

11/18/2018
Mr. Jim Tomalia
Arcadis U.S., Inc.
28550 Cabot Dr.
Suite 500
Novi MI 48377

Project Name: Ford LTP
Project #: MI001454.0004.00003
Workorder #: 1811277

Dear Mr. Jim Tomalia

The following report includes the data for the above referenced project for sample(s) received on 11/13/2018 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 #: 1811277

Work Order Summary

CLIENT:	Mr. Jim Tomalia Arcadis U.S., Inc. 28550 Cabot Dr. Suite 500 Novi, MI 48377	BILL TO:	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
PHONE:	517-819-0356	P.O. #	MI001454.0004.0001B
FAX:		PROJECT #	MI001454.0004.00003 Ford LTP
DATE RECEIVED:	11/13/2018	CONTACT:	Ausha Scott
DATE COMPLETED:	11/18/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SVMP-12-3.5(110618)	TO-15	4.9 "Hg	15.2 psi
02A	SVMP-01D-7(110618)	TO-15	2.8 "Hg	15.6 psi
03A	SVMP-01S-3.5(110618)	TO-15	3.7 "Hg	15.5 psi
04A	SVMP-02S-4.5(110718)	TO-15	3.1 "Hg	15.7 psi
05A	SVMP-02D-8.5(110718)	TO-15	3.3 "Hg	15.8 psi
06A	SVMP-03S-3.5(110718)	TO-15	3.1 "Hg	15.4 psi
07A	SVMP-03D-7(110718)	TO-15	3.1 "Hg	14.5 psi
08A	SVMP-18-3(110718)	TO-15	3.3 "Hg	15.4 psi
09A	Lab Blank	TO-15	NA	NA
10A	CCV	TO-15	NA	NA
11A	LCS	TO-15	NA	NA
11AA	LCSD	TO-15	NA	NA

CERTIFIED BY: 

 Technical Director

DATE: 11/18/18

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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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
Arcadis U.S., Inc.
Workorder# 1811277

Eight 1 Liter Summa Canister samples were received on November 13, 2018. 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 (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

Client ID:	SVMP-12-3.5(110618)	Date/Time Analyzed:	11/16/18 10:31 PM
Lab ID:	1811277-01A	Dilution Factor:	2.43
Date/Time Collected:	11/6/18 02:25 PM	Instrument/Filename:	msda.i / a111617
Media:	1 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	1.8	3.8	4.8	Not Detected
1,4-Dioxane	123-91-1	3.5	8.8	18	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.4	3.8	4.8	Not Detected
Tetrachloroethene	127-18-4	1.5	6.6	8.2	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.3	3.8	4.8	Not Detected
Trichloroethene	79-01-6	2.1	5.2	6.5	Not Detected
Vinyl Chloride	75-01-4	1.2	2.5	3.1	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	92
4-Bromofluorobenzene	460-00-4	70-130	111
Toluene-d8	2037-26-5	70-130	100

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

Client ID:	SVMP-01D-7(110618)	Date/Time Analyzed:	11/16/18 10:57 PM
Lab ID:	1811277-02A	Dilution Factor:	2.27
Date/Time Collected:	11/6/18 03:19 PM	Instrument/Filename:	msda.i / a111618
Media:	1 Liter Summa Canister		

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	3.3	8.2	16	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.4	3.6	4.5	Not Detected
Tetrachloroethene	127-18-4	1.4	6.2	7.7	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.3	3.6	4.5	Not Detected
Trichloroethene	79-01-6	2.0	4.9	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	95
4-Bromofluorobenzene	460-00-4	70-130	112
Toluene-d8	2037-26-5	70-130	102

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

Client ID:	SVMP-01S-3.5(110618)	Date/Time Analyzed:	11/16/18 11:24 PM
Lab ID:	1811277-03A	Dilution Factor:	2.34
Date/Time Collected:	11/6/18 03:26 PM	Instrument/Filename:	msda.i / a111619
Media:	1 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	1.8	3.7	4.6	Not Detected
1,4-Dioxane	123-91-1	3.4	8.4	17	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.4	3.7	4.6	Not Detected
Tetrachloroethene	127-18-4	1.4	6.3	7.9	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.3	3.7	4.6	Not Detected
Trichloroethene	79-01-6	2.0	5.0	6.3	Not Detected
Vinyl Chloride	75-01-4	1.1	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	95
4-Bromofluorobenzene	460-00-4	70-130	111
Toluene-d8	2037-26-5	70-130	103

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

Client ID:	SVMP-02S-4.5(110718)	Date/Time Analyzed:	11/16/18 11:50 PM
Lab ID:	1811277-04A	Dilution Factor:	2.31
Date/Time Collected:	11/7/18 08:26 AM	Instrument/Filename:	msda.i / a111620
Media:	1 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	1.7	3.7	4.6	Not Detected
1,4-Dioxane	123-91-1	3.3	8.3	17	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.4	3.7	4.6	Not Detected
Tetrachloroethene	127-18-4	1.4	6.3	7.8	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.3	3.7	4.6	Not Detected
Trichloroethene	79-01-6	2.0	5.0	6.2	Not Detected
Vinyl Chloride	75-01-4	1.1	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	95
4-Bromofluorobenzene	460-00-4	70-130	112
Toluene-d8	2037-26-5	70-130	102

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

Client ID:	SVMP-02D-8.5(110718)	Date/Time Analyzed:	11/17/18 12:17 AM
Lab ID:	1811277-05A	Dilution Factor:	2.33
Date/Time Collected:	11/7/18 08:26 AM	Instrument/Filename:	msda.i / a111621
Media:	1 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	1.8	3.7	4.6	Not Detected
1,4-Dioxane	123-91-1	3.4	8.4	17	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.4	3.7	4.6	Not Detected
Tetrachloroethene	127-18-4	1.4	6.3	7.9	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.3	3.7	4.6	Not Detected
Trichloroethene	79-01-6	2.0	5.0	6.3	Not Detected
Vinyl Chloride	75-01-4	1.1	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	94
4-Bromofluorobenzene	460-00-4	70-130	114
Toluene-d8	2037-26-5	70-130	101

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

Client ID:	SVMP-03S-3.5(110718)	Date/Time Analyzed:	11/17/18 12:43 AM
Lab ID:	1811277-06A	Dilution Factor:	2.28
Date/Time Collected:	11/7/18 09:12 AM	Instrument/Filename:	msda.i / a111622
Media:	1 Liter Summa Canister		

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	3.3	8.2	16	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.4	3.6	4.5	Not Detected
Tetrachloroethene	127-18-4	1.4	6.2	7.7	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.3	3.6	4.5	Not Detected
Trichloroethene	79-01-6	2.0	4.9	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	93
4-Bromofluorobenzene	460-00-4	70-130	111
Toluene-d8	2037-26-5	70-130	101

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

Client ID:	SVMP-03D-7(110718)	Date/Time Analyzed:	11/17/18 01:09 AM
Lab ID:	1811277-07A	Dilution Factor:	2.22
Date/Time Collected:	11/7/18 09:16 AM	Instrument/Filename:	msda.i / a111623
Media:	1 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	1.7	3.5	4.4	Not Detected
1,4-Dioxane	123-91-1	3.2	8.0	16	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.3	3.5	4.4	Not Detected
Tetrachloroethene	127-18-4	1.4	6.0	7.5	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.2	3.5	4.4	Not Detected
Trichloroethene	79-01-6	1.9	4.8	6.0	Not Detected
Vinyl Chloride	75-01-4	1.1	2.3	2.8	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	91
4-Bromofluorobenzene	460-00-4	70-130	114
Toluene-d8	2037-26-5	70-130	103

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

Client ID:	SVMP-18-3(110718)	Date/Time Analyzed:	11/17/18 01:36 AM
Lab ID:	1811277-08A	Dilution Factor:	2.30
Date/Time Collected:	11/7/18 11:12 AM	Instrument/Filename:	msda.i / a111624
Media:	1 Liter Summa Canister		

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	4.6	Not Detected
1,4-Dioxane	123-91-1	3.3	8.3	16	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.4	3.6	4.6	Not Detected
Tetrachloroethene	127-18-4	1.4	6.2	7.8	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.3	3.6	4.6	Not Detected
Trichloroethene	79-01-6	2.0	4.9	6.2	Not Detected
Vinyl Chloride	75-01-4	1.1	2.4	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	90
4-Bromofluorobenzene	460-00-4	70-130	111
Toluene-d8	2037-26-5	70-130	102

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

Client ID:	Lab Blank	Date/Time Analyzed:	11/16/18 01:25 PM
Lab ID:	1811277-09A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msda.i / a111605c
Media:	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	96
4-Bromofluorobenzene	460-00-4	70-130	109
Toluene-d8	2037-26-5	70-130	101

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

Client ID:	CCV	Date/Time Analyzed:	11/16/18 11:32 AM
Lab ID:	1811277-10A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msda.i / a111602
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	98
1,4-Dioxane	123-91-1	92
cis-1,2-Dichloroethene	156-59-2	101
Tetrachloroethene	127-18-4	102
trans-1,2-Dichloroethene	156-60-5	99
Trichloroethene	79-01-6	99
Vinyl Chloride	75-01-4	90

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	112
Toluene-d8	2037-26-5	70-130	101

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

Client ID:	LCS	Date/Time Analyzed:	11/16/18 12:11 PM
Lab ID:	1811277-11A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msda.i / a111603
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	95
1,4-Dioxane	123-91-1	93
cis-1,2-Dichloroethene	156-59-2	94
Tetrachloroethene	127-18-4	100
trans-1,2-Dichloroethene	156-60-5	111
Trichloroethene	79-01-6	101
Vinyl Chloride	75-01-4	92

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	93
4-Bromofluorobenzene	460-00-4	70-130	109
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

Client ID:	LCSD	Date/Time Analyzed:	11/16/18 12:37 PM
Lab ID:	1811277-11AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msda.i / a111604
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	101
1,4-Dioxane	123-91-1	94
cis-1,2-Dichloroethene	156-59-2	94
Tetrachloroethene	127-18-4	101
trans-1,2-Dichloroethene	156-60-5	110
Trichloroethene	79-01-6	98
Vinyl Chloride	75-01-4	94

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	113
Toluene-d8	2037-26-5	70-130	99

* % Recovery is calculated using unrounded analytical results.