

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 #: 1903165

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 #: 1903165

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

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SVMP-09-4_030519	TO-15	4.1 "Hg	15.6 psi
02A	SVMP-04-3.5_030519	TO-15	9.2 "Hg	15.9 psi
03A	SVMP-18-3_030519	TO-15	7.8 "Hg	16 psi
04A	SVMP-19-3_030519	TO-15	5.5 "Hg	14.7 psi
05A	DUP-01	TO-15	6.7 "Hg	16.2 psi
06A	Lab Blank	TO-15	NA	NA
06B	Lab Blank	TO-15	NA	NA
07A	CCV	TO-15	NA	NA
07B	CCV	TO-15	NA	NA
08A	LCS	TO-15	NA	NA
08AA	LCSD	TO-15	NA	NA
08B	LCS	TO-15	NA	NA
08BB	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# 1903165

Five 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

There were no receiving discrepancies.

Analytical Notes

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. All The canisters used for this project have been certified to the Reporting Limit for the target analytes included in this workorder. 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

Client ID:	SVMP-09-4_030519	Date/Time Analyzed:	3/13/19 03:31 AM
Lab ID:	1903165-01A	Dilution Factor:	2.39
Date/Time Collected:	3/5/19 10:46 AM	Instrument/Filename:	msda.i / a031228
Media:	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	1.8	3.8	4.7	Not Detected
1,4-Dioxane	123-91-1	3.4	8.6	17	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.4	3.8	4.7	Not Detected
Tetrachloroethene	127-18-4	1.4	6.5	8.1	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.3	3.8	4.7	Not Detected
Trichloroethene	79-01-6	2.0	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	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

Client ID:	SVMP-04-3.5_030519	Date/Time Analyzed:	3/13/19 03:58 AM
Lab ID:	1903165-02A	Dilution Factor:	3.00
Date/Time Collected:	3/5/19 12:23 PM	Instrument/Filename:	msda.i / a031229
Media:	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	2.3	4.8	5.9	Not Detected
1,4-Dioxane	123-91-1	4.3	11	22	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.8	4.8	5.9	Not Detected
Tetrachloroethene	127-18-4	1.8	8.1	10	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.7	4.8	5.9	Not Detected
Trichloroethene	79-01-6	2.6	6.4	8.1	Not Detected
Vinyl Chloride	75-01-4	1.4	3.1	3.8	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	100
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

Client ID:	SVMP-18-3_030519	Date/Time Analyzed:	3/13/19 04:24 AM
Lab ID:	1903165-03A	Dilution Factor:	2.82
Date/Time Collected:	3/5/19 02:06 PM	Instrument/Filename:	msda.i / a031230
Media:	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	4.5	5.6	Not Detected
1,4-Dioxane	123-91-1	4.1	10	20	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.7	4.5	5.6	Not Detected
Tetrachloroethene	127-18-4	1.7	7.6	9.6	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.6	4.5	5.6	Not Detected
Trichloroethene	79-01-6	2.4	6.1	7.6	Not Detected
Vinyl Chloride	75-01-4	1.4	2.9	3.6	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	97
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

Client ID:	SVMP-19-3_030519	Date/Time Analyzed:	3/13/19 12:00 AM
Lab ID:	1903165-04A	Dilution Factor:	2.45
Date/Time Collected:	3/5/19 03:26 PM	Instrument/Filename:	msda.i / a031220
Media:	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	1.8	3.9	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	3.9	4.8	Not Detected
Tetrachloroethene	127-18-4	1.5	6.6	8.3	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.4	3.9	4.8	Not Detected
Trichloroethene	79-01-6	2.1	5.3	6.6	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	100
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	100

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

Client ID:	DUP-01	Date/Time Analyzed:	3/13/19 04:02 PM
Lab ID:	1903165-05A	Dilution Factor:	2.71
Date/Time Collected:	3/5/19 12:00 AM	Instrument/Filename:	msd3.i / 3031307
Media:	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	1.9	4.3	5.4	Not Detected
1,4-Dioxane	123-91-1	1.8	9.8	20	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.2	4.3	5.4	Not Detected
Tetrachloroethene	127-18-4	1.8	7.4	9.2	2.3 J
trans-1,2-Dichloroethene	156-60-5	1.6	4.3	5.4	Not Detected
Trichloroethene	79-01-6	1.2	5.8	7.3	3.7 J
Vinyl Chloride	75-01-4	1.9	2.8	3.5	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	85
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

Client ID:	Lab Blank	Date/Time Analyzed:	3/12/19 12:50 PM
Lab ID:	1903165-06A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msda.i / a031206c
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	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

Client ID:	Lab Blank	Date/Time Analyzed:	3/13/19 12:29 PM
Lab ID:	1903165-06B	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd3.i / 3031306a
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	0.71	1.6	2.0	Not Detected
1,4-Dioxane	123-91-1	0.65	3.6	7.2	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.44	1.6	2.0	Not Detected
Tetrachloroethene	127-18-4	0.68	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	0.43	2.1	2.7	Not Detected
Vinyl Chloride	75-01-4	0.72	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	85
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	103

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

Client ID:	CCV	Date/Time Analyzed:	3/12/19 09:55 AM
Lab ID:	1903165-07A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msda.i / a031202
Media:	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

Client ID:	CCV	Date/Time Analyzed:	3/13/19 10:25 AM
Lab ID:	1903165-07B	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd3.i / 3031302
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	91
1,4-Dioxane	123-91-1	93
cis-1,2-Dichloroethene	156-59-2	85
Tetrachloroethene	127-18-4	102
trans-1,2-Dichloroethene	156-60-5	91
Trichloroethene	79-01-6	96
Vinyl Chloride	75-01-4	91

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	82
4-Bromofluorobenzene	460-00-4	70-130	105
Toluene-d8	2037-26-5	70-130	103

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

Client ID:	LCS	Date/Time Analyzed:	3/12/19 11:07 AM
Lab ID:	1903165-08A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msda.i / a031204
Media:	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

Client ID:	LCSD	Date/Time Analyzed:	3/12/19 12:02 PM
Lab ID:	1903165-08AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msda.i / a031205
Media:	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.

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

Client ID:	LCS	Date/Time Analyzed:	3/13/19 10:49 AM
Lab ID:	1903165-08B	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd3.i / 3031303
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	96
1,4-Dioxane	123-91-1	96
cis-1,2-Dichloroethene	156-59-2	101
Tetrachloroethene	127-18-4	106
trans-1,2-Dichloroethene	156-60-5	84
Trichloroethene	79-01-6	99
Vinyl Chloride	75-01-4	99

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	86
4-Bromofluorobenzene	460-00-4	70-130	104
Toluene-d8	2037-26-5	70-130	98

* % Recovery is calculated using unrounded analytical results.

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

Client ID:	LCSD	Date/Time Analyzed:	3/13/19 11:11 AM
Lab ID:	1903165-08BB	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd3.i / 3031304
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	95
1,4-Dioxane	123-91-1	99
cis-1,2-Dichloroethene	156-59-2	103
Tetrachloroethene	127-18-4	106
trans-1,2-Dichloroethene	156-60-5	86
Trichloroethene	79-01-6	100
Vinyl Chloride	75-01-4	101

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	80
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	103

* % Recovery is calculated using unrounded analytical results.