-d8	2037-26-5	70-130	101

\* % Recovery is calculated using unrounded analytical results.