# APPENDIX D LABORATORY REPORTS





12/13/2012 Mr. Thomas Ashton Maul Foster and Alongi Inc. 2001 NW 19th Ave

Suite 200

Portland OR 97209

Project Name: Park Laundry Project #: 8006.31.01-05 Workorder #: 1211513A

Dear Mr. Thomas Ashton

The following report includes the data for the above referenced project for sample(s) received on 11/26/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

**Project Manager** 

Elly Butte



### **WORK ORDER #: 1211513A**

Work Order Summary

CLIENT: Mr. Thomas Ashton BILL TO: Accounts Payable

Maul Foster and Alongi Inc.

Maul Foster and Alongi Inc.

2001 NW 19th Ave 400 E. Mill Plain Blvd

Suite 200 Suite 400

Portland, OR 97209 Vancouver, WA 98660

**PHONE:** 971-544-2139 **P.O.** #

**FAX:** 971-544-2140 **PROJECT** # 8006.31.01-05 Park Laundry

**DATE RECEIVED:** 11/26/2012 **CONTACT:** Kelly Buettner **DATE COMPLETED:** 12/13/2012

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
01A	1-IA1-111512	Modified TO-15 SIM	3.0 "Hg	5 psi
02A	1-IA2-111512	Modified TO-15 SIM	0.0 "Hg	5 psi
03A	1-IA3-111512	Modified TO-15 SIM	4.5 "Hg	5 psi
04A	5-IA1-111412	Modified TO-15 SIM	4.0 "Hg	5 psi
05A	5-IA2-111412	Modified TO-15 SIM	3.5 "Hg	5 psi
06A	5-IA3-111412	Modified TO-15 SIM	5.5 "Hg	5 psi
07A	7-IA1-111512	Modified TO-15 SIM	3.5 "Hg	5 psi
08A	7-IA2-111512	Modified TO-15 SIM	3.0 "Hg	5 psi
09A	9-IA1-111212	Modified TO-15 SIM	2.0 "Hg	5 psi
10A	9-IA2-111212	Modified TO-15 SIM	1.0 "Hg	5 psi
11A	24-CS1-111512	Modified TO-15 SIM	5.5 "Hg	5 psi
12A	27-IA1-111512	Modified TO-15 SIM	4.0 "Hg	5 psi
13A	27-IA2-111512	Modified TO-15 SIM	6.0 "Hg	5 psi
14A	27-CS1-111512	Modified TO-15 SIM	0.0 "Hg	5 psi
15A	Lab Blank	Modified TO-15 SIM	NA	NA
16A	CCV	Modified TO-15 SIM	NA	NA
17A	LCS	Modified TO-15 SIM	NA	NA
17AA	LCSD	Modified TO-15 SIM	NA	NA

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CERTIFIED BY:		DATE: 12/13/12

Technical Director

Certfication numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291, TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.

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

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# LABORATORY NARRATIVE Modified TO-15 SIM Maul Foster and Alongi Inc. Workorder# 1211513A

Fourteen 6 Liter Summa Canister (SIM Certified) samples were received on November 26, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition 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.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	<pre><!--=30% RSD with 2 compounds allowed out to < 40% RSD</pre--></pre>	Project specific; default criteria is =30% RSD with 10% of compounds allowed out to < 40% RSD</td
Daily Calibration	+- 30% Difference	Project specific; default criteria is = 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers</td
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

# **Receiving Notes**

Despite the use of flow controllers for sample collection, the final canister vacuums for samples 1-IA2-111512 and 27-CS1-111512 were measured at ambient pressure in the field. These ambient pressure readings were confirmed by the laboratory upon sample receipt.

#### **Analytical Notes**

Dilution was performed on samples 9-IA1-111212 and 9-IA2-111212 due to the presence of high level non-target species.

#### **Definition of Data Qualifying Flags**

Eight 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.



- UJ- Non-detected compound associated with low bias in the CCV and/or LCS.
- N The identification is based on presumptive evidence.

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



Client Sample ID: 1-IA1-111512

Lab ID#: 1211513A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,2-Dichloroethane	0.030	0.076	0.12	0.31	
Trichloroethene	0.030	0.23	0.16	1.2	

Client Sample ID: 1-IA2-111512

Lab ID#: 1211513A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,2-Dichloroethane	0.027	0.050	0.11	0.20	_
Trichloroethene	0.027	0.19	0.14	1.0	

**Client Sample ID: 1-IA3-111512** 

Lab ID#: 1211513A-03A

Compound	Rpt. Limit (ppbv)	(ppbv)	(ug/m3)	Amount (ug/m3)	
Trichloroethene	0.032	0.18	0.17	1.0	

Client Sample ID: 5-IA1-111412

Lab ID#: 1211513A-04A

	Rpt. Limit	Amount	Rpt. Limit	Amount	
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)	
Tetrachloroethene	0.031	0.034	0.21	0.23	

Client Sample ID: 5-IA2-111412

Lab ID#: 1211513A-05A

	Rpt. Limit	Amount	Rpt. Limit	Amount	
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)	
Trichloroethene	0.030	0.031	0.16	0.17	
Tetrachloroethene	0.030	0.032	0.21	0.22	

**Client Sample ID: 5-IA3-111412** 

Lab ID#: 1211513A-06A
No Detections Were Found.



Client Sample ID: 7-IA1-111512

Lab ID#: 1211513A-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichloroethane	0.030	0.030	0.12	0.12
Tetrachloroethene	0.030	0.030	0.21	0.20
Client Sample ID: 7-IA2-111512				

Client Sample

Lab ID#: 1211513A-08A

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Tetrachloroethene	0.030	0.029 J	0.20	0.20 J

Client Sample ID: 9-IA1-111212

Lab ID#: 1211513A-09A No Detections Were Found.

Client Sample ID: 9-IA2-111212

Lab ID#: 1211513A-10A No Detections Were Found.

**Client Sample ID: 24-CS1-111512** 

Lab ID#: 1211513A-11A No Detections Were Found.

**Client Sample ID: 27-IA1-111512** 

Lab ID#: 1211513A-12A

t Amount (ug/m3)	Rpt. Limit (ug/m3)	Amount (ppbv)	Rpt. Limit (ppbv)	Compound
1.5	0.12	0.36	0.031	1,2-Dichloroethane
	0.12	0.36	0.031	1,2-Dichloroethane

**Client Sample ID: 27-IA2-111512** 

Lab ID#: 1211513A-13A

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)



**Client Sample ID: 27-IA2-111512** 

Lab ID#: 1211513A-13A

	Rpt. Limit	Amount	Rpt. Limit	Amount	
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)	
1.2-Dichloroethane	0.034	0.37	0.14	1.5	

**Client Sample ID: 27-CS1-111512** 

Lab ID#: 1211513A-14A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	0.015	0.034	0.039
1,2-Dichloroethane	0.027	0.041	0.11	0.17



# Client Sample ID: 1-IA1-111512 Lab ID#: 1211513A-01A

### **MODIFIED EPA METHOD TO-15 GC/MS SIM**

File Name:	v120407sim	Date of Collection: 11/15/12 1:17:00 PM
Dil. Factor:	1.49	Date of Analysis: 12/4/12 02:23 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.038	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.059	Not Detected
1,1-Dichloroethane	0.030	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected
1,2-Dichloroethane	0.030	0.076	0.12	0.31
Trichloroethene	0.030	0.23	0.16	1.2
Tetrachloroethene	0.030	Not Detected	0.20	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Chloroethane	0.074	Not Detected	0.20	Not Detected

		Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	106	70-130	
Toluene-d8	101	70-130	
4-Bromofluorobenzene	111	70-130	



# Client Sample ID: 1-IA2-111512 Lab ID#: 1211513A-02A

### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	v120408sim	Date of Collection: 11/15/12 1:18:00 PM
Dil. Factor:	1.34	Date of Analysis: 12/4/12 02:59 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	Not Detected	0.034	Not Detected
1,1-Dichloroethene	0.013	Not Detected	0.053	Not Detected
1,1-Dichloroethane	0.027	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.11	Not Detected
1,2-Dichloroethane	0.027	0.050	0.11	0.20
Trichloroethene	0.027	0.19	0.14	1.0
Tetrachloroethene	0.027	Not Detected	0.18	Not Detected
trans-1,2-Dichloroethene	0.13	Not Detected	0.53	Not Detected
Chloroethane	0.067	Not Detected	0.18	Not Detected

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	105	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	114	70-130	



# Client Sample ID: 1-IA3-111512 Lab ID#: 1211513A-03A

### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	v120409sim	Date of Collection: 11/15/12 1:20:00 PM
Dil. Factor:	1.58	Date of Analysis: 12/4/12 03:39 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.063	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.12	Not Detected
1,2-Dichloroethane	0.032	Not Detected	0.13	Not Detected
Trichloroethene	0.032	0.18	0.17	1.0
Tetrachloroethene	0.032	Not Detected	0.21	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Chloroethane	0.079	Not Detected	0.21	Not Detected

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	105	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	114	70-130	



# Client Sample ID: 5-IA1-111412 Lab ID#: 1211513A-04A

### **MODIFIED EPA METHOD TO-15 GC/MS SIM**

File Name:	v120410sim	Date of Collection: 11/14/12 11:16:00 A
Dil. Factor:	1.55	Date of Analysis: 12/4/12 04:18 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.061	Not Detected
1,1-Dichloroethane	0.031	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
1,2-Dichloroethane	0.031	Not Detected	0.12	Not Detected
Trichloroethene	0.031	Not Detected	0.17	Not Detected
Tetrachloroethene	0.031	0.034	0.21	0.23
trans-1,2-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Chloroethane	0.078	Not Detected	0.20	Not Detected

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	106	70-130	
Toluene-d8	103	70-130	
4-Bromofluorobenzene	113	70-130	



# Client Sample ID: 5-IA2-111412 Lab ID#: 1211513A-05A

### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	v120411sim	Date of Collection: 11/14/12 11:19:00 A
Dil. Factor:	1.52	Date of Analysis: 12/4/12 04:54 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.039	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.060	Not Detected
1,1-Dichloroethane	0.030	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected
1,2-Dichloroethane	0.030	Not Detected	0.12	Not Detected
Trichloroethene	0.030	0.031	0.16	0.17
Tetrachloroethene	0.030	0.032	0.21	0.22
trans-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Chloroethane	0.076	Not Detected	0.20	Not Detected

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	106	70-130	
Toluene-d8	104	70-130	
4-Bromofluorobenzene	119	70-130	



# Client Sample ID: 5-IA3-111412 Lab ID#: 1211513A-06A

### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	v120412sim	Date of Collection: 11/14/12 11:22:00 A
Dil. Factor:	1.64	Date of Analysis: 12/4/12 05:32 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,2-Dichloroethane	0.033	Not Detected	0.13	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Chloroethane	0.082	Not Detected	0.22	Not Detected

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	106	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	113	70-130	



# Client Sample ID: 7-IA1-111512 Lab ID#: 1211513A-07A

### **MODIFIED EPA METHOD TO-15 GC/MS SIM**

File Name:	v120413sim	Date of Collection: 11/15/12 9:51:00 AM
Dil. Factor:	1.52	Date of Analysis: 12/4/12 06:12 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.039	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.060	Not Detected
1,1-Dichloroethane	0.030	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected
1,2-Dichloroethane	0.030	0.030	0.12	0.12
Trichloroethene	0.030	Not Detected	0.16	Not Detected
Tetrachloroethene	0.030	0.030	0.21	0.20
trans-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Chloroethane	0.076	Not Detected	0.20	Not Detected

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	106	70-130	
Toluene-d8	101	70-130	
4-Bromofluorobenzene	110	70-130	



# Client Sample ID: 7-IA2-111512 Lab ID#: 1211513A-08A

# MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	v120414sim	Date of Collection: 11/15/12 9:51:00 AM
Dil. Factor:	1.49	Date of Analysis: 12/4/12 07:08 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.038	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.059	Not Detected
1,1-Dichloroethane	0.030	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected
1,2-Dichloroethane	0.030	Not Detected	0.12	Not Detected
Trichloroethene	0.030	Not Detected	0.16	Not Detected
Tetrachloroethene	0.030	0.029 J	0.20	0.20 J
trans-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Chloroethane	0.074	Not Detected	0.20	Not Detected

### J = Estimated value.

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	110	70-130



# Client Sample ID: 9-IA1-111212 Lab ID#: 1211513A-09A

### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	v120419sim	Date of Collection: 11/12/12 10:03:00 A
Dil. Factor:	2.88	Date of Analysis: 12/4/12 10:35 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.029	Not Detected	0.074	Not Detected
1,1-Dichloroethene	0.029	Not Detected	0.11	Not Detected
1,1-Dichloroethane	0.058	Not Detected	0.23	Not Detected
cis-1,2-Dichloroethene	0.058	Not Detected	0.23	Not Detected
1,2-Dichloroethane	0.058	Not Detected	0.23	Not Detected
Trichloroethene	0.058	Not Detected	0.31	Not Detected
Tetrachloroethene	0.058	Not Detected	0.39	Not Detected
trans-1,2-Dichloroethene	0.29	Not Detected	1.1	Not Detected
Chloroethane	0.14	Not Detected	0.38	Not Detected

		Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	107	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	111	70-130	



# Client Sample ID: 9-IA2-111212 Lab ID#: 1211513A-10A

### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	v120420sim	Date of Collection: 11/12/12 10:02:00 A
Dil. Factor:	1.74	Date of Analysis: 12/4/12 11:11 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,2-Dichloroethane	0.035	Not Detected	0.14	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.69	Not Detected
Chloroethane	0.087	Not Detected	0.23	Not Detected

		Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	106	70-130	
Toluene-d8	103	70-130	
4-Bromofluorobenzene	113	70-130	



# Client Sample ID: 24-CS1-111512 Lab ID#: 1211513A-11A

### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	v120415sim	Date of Collection: 11/15/12 11:34:00 A
Dil. Factor:	1.64	Date of Analysis: 12/4/12 08:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,2-Dichloroethane	0.033	Not Detected	0.13	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Chloroethane	0.082	Not Detected	0.22	Not Detected

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	109	70-130	
Toluene-d8	103	70-130	
4-Bromofluorobenzene	112	70-130	



# Client Sample ID: 27-IA1-111512 Lab ID#: 1211513A-12A

### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	v120416sim	Date of Collection: 11/15/12 8:26:00 AM
Dil. Factor:	1.55	Date of Analysis: 12/4/12 08:45 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.061	Not Detected
1,1-Dichloroethane	0.031	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
1,2-Dichloroethane	0.031	0.36	0.12	1.5
Trichloroethene	0.031	Not Detected	0.17	Not Detected
Tetrachloroethene	0.031	Not Detected	0.21	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Chloroethane	0.078	Not Detected	0.20	Not Detected

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	107	70-130	
Toluene-d8	103	70-130	
4-Bromofluorobenzene	109	70-130	



# Client Sample ID: 27-IA2-111512 Lab ID#: 1211513A-13A

### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	v120417sim	Date of Collection: 11/15/12 8:31:00 AM
Dil. Factor:	1.68	Date of Analysis: 12/4/12 09:23 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,2-Dichloroethane	0.034	0.37	0.14	1.5
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Chloroethane	0.084	Not Detected	0.22	Not Detected

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	106	70-130	
Toluene-d8	103	70-130	
4-Bromofluorobenzene	108	70-130	



# Client Sample ID: 27-CS1-111512 Lab ID#: 1211513A-14A

### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	v120418sim	Date of Collection: 11/15/12 8:53:00 AM
Dil. Factor:	1.34	Date of Analysis: 12/4/12 09:59 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	0.015	0.034	0.039
1,1-Dichloroethene	0.013	Not Detected	0.053	Not Detected
1,1-Dichloroethane	0.027	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.11	Not Detected
1,2-Dichloroethane	0.027	0.041	0.11	0.17
Trichloroethene	0.027	Not Detected	0.14	Not Detected
Tetrachloroethene	0.027	Not Detected	0.18	Not Detected
trans-1,2-Dichloroethene	0.13	Not Detected	0.53	Not Detected
Chloroethane	0.067	Not Detected	0.18	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	112	70-130



# Client Sample ID: Lab Blank Lab ID#: 1211513A-15A

# **MODIFIED EPA METHOD TO-15 GC/MS SIM**

File Name:	v120406asim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/4/12 01:32 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,2-Dichloroethane	0.020	Not Detected	0.081	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Chloroethane	0.050	Not Detected	0.13	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	110	70-130



# Client Sample ID: CCV Lab ID#: 1211513A-16A

# MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: v120402sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 12/4/12 09:25 AM

%Recovery
78
88
90
92
93
81
96
91
88

Surrogates	%Recovery	Metnoa Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	103	70-130



# Client Sample ID: LCS Lab ID#: 1211513A-17A

# MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: v120404sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 12/4/12 11:20 AM

Compound	%Recovery
Vinyl Chloride	80
1,1-Dichloroethene	93
1,1-Dichloroethane	90
cis-1,2-Dichloroethene	92
1,2-Dichloroethane	91
Trichloroethene	80
Tetrachloroethene	93
trans-1,2-Dichloroethene	101
Chloroethane	87

Surre meter	0/Pagarany	Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	109	70-130



# Client Sample ID: LCSD Lab ID#: 1211513A-17AA

# MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: v120405sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 12/4/12 12:39 PM

Compound	%Recovery
Vinyl Chloride	80
1,1-Dichloroethene	93
1,1-Dichloroethane	90
cis-1,2-Dichloroethene	92
1,2-Dichloroethane	91
Trichloroethene	80
Tetrachloroethene	91
trans-1,2-Dichloroethene	102
Chloroethane	87

урогия поттриналь		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	106	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	112	70-130	



# CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection handling or shipping of samples. DOT Hottline (800) 467-4922

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Company_	MFA Email +	ashton@ mauf	isterici				1		Date:		aretification of the same
	GCI NW 19th Ave City Portland			Projec	t# <u>8006-3</u>	31.01-05	□R	ush	Pressu	irization (	Gas:
	5-944-9715 Fax			Projec	t Name Park	laundry	s	pecify		N <sub>2</sub> He	e
				ate	Time			Canis	ter Pres	sure/Vaç	uum.
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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

-	inager Bill Bearlie / Merideth	DiAudre	Project Info:				Turn Around Time:		Lab Use Only Pressurized by:			
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Project No. 8006.31.01

Mr. Guy Barrett October 12, 2012 Page 5

# SAMPLE ANALYSIS AND QUALITY ASSURANCE

Samples will be analyzed for PCE and associated breakdown products (TCE; 1,1-DCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCA; Chloroethane; and vinyl chloride) by Modified U.S. Environmental Protection Agency (USEPA) Method TO-15 selected ion monitoring method to achieve low reporting limits. Eurofins/Air Toxics of Folsom, California, will provide a 6-liter or 1-liter, stainless steel canister (Summa canister) for each sample. Laboratory-specific method reporting limits (MRLs) for VOCs are listed in the following table. The MRLs assume a 6-liter sample size, with the canister dilution factor not incorporated. The dilution factor is determined by the canister size and residual vacuum. For example, a 1-liter sample with a vacuum of 5-inches of mercury would have a MRL approximately 2.4 times higher than the values provided in the following table. If there are high concentrations of nontarget analytes in the samples (e.g., methylene chloride, acetone, toluene), the laboratory may dilute the sample to avoid overloading and damaging its instruments. MFA will coordinate with the laboratory to obtain the lowest possible MRLs.

Table
Analytes, Reporting Limits, and Screening Levels (µg/m³)

Analyte	CAS Number	Reporting Limit	Screening Level—Air	Screening Level —Soil Gas
PCE	127-18-4	0.14	9.6	. 96
TCE	79-01-6	0,016	0.37	3.7
1,1-DCE	75-35-4	0.04	91 .	910
cis-1,2-DCE	156-59-2	0.08	16	160
trans-1,2-DCE	156-60-5	0.40	. 32	320
1,1-DCA	75-34-3	80.0	320	3200
Chloroethane	75-00-3	0.13	3	30
Vinyl chloride	75-01-4	0.03	0.28	2.8 .
Helium	7440-59-7	81799	NE	NE

NOTES:

Screening levels are based on Table B-1 of Ecology Guidance for Evaluating Soil Vapor Intrusion in Washington State; Investigation and Remedial Action. Values for PCE and TCE are based on CLARC guidance dated September, 2012.

CAS = Chemical Abstract Service

NE = Not Established

 $\mu g/m^3 = micrograms per cubic meter.$ 

MFA will receive the data electronically from the laboratory and the data will be transferred to a GISKey© database. The data will be validated consistent with Ecology and USEPA protocols. To document data reliability, a memorandum will be prepared summarizing



Mr. Thomas Ashton Maul Foster and Alongi Inc.

2001 NW 19th Ave

Suite 200

12/14/2012

Portland OR 97209

Project Name: Park Laundry Project #: 8006.31.01-05 Workorder #: 1211513B

Dear Mr. Thomas Ashton

The following report includes the data for the above referenced project for sample(s) received on 11/26/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

**Project Manager** 

Welly Butte



### WORK ORDER #: 1211513B

#### Work Order Summary

CLIENT: Mr. Thomas Ashton BILL TO: Accounts Payable

Maul Foster and Alongi Inc.

Maul Foster and Alongi Inc.

2001 NW 19th Ave 400 E. Mill Plain Blvd

Suite 200 Suite 400

Portland, OR 97209 Vancouver, WA 98660

PHONE: 971-544-2139 P.O. #
FAX: 971-544-2140 PROJECT # 8006.31.01-05 Park L

FAX: 971-544-2140 PROJECT # 8006.31.01-05 Park Laundry

DATE RECEIVED: 11/26/2012 CONTACT: Valle Bustings

DATE COMPLETED: 12/14/2012 CONTACT: Kelly Buettner

			RECEIPT	FINAL
FRACTION #	<b>NAME</b>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
16A	OA1-111612	Modified TO-15 SIM	4.0 "Hg	5 psi
17A	OA3-111512	Modified TO-15 SIM	4.0 "Hg	5 psi
18A	Lab Blank	Modified TO-15 SIM	NA	NA
19A	CCV	Modified TO-15 SIM	NA	NA
20A	LCS	Modified TO-15 SIM	NA	NA
20AA	LCSD	Modified TO-15 SIM	NA	NA

	The	ide Tlayer		
CERTIFIED BY:			DATE: 12/14/12	

Technical Director

Certfication numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291, TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.

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

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.







# LABORATORY NARRATIVE Modified TO-15 SIM Maul Foster and Alongi Inc. Workorder# 1211513B

Two 6 Liter Summa Canister (SIM Certified) samples were received on November 26, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition 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.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	<pre><!--=30% RSD with 2 compounds allowed out to < 40% RSD</pre--></pre>	Project specific; default criteria is =30% RSD with 10% of compounds allowed out to < 40% RSD</td
Daily Calibration	+- 30% Difference	Project specific; default criteria is = 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers</td
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

# **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

There were no analytical discrepancies.

#### **Definition of Data Qualifying Flags**

Eight 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.
  - UJ- Non-detected compound associated with low bias in the CCV and/or LCS.



N - The identification is based on presumptive evidence.

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



Client Sample ID: OA1-111612

Lab ID#: 1211513B-16A
No Detections Were Found.

Client Sample ID: OA3-111512

Lab ID#: 1211513B-17A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,2-Dichloroethane	0.031	0.064	0.12	0.26	



# Client Sample ID: OA1-111612 Lab ID#: 1211513B-16A

### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	a120417sim	Date of Collection: 11/16/12 8:50:00 AM
Dil. Factor:	1.55	Date of Analysis: 12/5/12 07:21 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.061	Not Detected
1,1-Dichloroethane	0.031	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
1,2-Dichloroethane	0.031	Not Detected	0.12	Not Detected
Trichloroethene	0.031	Not Detected	0.17	Not Detected
Tetrachloroethene	0.031	Not Detected	0.21	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Chloroethane	0.078	Not Detected	0.20	Not Detected

		Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	118	70-130	
Toluene-d8	101	70-130	
4-Bromofluorobenzene	100	70-130	



# Client Sample ID: OA3-111512 Lab ID#: 1211513B-17A

### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	a120418sim	Date of Collection: 11/15/12 9:18:00 AM
Dil. Factor:	1.55	Date of Analysis: 12/5/12 08:09 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.061	Not Detected
1,1-Dichloroethane	0.031	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
1,2-Dichloroethane	0.031	0.064	0.12	0.26
Trichloroethene	0.031	Not Detected	0.17	Not Detected
Tetrachloroethene	0.031	Not Detected	0.21	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Chloroethane	0.078	Not Detected	0.20	Not Detected

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	115	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	96	70-130	



## Client Sample ID: Lab Blank Lab ID#: 1211513B-18A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	a120416sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/4/12 10:19 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,2-Dichloroethane	0.020	Not Detected	0.081	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Chloroethane	0.050	Not Detected	0.13	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	99	70-130



## Client Sample ID: CCV Lab ID#: 1211513B-19A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: a120412sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 12/4/12 06:01 PM

Compound	%Recovery
Vinyl Chloride	91
1,1-Dichloroethene	102
1,1-Dichloroethane	117
cis-1,2-Dichloroethene	108
1,2-Dichloroethane	125
Trichloroethene	101
Tetrachloroethene	98
trans-1,2-Dichloroethene	108
Chloroethane	102

		Method		
Surrogates	%Recovery	Limits		
1,2-Dichloroethane-d4	114	70-130		
Toluene-d8	102	70-130		
4-Bromofluorobenzene	101	70-130		



### Client Sample ID: LCS Lab ID#: 1211513B-20A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: a120413sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 12/4/12 06:51 PM

Compound	%Recovery
Vinyl Chloride	101
1,1-Dichloroethene	102
1,1-Dichloroethane	113
cis-1,2-Dichloroethene	101
1,2-Dichloroethane	120
Trichloroethene	95
Tetrachloroethene	86
trans-1,2-Dichloroethene	112
Chloroethane	102

урегин постърновно		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	121	70-130	
Toluene-d8	106	70-130	
4-Bromofluorobenzene	110	70-130	



### Client Sample ID: LCSD Lab ID#: 1211513B-20AA

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: a120414sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 12/4/12 07:46 PM

Compound	%Recovery
Vinyl Chloride	104
1,1-Dichloroethene	95
1,1-Dichloroethane	108
cis-1,2-Dichloroethene	99
1,2-Dichloroethane	116
Trichloroethene	96
Tetrachloroethene	89
trans-1,2-Dichloroethene	105
Chloroethane	99

Surrogatos	%Recovery	Metnoa Limits
Surrogates	76Recovery	Lillits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	101	70-130



## CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

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Project No. 8006.31.01

Mr. Guy Barrett October 12, 2012 Page 5

### SAMPLE ANALYSIS AND QUALITY ASSURANCE

Samples will be analyzed for PCE and associated breakdown products (TCE; 1,1-DCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCA; Chloroethane; and vinyl chloride) by Modified U.S. Environmental Protection Agency (USEPA) Method TO-15 selected ion monitoring method to achieve low reporting limits. Eurofins/Air Toxics of Folsom, California, will provide a 6-liter or 1-liter, stainless steel canister (Summa canister) for each sample. Laboratory-specific method reporting limits (MRLs) for VOCs are listed in the following table. The MRLs assume a 6-liter sample size, with the canister dilution factor not incorporated. The dilution factor is determined by the canister size and residual vacuum. For example, a 1-liter sample with a vacuum of 5-inches of mercury would have a MRL approximately 2.4 times higher than the values provided in the following table. If there are high concentrations of nontarget analytes in the samples (e.g., methylene chloride, acetone, toluene), the laboratory may dilute the sample to avoid overloading and damaging its instruments. MFA will coordinate with the laboratory to obtain the lowest possible MRLs.

Table
Analytes, Reporting Limits, and Screening Levels (µg/m³)

Analyte	CAS Number	Reporting Limit	Screening Level—Air	Screening Level —Soil Gas
P.C.E.	127-18-4	0.14	9.6	. 96
TCE	79-01-6	0.016	0.37	3.7
1,1-DCE	. 75-35-4	0.04	91 .	910
cis-1,2-DCE	156-59-2	0.08	16	160
trans-1,2-DCE	156-60-5	0.40	32	320
1,1-DCA	75-34-3	0.08	320	3200
Chloroethane	75-00-3	0.13	. 3	30
Vinyl chloride	75-01-4	0.03	0.28	2.8 .
Helium	7440-59-7	81799	NE	МЕ

NOTES:

Screening levels are based on Table B-1 of Ecology Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action. Values for PCE and TCE are based on CLARC guidance dated September, 2012.

CAS = Chemical Abstract Service

NE = Not Established

 $\mu$ g/m³ = micrograms per cubic meter.

MFA will receive the data electronically from the laboratory and the data will be transferred to a GISKey© database. The data will be validated consistent with Ecology and USEPA protocols. To document data reliability, a memorandum will be prepared summarizing



12/26/2012

Mr. Thomas Ashton Maul Foster and Alongi Inc. 2001 NW 19th Ave Suite 200 Portland OR 97209

Project Name: Park Laundry Project #: 8006.31.01-05 Workorder #: 1211513C

Dear Mr. Thomas Ashton

The following report includes the data for the above referenced project for sample(s) received on 11/26/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

**Project Manager** 

Elly Butte



#### **WORK ORDER #:** 1211513C

Work Order Summary

**CLIENT:** Mr. Thomas Ashton **BILL TO:** Accounts Payable

> Maul Foster and Alongi Inc. Maul Foster and Alongi Inc.

2001 NW 19th Ave 400 E. Mill Plain Blvd

Suite 200 Suite 400

Portland, OR 97209 Vancouver, WA 98660

PHONE: 971-544-2139 P.O. #

FAX: 971-544-2140 PROJECT# 8006.31.01-05 Park Laundry

DATE RECEIVED: 11/26/2012 **CONTACT:** Kelly Buettner **DATE COMPLETED:** 12/26/2012

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
15A	OA1-111512	Modified TO-15 SIM	3.5 "Hg	5 psi
18A	OA3-111612	Modified TO-15 SIM	3.5 "Hg	5 psi
19A	OA2-111512	Modified TO-15 SIM	0.8 psi	5 psi
20A	OA2-111612	Modified TO-15 SIM	2.0 "Hg	5 psi
21A	Lab Blank	Modified TO-15 SIM	NA	NA
22A	CCV	Modified TO-15 SIM	NA	NA
23A	LCS	Modified TO-15 SIM	NA	NA
23AA	LCSD	Modified TO-15 SIM	NA	NA

12/26/12 CERTIFIED BY: DATE:

**Technical Director** 

Certfication numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291, TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.

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

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.







#### LABORATORY NARRATIVE Modified TO-15 SIM Maul Foster and Alongi Inc. Workorder# 1211513C

Four 6 Liter Summa Canister (SIM Certified) samples were received on November 26, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition 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.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	=30% RSD with 2<br compounds allowed out to < 40% RSD	Project specific; default criteria is =30% RSD with 10% of compounds allowed out to < 40% RSD</td
Daily Calibration	+- 30% Difference	Project specific; default criteria is = 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers</td
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

#### **Receiving Notes**

Despite the use of flow controllers for sample collection, the final canister vacuum for sample OA2-111512 was measured at ambient pressure in the field. This ambient pressure reading was confirmed by the laboratory upon sample receipt.

Samples OA1-111512, OA3-111612, OA2-111512 and OA2-111612 were removed from "Hold" and placed on "Active" status per client request on December 14, 2012.

#### **Analytical Notes**

There were no analytical discrepancies.

#### **Definition of Data Qualifying Flags**

Eight 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.
- UJ- Non-detected compound associated with low bias in the CCV and/or LCS.
- N The identification is based on presumptive evidence.

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



# **Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS SIM**

**Client Sample ID: OA1-111512** 

Lab ID#: 1211513C-15A
No Detections Were Found.

Client Sample ID: OA3-111612

Lab ID#: 1211513C-18A
No Detections Were Found.

Client Sample ID: OA2-111512

Lab ID#: 1211513C-19A
No Detections Were Found.

Client Sample ID: OA2-111612

Lab ID#: 1211513C-20A
No Detections Were Found.



## Client Sample ID: OA1-111512 Lab ID#: 1211513C-15A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	v121407sim	Date of Collection: 11/15/12 9:37:00 AM
Dil. Factor:	1.52	Date of Analysis: 12/14/12 11:29 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.039	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.060	Not Detected
1,1-Dichloroethane	0.030	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected
1,2-Dichloroethane	0.030	Not Detected	0.12	Not Detected
Trichloroethene	0.030	Not Detected	0.16	Not Detected
Tetrachloroethene	0.030	Not Detected	0.21	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Chloroethane	0.076	Not Detected	0.20	Not Detected

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	102	70-130	
Toluene-d8	104	70-130	
4-Bromofluorobenzene	111	70-130	



## Client Sample ID: OA3-111612 Lab ID#: 1211513C-18A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	v121408sim	Date of Collection: 11/16/12 9:06:00 AM
Dil. Factor:	1.52	Date of Analysis: 12/14/12 12:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.039	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.060	Not Detected
1,1-Dichloroethane	0.030	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected
1,2-Dichloroethane	0.030	Not Detected	0.12	Not Detected
Trichloroethene	0.030	Not Detected	0.16	Not Detected
Tetrachloroethene	0.030	Not Detected	0.21	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Chloroethane	0.076	Not Detected	0.20	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	107	70-130



### Client Sample ID: OA2-111512 Lab ID#: 1211513C-19A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	v121409sim	Date of Collection: 11/15/12 9:27:00 AM
Dil. Factor:	1.27	Date of Analysis: 12/14/12 01:57 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	Not Detected	0.032	Not Detected
1,1-Dichloroethene	0.013	Not Detected	0.050	Not Detected
1,1-Dichloroethane	0.025	Not Detected	0.10	Not Detected
cis-1,2-Dichloroethene	0.025	Not Detected	0.10	Not Detected
1,2-Dichloroethane	0.025	Not Detected	0.10	Not Detected
Trichloroethene	0.025	Not Detected	0.14	Not Detected
Tetrachloroethene	0.025	Not Detected	0.17	Not Detected
trans-1,2-Dichloroethene	0.13	Not Detected	0.50	Not Detected
Chloroethane	0.064	Not Detected	0.17	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	108	70-130



### Client Sample ID: OA2-111612 Lab ID#: 1211513C-20A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	v121410sim	Date of Collection: 11/16/12 8:59:00 AM
Dil. Factor:	1.44	Date of Analysis: 12/14/12 02:33 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.037	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.057	Not Detected
1,1-Dichloroethane	0.029	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.029	Not Detected	0.11	Not Detected
1,2-Dichloroethane	0.029	Not Detected	0.12	Not Detected
Trichloroethene	0.029	Not Detected	0.15	Not Detected
Tetrachloroethene	0.029	Not Detected	0.20	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.57	Not Detected
Chloroethane	0.072	Not Detected	0.19	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	111	70-130



## Client Sample ID: Lab Blank Lab ID#: 1211513C-21A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	v121406sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/14/12 10:32 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,2-Dichloroethane	0.020	Not Detected	0.081	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Chloroethane	0.050	Not Detected	0.13	Not Detected

Surrogates	%Recovery	Metnoa Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	113	70-130



## Client Sample ID: CCV Lab ID#: 1211513C-22A

### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: v121402sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 12/14/12 07:14 AM

Compound	%Recovery
Vinyl Chloride	78
1,1-Dichloroethene	83
1,1-Dichloroethane	84
cis-1,2-Dichloroethene	87
1,2-Dichloroethane	80
Trichloroethene	73
Tetrachloroethene	81
trans-1,2-Dichloroethene	86
Chloroethane	87

Surrogates	%Recovery	Metnod Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	109	70-130



### Client Sample ID: LCS Lab ID#: 1211513C-23A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: v121403sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 12/14/12 08:15 AM

Compound	%Recovery
Vinyl Chloride	77
1,1-Dichloroethene	84
1,1-Dichloroethane	80
cis-1,2-Dichloroethene	84
1,2-Dichloroethane	75
Trichloroethene	72
Tetrachloroethene	76
trans-1,2-Dichloroethene	92
Chloroethane	81

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Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	109	70-130



## Client Sample ID: LCSD Lab ID#: 1211513C-23AA

### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: v121404sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 12/14/12 09:00 AM

Compound	%Recovery
Vinyl Chloride	84
1,1-Dichloroethene	91
1,1-Dichloroethane	88
cis-1,2-Dichloroethene	91
1,2-Dichloroethane	82
Trichloroethene	79
Tetrachloroethene	85
trans-1,2-Dichloroethene	100
Chloroethane	88

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	109	70-130



## CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

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Project No. 8006.31.01

Mr. Guy Barrett October 12, 2012 Page 5

### SAMPLE ANALYSIS AND QUALITY ASSURANCE

Samples will be analyzed for PCE and associated breakdown products (TCE; 1,1-DCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCA; Chloroethane; and vinyl chloride) by Modified U.S. Environmental Protection Agency (USEPA) Method TO-15 selected ion monitoring method to achieve low reporting limits. Eurofins/Air Toxics of Folsom, California, will provide a 6-liter or 1-liter, stainless steel canister (Summa canister) for each sample. Laboratory-specific method reporting limits (MRLs) for VOCs are listed in the following table. The MRLs assume a 6-liter sample size, with the canister dilution factor not incorporated. The dilution factor is determined by the canister size and residual vacuum. For example, a 1-liter sample with a vacuum of 5-inches of mercury would have a MRL approximately 2.4 times higher than the values provided in the following table. If there are high concentrations of nontarget analytes in the samples (e.g., methylene chloride, acetone, toluene), the laboratory may dilute the sample to avoid overloading and damaging its instruments. MFA will coordinate with the laboratory to obtain the lowest possible MRLs.

Table
Analytes, Reporting Limits, and Screening Levels (µg/m³)

Analyte	CAS Number	1 Reporting Limit L		Screening Level —Soil Gas
P.C.E.	127-18-4	0.14	9.6	. 96
TCE	79-01-6	0.016	0.37	3.7
1,1-DCE	. 75-35-4	0.04	91 .	910
cis-1,2-DCE	156-59-2	0.08	16	160
trans-1,2-DCE	156-60-5	0.40	32	320
1,1-DCA	75-34-3	0.08	320	3200
Chloroethane	75-00-3	0.13	. 3	30
Vinyl chloride	75-01-4	0.03	0.28	2.8 .
Helium	7440-59-7	81799	NE	МЕ

NOTES:

Screening levels are based on Table B-1 of Ecology Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action. Values for PCE and TCE are based on CLARC guidance dated September, 2012.

CAS = Chemical Abstract Service

NE = Not Established

 $\mu$ g/m³ = micrograms per cubic meter.

MFA will receive the data electronically from the laboratory and the data will be transferred to a GISKey© database. The data will be validated consistent with Ecology and USEPA protocols. To document data reliability, a memorandum will be prepared summarizing



1/10/2013

Mr. Thomas Ashton Maul Foster and Alongi Inc. 2001 NW 19th Ave Suite 200 Portland OR 97209

Project Name: Park Laundry Project #: 8006.31.01-05 Workorder #: 1211513D

Dear Mr. Thomas Ashton

The following report includes the data for the above referenced project for sample(s) received on 11/26/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

Elly Butte



#### WORK ORDER #: 1211513D

Work Order Summary

CLIENT: Mr. Thomas Ashton BILL TO: Accounts Payable

Maul Foster and Alongi Inc.

Maul Foster and Alongi Inc.

2001 NW 19th Ave 400 E. Mill Plain Blvd

Suite 200 Suite 400

Portland, OR 97209 Vancouver, WA 98660

**PHONE:** 971-544-2139 **P.O.** #

**FAX:** 971-544-2140 **PROJECT** # 8006.31.01-05 Park Laundry

DATE RECEIVED: 11/26/2012 CONTACT: Kelly Buettner

**DATE COMPLETED:** 12/13/2012 **DATE REISSUED:** 01/10/2013

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
01A	1-IA1-111512	Modified TO-15 SIM	3.0 "Hg	5 psi
02A	1-IA2-111512	Modified TO-15 SIM	0.0 "Hg	5 psi
03A	1-IA3-111512	Modified TO-15 SIM	4.5 "Hg	5 psi
04A	5-IA1-111412	Modified TO-15 SIM	4.0 "Hg	5 psi
05A	5-IA2-111412	Modified TO-15 SIM	3.5 "Hg	5 psi
06A	5-IA3-111412	Modified TO-15 SIM	5.5 "Hg	5 psi
07A	7-IA1-111512	Modified TO-15 SIM	3.5 "Hg	5 psi
08A	7-IA2-111512	Modified TO-15 SIM	3.0 "Hg	5 psi
09A	9-IA1-111212	Modified TO-15 SIM	2.0 "Hg	5 psi
10A	9-IA2-111212	Modified TO-15 SIM	1.0 "Hg	5 psi
11A	24-CS1-111512	Modified TO-15 SIM	5.5 "Hg	5 psi
12A	27-IA1-111512	Modified TO-15 SIM	4.0 "Hg	5 psi
13A	27-IA2-111512	Modified TO-15 SIM	6.0 "Hg	5 psi
14A	27-CS1-111512	Modified TO-15 SIM	0.0 "Hg	5 psi
15A	Lab Blank	Modified TO-15 SIM	NA	NA
16A	CCV	Modified TO-15 SIM	NA	NA
17A	LCS	Modified TO-15 SIM	NA	NA
17AA	LCSD	Modified TO-15 SIM	NA	NA

	fleide pages	
CERTIFIED BY:	0 0	DATE: $\frac{01/10/13}{}$

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291, TX NELAP - T104704434-12-4, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.

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







#### LABORATORY NARRATIVE Modified TO-15 SIM Maul Foster and Alongi Inc. Workorder# 1211513D

Fourteen 6 Liter Summa Canister (SIM Certified) samples were received on November 26, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition 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.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	<pre><!--=30% RSD with 2 compounds allowed out to < 40% RSD</pre--></pre>	Project specific; default criteria is =30% RSD with 10% of compounds allowed out to < 40% RSD</td
Daily Calibration	+- 30% Difference	Project specific; default criteria is = 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers</td
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

#### **Receiving Notes**

Despite the use of flow controllers for sample collection, the final canister vacuums for samples 1-IA2-111512 and 27-CS1-111512 were measured at ambient pressure in the field. These ambient pressure readings were confirmed by the laboratory upon sample receipt.

#### **Analytical Notes**

Dilution was performed on samples 9-IA1-111212 and 9-IA2-111212 due to the presence of high level non-target species.

This workorder was created to evaluate Trichloroethene (TCE) and 1,2-Dichloroethane (1,2-DCA) in all samples down to the Method Detection Limit to allow for comparison of results to the required screening levels. Please note that this workorder fraction contains only a subset of the requested analytes. The full list evaluated to the Reporting Limit (RL), including TCE and 1,2-DCA, were reported in workorder 1211513A on 12-13-12.

All canisters used for this project have been certified to the RL for the target analytes. Concentrations that are below the level at which the canister was certified may be false positives.



#### **Definition of Data Qualifying Flags**

Eight 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.
  - UJ- Non-detected compound associated with low bias in the CCV
  - N The identification is based on presumptive evidence.

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



Client ID: 1-IA1-111512

**Lab ID:** 1211513D-01A **Date/Time Analyzed:** 12/4/12 02:23 PM

**Date/Time Collecte** 11/15/12 01:17 PM **Dilution Factor**: 1.49

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdv.i / v120407simD

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.0075	0.030	0.12	0.31	
Trichloroethene	79-01-6	0.0038	0.040	0.16	1.2	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	106
4-Bromofluorobenzene	460-00-4	70-130	111
Toluene-d8	2037-26-5	70-130	101



**Client ID:** 1-IA2-111512

**Lab ID:** 1211513D-02A

**Date/Time Collecte** 11/15/12 01:18 PM **Dilution Factor:** 1.34

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdv.i / v120408simD

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.0068	0.027	0.11	0.20	
Trichloroethene	79-01-6	0.0034	0.036	0.14	1.0	

Date/Time Analyzed:

12/4/12 02:59 PM

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	105
4-Bromofluorobenzene	460-00-4	70-130	114
Toluene-d8	2037-26-5	70-130	102



**Client ID:** 1-IA3-111512

**Lab ID:** 1211513D-03A

Date/Time Collecte 11/15/12 01:20 PM

Media: 6 Liter Summa Canister (SIM Certified) Inst

Date/Time Analyzed: 12/4/12 03:39 PM

**Dilution Factor:** 1.58

Instrument/Filename: msdv.i / v120409simD

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.0080	0.032	0.13	0.086 J	
Trichloroethene	79-01-6	0.0040	0.042	0.17	1.0	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	105
4-Bromofluorobenzene	460-00-4	70-130	114
Toluene-d8	2037-26-5	70-130	102



**Client ID:** 5-IA1-111412

**Lab ID:** 1211513D-04A **Date/Time Analyzed:** 12/4/12 04:18 PM

Date/Time Collecte 11/14/12 11:16 AM Dilution Factor: 1.55

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdv.i / v120410simD

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.0078	0.031	0.12	0.093 J	
Trichloroethene	79-01-6	0.0039	0.042	0.17	0.063 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	106
4-Bromofluorobenzene	460-00-4	70-130	113
Toluene-d8	2037-26-5	70-130	103



**Client ID:** 5-IA2-111412

**Lab ID:** 1211513D-05A **Date/Time Analyzed:** 12/4/12 04:54 PM

Date/Time Collecte 11/14/12 11:19 AM Dilution Factor: 1.52

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdv.i / v120411simD

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.0077	0.031	0.12	0.11 J	
Trichloroethene	79-01-6	0.0038	0.041	0.16	0.17	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	106
4-Bromofluorobenzene	460-00-4	70-130	119
Toluene-d8	2037-26-5	70-130	104



**Client ID:** 5-IA3-111412

**Lab ID:** 1211513D-06A **Date/Time Analyzed:** 12/4/12 05:32 PM

Date/Time Collecte 11/14/12 11:22 AM Dilution Factor: 1.64

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdv.i / v120412simD

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,2-Dichloroethane	107-06-2	0.0083	0.033	0.13	0.074 J	
Trichloroethene	79-01-6	0.0041	0.044	0.18	0.058 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	106
4-Bromofluorobenzene	460-00-4	70-130	113
Toluene-d8	2037-26-5	70-130	102



**Client ID:** 7-IA1-111512

**Lab ID:** 1211513D-07A **Date/Time Analyzed:** 12/4/12 06:12 PM

Date/Time Collecte 11/15/12 09:51 AM Dilution Factor: 1.52

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdv.i / v120413simD

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,2-Dichloroethane	107-06-2	0.0077	0.031	0.12	0.12	
Trichloroethene	79-01-6	0.0038	0.041	0.16	0.12 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	106
4-Bromofluorobenzene	460-00-4	70-130	110
Toluene-d8	2037-26-5	70-130	101



**Client ID:** 7-IA2-111512

**Lab ID:** 1211513D-08A **Date/Time Analyzed:** 12/4/12 07:08 PM

Date/Time Collecte 11/15/12 09:51 AM Dilution Factor: 1.49

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdv.i / v120414simD

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.0075	0.030	0.12	0.080 J	
Trichloroethene	79-01-6	0.0038	0.040	0.16	0.074 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	106
4-Bromofluorobenzene	460-00-4	70-130	110
Toluene-d8	2037-26-5	70-130	101



**Client ID:** 9-IA1-111212

**Lab ID:** 1211513D-09A **Date/Time Analyzed:** 12/4/12 10:35 PM

**Date/Time Collecte** 11/12/12 10:03 AM **Dilution Factor:** 2.88

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdv.i / v120419simD

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.014	0.058	0.23	0.16 J	
Trichloroethene	79-01-6	0.0073	0.077	0.31	0.12 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	107
4-Bromofluorobenzene	460-00-4	70-130	111
Toluene-d8	2037-26-5	70-130	102



**Client ID:** 9-IA2-111212

**Lab ID:** 1211513D-10A **Date/Time Analyzed:** 12/4/12 11:11 PM

Date/Time Collecte 11/12/12 10:02 AM Dilution Factor: 1.74

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdv.i / v120420simD

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.0088	0.035	0.14	0.12 J	
Trichloroethene	79-01-6	0.0044	0.047	0.19	0.056 J	

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	106	
4-Bromofluorobenzene	460-00-4	70-130	113	
Toluene-d8	2037-26-5	70-130	103	



Client ID: 24-CS1-111512 Lab ID: 1211513D-11A

**Date/Time Collecte** 11/15/12 11:34 AM

Media: 6 Liter Summa Canister (SIM Certified)

Date/Time Analyzed: 12/4/12 08:02 PM

**Dilution Factor:** 1.64

Instrument/Filename: msdv.i / v120415simD

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,2-Dichloroethane	107-06-2	0.0083	0.033	0.13	0.061 J	
Trichloroethene	79-01-6	0.0041	0.044	0.18	0.051 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	109
4-Bromofluorobenzene	460-00-4	70-130	112
Toluene-d8	2037-26-5	70-130	103



Client ID: 27-IA1-111512

 Lab ID:
 1211513D-12A
 Date/Time Analyzed:
 12/4/12 08:45 PM

 Date/Time Collecte
 11/15/12 08:26 AM
 Dilution Factor:
 1.55

Date/Time Collecte11/15/12 08:26 AMDilution Factor:1.55Media:6 Liter Summa Canister (SIM Certified)Instrument/Filename:msdv.i / v120416simD

**Rpt. Limit** MDL LOD Amount Compound CAS# (ug/m3) (ug/m3) (ug/m3) (ug/m3) 1,2-Dichloroethane 0.031 107-06-2 0.0078 0.12 1.5 Trichloroethene 0.042 0.083 J 79-01-6 0.0039 0.17

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	107
4-Bromofluorobenzene	460-00-4	70-130	109
Toluene-d8	2037-26-5	70-130	103



**Client ID:** 27-IA2-111512

**Lab ID:** 1211513D-13A **Date/Time Analyzed:** 12/4/12 09:23 PM

Date/Time Collecte 11/15/12 08:31 AM Dilution Factor: 1.68

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdv.i / v120417simD

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.0085	0.034	0.14	1.5	
Trichloroethene	79-01-6	0.0042	0.045	0.18	0.050 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	106
4-Bromofluorobenzene	460-00-4	70-130	108
Toluene-d8	2037-26-5	70-130	103



Client ID: 27-CS1-111512 Lab ID: 1211513D-14A

**Date/Time Collecte** 11/15/12 08:53 AM

Media: 6 Liter Summa Canister (SIM Certified)

Date/Time Analyzed: 12/4/12 09:59 PM

Dilution Factor: 1.34

Instrument/Filename: msdv.i / v120418simD

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,2-Dichloroethane	107-06-2	0.0068	0.027	0.11	0.17	
Trichloroethene	79-01-6	0.0034	0.036	0.14	0.053 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	107
4-Bromofluorobenzene	460-00-4	70-130	112
Toluene-d8	2037-26-5	70-130	103



Client ID: Lab Blank

**Lab ID:** 1211513D-15A **Date/Time Analyzed:** 12/4/12 01:32 PM

Date/Time CollecteNA - Not ApplicableDilution Factor:1.00

Media: NA - Not Applicable Instrument/Filename: msdv.i / v120406simD

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,2-Dichloroethane	107-06-2	0.0050	0.020	0.081	0.025 J	
Trichloroethene	79-01-6	0.0025	0.027	0.11	0.052 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	104
4-Bromofluorobenzene	460-00-4	70-130	110
Toluene-d8	2037-26-5	70-130	106



Client ID: CCV

**Lab ID:** 1211513D-16A **Date/Time Analyzed:** 12/4/12 09:25 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdv.i / v120402sim

Compound	CAS#	%Recovery
1,2-Dichloroethane	107-06-2	93
Trichloroethene	79-01-6	81

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	109	
4-Bromofluorobenzene	460-00-4	70-130	103	
Toluene-d8	2037-26-5	70-130	101	



Client ID: LCS

**Lab ID:** 1211513D-17A **Date/Time Analyzed:** 12/4/12 11:20 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdv.i / v120404sim

Compound	CAS#	%Recovery
1,2-Dichloroethane	107-06-2	91
Trichloroethene	79-01-6	80

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	106
4-Bromofluorobenzene	460-00-4	70-130	109
Toluene-d8	2037-26-5	70-130	101

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Client ID: LCSD

**Lab ID:** 1211513D-17AA **Date/Time Analyzed:** 12/4/12 12:39 PM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdv.i / v120405sim

Compound	CAS#	%Recovery
1,2-Dichloroethane	107-06-2	91
Trichloroethene	79-01-6	80

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	106
4-Bromofluorobenzene	460-00-4	70-130	112
Toluene-d8	2037-26-5	70-130	102

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



#### CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection handling or shipping of samples. DOT Hottline (800) 467-4922

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

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Project No. 8006.31.01

Mr. Guy Barrett October 12, 2012 Page 5

### SAMPLE ANALYSIS AND QUALITY ASSURANCE

Samples will be analyzed for PCE and associated breakdown products (TCE; 1,1-DCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCA; Chloroethane; and vinyl chloride) by Modified U.S. Environmental Protection Agency (USEPA) Method TO-15 selected ion monitoring method to achieve low reporting limits. Eurofins/Air Toxics of Folsom, California, will provide a 6-liter or 1-liter, stainless steel canister (Summa canister) for each sample. Laboratory-specific method reporting limits (MRLs) for VOCs are listed in the following table. The MRLs assume a 6-liter sample size, with the canister dilution factor not incorporated. The dilution factor is determined by the canister size and residual vacuum. For example, a 1-liter sample with a vacuum of 5-inches of mercury would have a MRL approximately 2.4 times higher than the values provided in the following table. If there are high concentrations of nontarget analytes in the samples (e.g., methylene chloride, acetone, toluene), the laboratory may dilute the sample to avoid overloading and damaging its instruments. MFA will coordinate with the laboratory to obtain the lowest possible MRLs.

Table
Analytes, Reporting Limits, and Screening Levels (µg/m³)

Analyte	CAS Number	Reporting Limit	Screening Level—Air	Screening Level —Soil Gas
PCE	127-18-4	0.14	9.6	. 96
TCE	79-01-6	0,016	0.37	3.7
1,1-DCE	75-35-4	0.04	91 .	910
cis-1,2-DCE	156-59-2	0.08	16	160
trans-1,2-DCE	156-60-5	0.40	. 32	320
1,1-DCA	75-34-3	80.0	320	3200
Chloroethane	75-00-3	0.13	3	30
Vinyl chloride	75-01-4	0.03	0.28	2.8 .
Helium	7440-59-7	81799	NE	NE

NOTES:

Screening levels are based on Table B-1 of Ecology Guidance for Evaluating Soil Vapor Intrusion in Washington State; Investigation and Remedial Action. Values for PCE and TCE are based on CLARC guidance dated September, 2012.

CAS = Chemical Abstract Service

NE = Not Established

 $\mu g/m^3 = micrograms per cubic meter.$ 

MFA will receive the data electronically from the laboratory and the data will be transferred to a GISKey© database. The data will be validated consistent with Ecology and USEPA protocols. To document data reliability, a memorandum will be prepared summarizing



1/10/2013

Mr. Thomas Ashton Maul Foster and Alongi Inc. 2001 NW 19th Ave Suite 200 Portland OR 97209

Project Name: Park Laundry Project #: 8006.31.01-05 Workorder #: 1211513E

Dear Mr. Thomas Ashton

The following report includes the data for the above referenced project for sample(s) received on 11/26/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

**Project Manager** 

Welly Butte



#### **WORK ORDER #: 1211513E**

Work Order Summary

CLIENT: Mr. Thomas Ashton BILL TO: Accounts Payable

Maul Foster and Alongi Inc.

Maul Foster and Alongi Inc.

2001 NW 19th Ave 400 E. Mill Plain Blvd

Suite 200 Suite 400

Portland, OR 97209 Vancouver, WA 98660

**PHONE:** 971-544-2139 **P.O.** #

**FAX:** 971-544-2140 **PROJECT** # 8006.31.01-05 Park Laundry

DATE RECEIVED: 11/26/2012 CONTACT: Kelly Buettner

**DATE COMPLETED:** 12/14/2012 **DATE REISSUED:** 01/10/2013

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
16A	OA1-111612	Modified TO-15 SIM	4.0 "Hg	5 psi
17A	OA3-111512	Modified TO-15 SIM	4.0 "Hg	5 psi
18A	Lab Blank	Modified TO-15 SIM	NA	NA
19A	CCV	Modified TO-15 SIM	NA	NA
20A	LCS	Modified TO-15 SIM	NA	NA
20AA	LCSD	Modified TO-15 SIM	NA	NA

CERTIFIED BY: DATE: 01/10/13

Technical Director

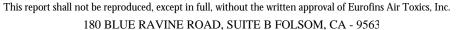
Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291, TX NELAP - T104704434-12-4, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.

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

(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020







#### LABORATORY NARRATIVE **Modified TO-15 SIM** Maul Foster and Alongi Inc. Workorder# 1211513E

Two 6 Liter Summa Canister (SIM Certified) samples were received on November 26, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition 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.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	<pre><!--=30% RSD with 2 compounds allowed out to < 40% RSD</pre--></pre>	Project specific; default criteria is =30% RSD with 10% of compounds allowed out to < 40% RSD</td
Daily Calibration	+- 30% Difference	Project specific; default criteria is = 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers</td
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

There were no analytical discrepancies.

This workorder was created to evaluate Trichloroethene (TCE) and 1,2-Dichloroethane (1,2-DCA) in all samples down to the Method Detection Limit to allow for comparison of results to the required screening levels. Please note that this workorder fraction contains only a subset of the requested analytes. The full list evaluated to the Reporting Limit (RL), including TCE and 1,2-DCA, were reported in workorder 1211513A on 12-14-12.

All canisters used for this project have been certified to the RL for the target analytes. Concentrations that are below the level at which the canister was certified may be false positives.

#### **Definition of Data Qualifying Flags**

Eight 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.
- UJ- Non-detected compound associated with low bias in the CCV
- N The identification is based on presumptive evidence.

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



**Client ID:** OA1-111612

**Lab ID:** 1211513E-16A

Date/Time Collecte 11/16/12 08:50 AM

Media: 6 Liter Summa Canister (SIM Certified)

Date/Time Analyzed: 12/5/12 07:21 AM

**Dilution Factor:** 1.55

Instrument/Filename: msda.i / a120417simE

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,2-Dichloroethane	107-06-2	0.0068	0.031	0.12	0.062 J	
Trichloroethene	79-01-6	0.023	0.042	0.17	0.047 J	

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	0-130	118	
4-Bromofluorobenzene	460-00-4	0-130	100	
Toluene-d8	2037-26-5	0-130	101	



**Client ID:** OA3-111512

**Lab ID:** 1211513E-17A

Date/Time Collecte 11/15/12 09:18 AM

Media: 6 Liter Summa Canister (SIM Certified)

Date/Time Analyzed: 12/5/12 08:09 AM

**Dilution Factor:** 1.55

Instrument/Filename: msda.i / a120418simE

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,2-Dichloroethane	107-06-2	0.0068	0.031	0.12	0.26	
Trichloroethene	79-01-6	0.023	0.042	0.17	0.064 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	0-130	115
4-Bromofluorobenzene	460-00-4	0-130	96
Toluene-d8	2037-26-5	0-130	100



Client ID: Lab Blank

**Lab ID:** 1211513E-18A **Date/Time Analyzed:** 12/4/12 10:19 PM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msda.i / a120416simE

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.0044	0.020	0.081	Not Detected	
Trichloroethene	79-01-6	0.015	0.027	0.11	Not Detected	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	0-130	118
4-Bromofluorobenzene	460-00-4	0-130	99
Toluene-d8	2037-26-5	0-130	102



Client ID: CCV

**Lab ID:** 1211513E-19A **Date/Time Analyzed:** 12/4/12 06:01 PM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msda.i / a120412sim

Compound	CAS#	%Recovery
1,2-Dichloroethane	107-06-2	125
Trichloroethene	79-01-6	101

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	114	
4-Bromofluorobenzene	460-00-4	70-130	101	
Toluene-d8	2037-26-5	70-130	102	



Client ID: LCS

**Lab ID:** 1211513E-20A **Date/Time Analyzed:** 12/4/12 06:51 PM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msda.i / a120413sim

Compound	CAS#	%Recovery
1,2-Dichloroethane	107-06-2	120
Trichloroethene	79-01-6	95

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	121
4-Bromofluorobenzene	460-00-4	70-130	110
Toluene-d8	2037-26-5	70-130	106

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Client ID: LCSD

**Lab ID:** 1211513E-20AA **Date/Time Analyzed:** 12/4/12 07:46 PM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msda.i / a120414sim

Compound	CAS#	%Recovery
1,2-Dichloroethane	107-06-2	116
Trichloroethene	79-01-6	96

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	122
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	110

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



### CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

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Project No. 8006.31.01

Mr. Guy Barrett
October 12, 2012
Page 5

### SAMPLE ANALYSIS AND QUALITY ASSURANCE

Samples will be analyzed for PCE and associated breakdown products (TCE; 1,1-DCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCA; Chloroethane; and vinyl chloride) by Modified U.S. Environmental Protection Agency (USEPA) Method TO-15 selected ion monitoring method to achieve low reporting limits. Eurofins/Air Toxics of Folsom, California, will provide a 6-liter or 1-liter, stainless steel canister (Summa canister) for each sample. Laboratory-specific method reporting limits (MRLs) for VOCs are listed in the following table. The MRLs assume a 6-liter sample size, with the canister dilution factor not incorporated. The dilution factor is determined by the canister size and residual vacuum. For example, a 1-liter sample with a vacuum of 5-inches of mercury would have a MRL approximately 2.4 times higher than the values provided in the following table. If there are high concentrations of nontarget analytes in the samples (e.g., methylene chloride, acetone, toluene), the laboratory may dilute the sample to avoid overloading and damaging its instruments. MFA will coordinate with the laboratory to obtain the lowest possible MRLs.

Table
Analytes, Reporting Limits, and Screening Levels (µg/m³)

Analyte	CAS Number	Reporting Limit	Screening Level—Air	Screening Level —Soil Gas
P.C.E.	127-18-4	0.14	9.6	. 96
TCE	79-01-6	0.016	0.37	3.7
1,1-DCE	. 75-35-4	0.04	91 .	910
cis-1,2-DCE	156-59-2	0.08	16	160
trans-1,2-DCE	156-60-5	0.40	32	320
1,1-DCA	75-34-3	0.08	320	3200
Chloroethane	75-00-3	0.13	. 3	30
Vinyl chloride	75-01-4	0.03	0.28	2.8 .
Helium	7440-59-7	81799	NE	МЕ

NOTES:

Screening levels are based on Table B-1 of Ecology Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action. Values for PCE and TCE are based on CLARC guidance dated September, 2012.

CAS = Chemical Abstract Service

NE = Not Established

 $\mu$ g/m³ = micrograms per cubic meter.

MFA will receive the data electronically from the laboratory and the data will be transferred to a GISKey© database. The data will be validated consistent with Ecology and USEPA protocols. To document data reliability, a memorandum will be prepared summarizing



1/13/2013

Mr. Thomas Ashton Maul Foster and Alongi Inc. 2001 NW 19th Ave Suite 200 Portland OR 97209

Project Name: Park Laundry Project #: 8006.31.01-05 Workorder #: 1211513FR1

Dear Mr. Thomas Ashton

The following report includes the data for the above referenced project for sample(s) received on 11/26/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

Welly Butte



#### **WORK ORDER #:** 1211513FR1

Work Order Summary

**CLIENT:** Mr. Thomas Ashton **BILL TO:** Accounts Payable

> Maul Foster and Alongi Inc. Maul Foster and Alongi Inc.

2001 NW 19th Ave 400 E. Mill Plain Blvd Suite 200 Suite 400

Portland, OR 97209 Vancouver, WA 98660

PHONE: 971-544-2139 P.O. #

FAX: 971-544-2140 PROJECT# 8006.31.01-05 Park Laundry

DATE RECEIVED: 11/26/2012 **CONTACT:** Kelly Buettner

12/26/2012 DATE REISSUED: 01/13/2013

**DATE COMPLETED:** 

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
15A	OA1-111512	Modified TO-15 SIM	3.5 "Hg	5 psi
18A	OA3-111612	Modified TO-15 SIM	3.5 "Hg	5 psi
19A	OA2-111512	Modified TO-15 SIM	0.8 psi	5 psi
20A	OA2-111612	Modified TO-15 SIM	2.0 "Hg	5 psi
21A	Lab Blank	Modified TO-15 SIM	NA	NA
22A	CCV	Modified TO-15 SIM	NA	NA
23A	LCS	Modified TO-15 SIM	NA	NA
23AA	LCSD	Modified TO-15 SIM	NA	NA

01/13/13 CERTIFIED BY: DATE:

**Technical Director** 

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291, TX NELAP - T104704434-12-4, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.

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

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#### LABORATORY NARRATIVE Modified TO-15 SIM Maul Foster and Alongi Inc. Workorder# 1211513FR1

Four 6 Liter Summa Canister (SIM Certified) samples were received on November 26, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition 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.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	<pre><!--=30% RSD with 2 compounds allowed out to < 40% RSD</pre--></pre>	Project specific; default criteria is =30% RSD with 10% of compounds allowed out to < 40% RSD</td
Daily Calibration	+- 30% Difference	Project specific; default criteria is = 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers</td
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

#### **Receiving Notes**

Despite the use of flow controllers for sample collection, the final canister vacuum for sample OA2-111512 was measured at ambient pressure in the field. This ambient pressure reading was confirmed by the laboratory upon sample receipt.

Samples OA1-111512, OA3-111612, OA2-111512 and OA2-111612 were removed from "Hold" and placed on "Active" status per client request on December 14, 2012.

#### **Analytical Notes**

There were no analytical discrepancies.

This workorder was created to evaluate Trichloroethene (TCE) and 1,2-Dichloroethane (1,2-DCA) in all samples down to the Method Detection Limit to allow for comparison of results to the required screening levels. Please note that this workorder fraction contains only a subset of the requested analytes. The full list evaluated to the Reporting Limit (RL), including TCE and 1,2-DCA, were reported in workorder 1211513C on 12-26-12.



All canisters used for this project have been certified to the RL for the target analytes. Concentrations that are below the level at which the canister was certified may be false positives.

THE WORK ORDER WAS RE-ISSUED ON 1/13/13 TO INCLUDE THE MDL VALUES IN THE FINAL REPORT.

### **Definition of Data Qualifying Flags**

Eight 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.
  - UJ- Non-detected compound associated with low bias in the CCV
  - N The identification is based on presumptive evidence.

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



**Client ID:** OA1-111512

**Lab ID:** 1211513FR1-15A **Date/Time Analyzed:** 12/14/12 11:29 AM

**Date/Time Collecte** 11/15/12 09:37 AM **Dilution Factor:** 1.52

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdv.i / v121407simF

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,2-Dichloroethane	107-06-2	0.0077	0.031	0.12	0.081 J	
Trichloroethene	79-01-6	0.0038	0.041	0.16	0.053 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	102
4-Bromofluorobenzene	460-00-4	70-130	111
Toluene-d8	2037-26-5	70-130	104



**Client ID:** OA3-111612

**Lab ID:** 1211513FR1-18A **Date/Time Analyzed:** 12/14/12 12:22 PM

Date/Time Collecte 11/16/12 09:06 AM Dilution Factor: 1.52

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdv.i / v121408simF

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,2-Dichloroethane	107-06-2	0.0077	0.031	0.12	0.068 J	
Trichloroethene	79-01-6	0.0038	0.041	0.16	0.060 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	102
4-Bromofluorobenzene	460-00-4	70-130	107
Toluene-d8	2037-26-5	70-130	104



**Client ID:** OA2-111512

**Lab ID:** 1211513FR1-19A

Date/Time Collecte 11/15/12 09:27 AM

Media: 6 Liter Summa Canister (SIM Certified)

Date/Time Analyzed: 12

Instrument/Filename:

: 12/14/12 01:57 PM

**Dilution Factor:** 1.27

msdv.i / v121409simF

Common d	040#	MDL	LOD	Rpt. Limit	Amount	
Compound 1,2-Dichloroethane	CAS#	(ug/m3)	( <b>ug/m3</b> ) 0.026	(ug/m3)	(ug/m3) 0.056 J	
,	107-06-2	0.0064		0.10		
Trichloroethene	79-01-6	0.0032	0.034	0.14	0.048 J	

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	101	
4-Bromofluorobenzene	460-00-4	70-130	108	
Toluene-d8	2037-26-5	70-130	106	



**Client ID:** OA2-111612

**Lab ID:** 1211513FR1-20A **Date/Time Analyzed:** 12/14/12 02:33 PM

Date/Time Collecte 11/16/12 08:59 AM Dilution Factor: 1.44

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdv.i / v121410simF

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.0073	0.029	0.12	0.069 J	
Trichloroethene	79-01-6	0.0036	0.039	0.15	0.047 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	102
4-Bromofluorobenzene	460-00-4	70-130	111
Toluene-d8	2037-26-5	70-130	107



Client ID: Lab Blank

**Lab ID:** 1211513FR1-21A **Date/Time Analyzed:** 12/14/12 10:32 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdv.i / v121406simF

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.0050	0.020	0.081	0.016 J	
Trichloroethene	79-01-6	0.0025	0.027	0.11	0.023 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	100
4-Bromofluorobenzene	460-00-4	70-130	113
Toluene-d8	2037-26-5	70-130	106



Client ID: CCV

**Lab ID:** 1211513FR1-22A **Date/Time Analyzed:** 12/14/12 07:14 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdv.i / v121402sim

Compound	CAS#	%Recovery
1,2-Dichloroethane	107-06-2	80
Trichloroethene	79-01-6	73

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	102	
4-Bromofluorobenzene	460-00-4	70-130	109	
Toluene-d8	2037-26-5	70-130	103	



Client ID: LCS

**Lab ID:** 1211513FR1-23A **Date/Time Analyzed:** 12/14/12 08:15 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdv.i / v121403sim

Compound	CAS#	%Recovery
1,2-Dichloroethane	107-06-2	75
Trichloroethene	79-01-6	72

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	100
4-Bromofluorobenzene	460-00-4	70-130	109
Toluene-d8	2037-26-5	70-130	104

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Client ID: LCSD

**Lab ID:** 1211513FR1-23AA **Date/Time Analyzed:** 12/14/12 09:00 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdv.i / v121404sim

Compound	CAS#	%Recovery
1,2-Dichloroethane	107-06-2	82
Trichloroethene	79-01-6	79

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	100
4-Bromofluorobenzene	460-00-4	70-130	109
Toluene-d8	2037-26-5	70-130	103

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



### CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

Turn Around Lab Use Only

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Project No. 8006.31.01

Mr. Guy Barrett
October 12, 2012
Page 5

### SAMPLE ANALYSIS AND QUALITY ASSURANCE

Samples will be analyzed for PCE and associated breakdown products (TCE; 1,1-DCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCA; Chloroethane; and vinyl chloride) by Modified U.S. Environmental Protection Agency (USEPA) Method TO-15 selected ion monitoring method to achieve low reporting limits. Eurofins/Air Toxics of Folsom, California, will provide a 6-liter or 1-liter, stainless steel canister (Summa canister) for each sample. Laboratory-specific method reporting limits (MRLs) for VOCs are listed in the following table. The MRLs assume a 6-liter sample size, with the canister dilution factor not incorporated. The dilution factor is determined by the canister size and residual vacuum. For example, a 1-liter sample with a vacuum of 5-inches of mercury would have a MRL approximately 2.4 times higher than the values provided in the following table. If there are high concentrations of nontarget analytes in the samples (e.g., methylene chloride, acetone, toluene), the laboratory may dilute the sample to avoid overloading and damaging its instruments. MFA will coordinate with the laboratory to obtain the lowest possible MRLs.

Table
Analytes, Reporting Limits, and Screening Levels (µg/m³)

Analyte	CAS Number	Reporting Limit	Screening Level—Air	Screening Level —Soil Gas
P.C.E.	127-18-4	0.14	9.6	. 96
TCE	79-01-6	0.016	0.37	3.7
1,1-DCE	. 75-35-4	0.04	91 .	910
cis-1,2-DCE	156-59-2	0.08	16	160
trans-1,2-DCE	156-60-5	0.40	32	320
1,1-DCA	75-34-3	0.08	320	3200
Chloroethane	75-00-3	0.13	. 3	30
Vinyl chloride	75-01-4	0.03	0.28	2.8 .
Helium	7440-59-7	81799	NE	МЕ

NOTES:

Screening levels are based on Table B-1 of Ecology Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action. Values for PCE and TCE are based on CLARC guidance dated September, 2012.

CAS = Chemical Abstract Service

NE = Not Established

 $\mu$ g/m³ = micrograms per cubic meter.

MFA will receive the data electronically from the laboratory and the data will be transferred to a GISKey© database. The data will be validated consistent with Ecology and USEPA protocols. To document data reliability, a memorandum will be prepared summarizing



Mr. Thomas Ashton Maul Foster and Alongi Inc.

2001 NW 19th Ave

Suite 200

12/13/2012

Portland OR 97209

Project Name: Park Laundry Project #: 8006.31.01-05 Workorder #: 1211514A

Dear Mr. Thomas Ashton

The following report includes the data for the above referenced project for sample(s) received on 11/26/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

**Project Manager** 

Elly Butte



#### **WORK ORDER #: 1211514A**

Work Order Summary

CLIENT: Mr. Thomas Ashton BILL TO: Accounts Payable

Maul Foster and Alongi Inc.

Maul Foster and Alongi Inc.

2001 NW 19th Ave 400 E. Mill Plain Blvd

Suite 200 Suite 400

Portland, OR 97209 Vancouver, WA 98660

**PHONE:** 971-544-2139 **P.O.** #

**FAX:** 971-544-2140 **PROJECT** # 8006.31.01-05 Park Laundry

**DATE RECEIVED:** 11/26/2012 **CONTACT:** Kelly Buettner **DATE COMPLETED:** 12/13/2012

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL <u>PRESSURE</u>
01A	10-IA1-111512	Modified TO-15 SIM	7.0 "Hg	5 psi
02A	10-IA2-111512	Modified TO-15 SIM	5.0 "Hg	5 psi
03A	10-CS1-111512	Modified TO-15 SIM	0.8 "Hg	5 psi
04A	11-IA1-111512	Modified TO-15 SIM	4.8 "Hg	5 psi
05A	11-IA2-111512	Modified TO-15 SIM	3.6 "Hg	5 psi
06A	11-IA3-111512	Modified TO-15 SIM	3.6 "Hg	5 psi
07A	13-IA1-111612	Modified TO-15 SIM	4.2 "Hg	5 psi
08A	13-IA2-111612	Modified TO-15 SIM	4.8 "Hg	5 psi
09A	24-IA1-111612	Modified TO-15 SIM	3.8 "Hg	5 psi
10A	24-IA2-111612	Modified TO-15 SIM	4.0 "Hg	5 psi
11A	Lab Blank	Modified TO-15 SIM	NA	NA
12A	CCV	Modified TO-15 SIM	NA	NA
13A	LCS	Modified TO-15 SIM	NA	NA
13AA	LCSD	Modified TO-15 SIM	NA	NA

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CERTIFIED BY:		DATE: $\frac{12/13/12}{}$

Technical Director

Certfication numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291, TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.

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

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### LABORATORY NARRATIVE Modified TO-15 SIM Maul Foster and Alongi Inc. Workorder# 1211514A

Ten 6 Liter Summa Canister (SIM Certified) samples were received on November 26, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition 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.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	<pre><!--=30% RSD with 2 compounds allowed out to < 40% RSD</pre--></pre>	Project specific; default criteria is =30% RSD with 10% of compounds allowed out to < 40% RSD</td
Daily Calibration	+- 30% Difference	Project specific; default criteria is = 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers</td
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

There were no analytical discrepancies.

#### **Definition of Data Qualifying Flags**

Eight 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.
  - O Exceeds quality control limits.
  - U Compound analyzed for but not detected above the reporting limit.
  - UJ- Non-detected compound associated with low bias in the CCV and/or LCS.
  - N The identification is based on presumptive evidence.



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



# **Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS SIM**

**Client Sample ID: 10-IA1-111512** 

Lab ID#: 1211514A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	(ug/m3)	Amount (ug/m3)	
1,2-Dichloroethane	0.035	0.082	0.14	0.33	

**Client Sample ID: 10-IA2-111512** 

Lab ID#: 1211514A-02A

	Rpt. Limit	Amount	Rpt. Limit	Amount	
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)	
1.2-Dichloroethane	0.032	0.11	0.13	0.44	

**Client Sample ID: 10-CS1-111512** 

Lab ID#: 1211514A-03A
No Detections Were Found.

**Client Sample ID: 11-IA1-111512** 

Lab ID#: 1211514A-04A

	Rpt. Limit	Amount	Rpt. Limit	Amount	
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	0.032	0.056	0.13	0.22	
Tetrachloroethene	0.032	0.034	0.22	0.23	

**Client Sample ID: 11-IA2-111512** 

Lab ID#: 1211514A-05A

Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	0.030	0.050	0.12	0.20	

**Client Sample ID: 11-IA3-111512** 

Lab ID#: 1211514A-06A

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
1,2-Dichloroethane	0.030	0.048	0.12	0.19
Tetrachloroethene	0.030	0.040	0.21	0.27



# **Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS SIM**

**Client Sample ID: 13-IA1-111612** 

Lab ID#: 1211514A-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,2-Dichloroethane	0.031	0.12	0.13	0.48	

**Client Sample ID: 13-IA2-111612** 

Lab ID#: 1211514A-08A

	Rpt. Limit	Amount	Rpt. Limit	Amount	
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	0.032	0.16	0.13	0.67	

**Client Sample ID: 24-IA1-111612** 

Lab ID#: 1211514A-09A
No Detections Were Found.

**Client Sample ID: 24-IA2-111612** 

Lab ID#: 1211514A-10A
No Detections Were Found.



# Client Sample ID: 10-IA1-111512 Lab ID#: 1211514A-01A

## MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	a120419sim	Date of Collection: 11/15/12 10:03:00 A
Dil. Factor:	1.75	Date of Analysis: 12/5/12 08:53 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,2-Dichloroethane	0.035	0.082	0.14	0.33
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Chloroethane	0.088	Not Detected	0.23	Not Detected

		Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	116	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	96	70-130	



# Client Sample ID: 10-IA2-111512 Lab ID#: 1211514A-02A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	a120420sim	Date of Collection: 11/15/12 10:07:00 A
Dil. Factor:	1.61	Date of Analysis: 12/5/12 09:30 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,2-Dichloroethane	0.032	0.11	0.13	0.44
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Chloroethane	0.080	Not Detected	0.21	Not Detected

		Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	117	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	99	70-130	



# Client Sample ID: 10-CS1-111512 Lab ID#: 1211514A-03A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	a120421sim	Date of Collection: 11/15/12 10:14:00 A
Dil. Factor:	1.38	Date of Analysis: 12/5/12 10:06 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.035	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.055	Not Detected
1,1-Dichloroethane	0.028	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.028	Not Detected	0.11	Not Detected
1,2-Dichloroethane	0.028	Not Detected	0.11	Not Detected
Trichloroethene	0.028	Not Detected	0.15	Not Detected
Tetrachloroethene	0.028	Not Detected	0.19	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.55	Not Detected
Chloroethane	0.069	Not Detected	0.18	Not Detected

		Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	114	70-130	
Toluene-d8	101	70-130	
4-Bromofluorobenzene	94	70-130	



# Client Sample ID: 11-IA1-111512 Lab ID#: 1211514A-04A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	a120422sim	Date of Collection: 11/15/12 10:40:00 A
Dil. Factor:	1.60	Date of Analysis: 12/5/12 10:42 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.063	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,2-Dichloroethane	0.032	0.056	0.13	0.22
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	0.034	0.22	0.23
trans-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Chloroethane	0.080	Not Detected	0.21	Not Detected

		Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	114	70-130	
Toluene-d8	101	70-130	
4-Bromofluorobenzene	97	70-130	



# Client Sample ID: 11-IA2-111512 Lab ID#: 1211514A-05A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	a120423sim	Date of Collection: 11/15/12 10:42:00 A
Dil. Factor:	1.52	Date of Analysis: 12/5/12 11:21 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.039	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.060	Not Detected
1,1-Dichloroethane	0.030	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected
1,2-Dichloroethane	0.030	0.050	0.12	0.20
Trichloroethene	0.030	Not Detected	0.16	Not Detected
Tetrachloroethene	0.030	Not Detected	0.21	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Chloroethane	0.076	Not Detected	0.20	Not Detected

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	113	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	94	70-130	



# Client Sample ID: 11-IA3-111512 Lab ID#: 1211514A-06A

## MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	a120424sim	Date of Collection: 11/15/12 10:43:00 A
Dil. Factor:	1.52	Date of Analysis: 12/5/12 12:12 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.039	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.060	Not Detected
1,1-Dichloroethane	0.030	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected
1,2-Dichloroethane	0.030	0.048	0.12	0.19
Trichloroethene	0.030	Not Detected	0.16	Not Detected
Tetrachloroethene	0.030	0.040	0.21	0.27
trans-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Chloroethane	0.076	Not Detected	0.20	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	98	70-130



# Client Sample ID: 13-IA1-111612 Lab ID#: 1211514A-07A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	a120425sim	Date of Collection: 11/16/12 9:39:00 AM
Dil. Factor:	1.56	Date of Analysis: 12/5/12 12:48 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.062	Not Detected
1,1-Dichloroethane	0.031	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
1,2-Dichloroethane	0.031	0.12	0.13	0.48
Trichloroethene	0.031	Not Detected	0.17	Not Detected
Tetrachloroethene	0.031	Not Detected	0.21	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Chloroethane	0.078	Not Detected	0.20	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	92	70-130



# Client Sample ID: 13-IA2-111612 Lab ID#: 1211514A-08A

## MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	a120426sim	Date of Collection: 11/16/12 9:46:00 AM
Dil. Factor:	1.60	Date of Analysis: 12/5/12 01:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.063	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,2-Dichloroethane	0.032	0.16	0.13	0.67
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Chloroethane	0.080	Not Detected	0.21	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	95	70-130



# Client Sample ID: 24-IA1-111612 Lab ID#: 1211514A-09A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	a120427sim	Date of Collection: 11/16/12 11:49:00 A
Dil. Factor:	1.53	Date of Analysis: 12/5/12 02:00 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.039	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.061	Not Detected
1,1-Dichloroethane	0.031	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
1,2-Dichloroethane	0.031	Not Detected	0.12	Not Detected
Trichloroethene	0.031	Not Detected	0.16	Not Detected
Tetrachloroethene	0.031	Not Detected	0.21	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.61	Not Detected
Chloroethane	0.076	Not Detected	0.20	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130



# Client Sample ID: 24-IA2-111612 Lab ID#: 1211514A-10A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	a120428sim	Date of Collection: 11/16/12 10:58:00 A
Dil. Factor:	1.55	Date of Analysis: 12/5/12 02:36 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.061	Not Detected
1,1-Dichloroethane	0.031	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
1,2-Dichloroethane	0.031	Not Detected	0.12	Not Detected
Trichloroethene	0.031	Not Detected	0.17	Not Detected
Tetrachloroethene	0.031	Not Detected	0.21	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Chloroethane	0.078	Not Detected	0.20	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130



# Client Sample ID: Lab Blank Lab ID#: 1211514A-11A

## MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	a120416sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/4/12 10:19 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,2-Dichloroethane	0.020	Not Detected	0.081	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Chloroethane	0.050	Not Detected	0.13	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	99	70-130



# Client Sample ID: CCV Lab ID#: 1211514A-12A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: a120412sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 12/4/12 06:01 PM

Compound	%Recovery
Vinyl Chloride	91
1,1-Dichloroethene	102
1,1-Dichloroethane	117
cis-1,2-Dichloroethene	108
1,2-Dichloroethane	125
Trichloroethene	101
Tetrachloroethene	98
trans-1,2-Dichloroethene	108
Chloroethane	102

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	101	70-130



# Client Sample ID: LCS Lab ID#: 1211514A-13A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: a120413sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 12/4/12 06:51 PM

Compound	%Recovery
Vinyl Chloride	101
1,1-Dichloroethene	102
1,1-Dichloroethane	113
cis-1,2-Dichloroethene	101
1,2-Dichloroethane	120
Trichloroethene	95
Tetrachloroethene	86
trans-1,2-Dichloroethene	112
Chloroethane	102

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Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	121	70-130	
Toluene-d8	106	70-130	
4-Bromofluorobenzene	110	70-130	



# Client Sample ID: LCSD Lab ID#: 1211514A-13AA

# MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: a120414sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 12/4/12 07:46 PM

Compound	%Recovery
Vinyl Chloride	104
1,1-Dichloroethene	95
1,1-Dichloroethane	108
cis-1,2-Dichloroethene	99
1,2-Dichloroethane	116
Trichloroethene	96
Tetrachloroethene	89
trans-1,2-Dichloroethene	105
Chloroethane	99

урагия постиривания		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	101	70-130



Sample Transportation Notice
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Page 3 of 5.

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## CHAIN-OF-CUSTODY RECORD

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Project No. 8006.31.01

Mr. Guy Barrett October 12, 2012 Page 5

## SAMPLE ANALYSIS AND QUALITY ASSURANCE

Samples will be analyzed for PCE and associated breakdown products (TCE; 1,1-DCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCA; Chloroethane; and vinyl chloride) by Modified U.S. Environmental Protection Agency (USEPA) Method TO-15 selected ion monitoring method to achieve low reporting limits. Eurofins/Air Toxics of Folsom, California, will provide a 6-liter or 1-liter, stainless steel canister (Summa canister) for each sample. Laboratory-specific method reporting limits (MRLs) for VOCs are listed in the following table. The MRLs assume a 6-liter sample size, with the canister dilution factor not incorporated. The dilution factor is determined by the canister size and residual vacuum. For example, a 1-liter sample with a vacuum of 5-inches of mercury would have a MRL approximately 2.4 times higher than the values provided in the following table. If there are high concentrations of nontarget analytes in the samples (e.g., methylene chloride, acetone, toluene), the laboratory may dilute the sample to avoid overloading and damaging its instruments. MFA will coordinate with the laboratory to obtain the lowest possible MRLs.

Table
Analytes, Reporting Limits, and Screening Levels (µg/m³)

Analyte	CAS Number	Reporting Limit	Screening Level—Air	Screening Level —Soil Gas
PCE	127-18-4	0.14	9.6	. 96
TCE	79-01-6	0.016	0.37	3.7
1,1-DCE	75-35-4	0.04	91	910
cis-1,2-DCE	156-59-2	0.08	16	<sub>4</sub> 160
trans-1,2-DCE	156-60-5	0.40	32	· 320
1,1-DCA	75-34-3	0.08	320	3200
Chloroethane	75-00-3	0.13	3	30
Vinyl chloride	75-01-4	0.03	0,28	2.8
Helium	7440-59-7	81799	NE	ŅЕ

NOTES:

Screening levels are based on Table B-1 of Ecology Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action, Values for PCE and TCE are based on CLARC guidance dated September, 2012.

CAS = Chemical Abstract Service

NE = Not Established

 $\mu g/m^3 = micrograms per cubic meter.$ 

MFA will receive the data electronically from the laboratory and the data will be transferred to a GISKey© database. The data will be validated consistent with Ecology and USEPA protocols. To document data reliability, a memorandum will be prepared summarizing



Mr. Thomas Ashton
Maul Foster and Alongi Inc.

2001 NW 19th Ave

Suite 200

12/13/2012

Portland OR 97209

Project Name: Park Laundry Project #: 8006.31.01-05 Workorder #: 1211514B

Dear Mr. Thomas Ashton

The following report includes the data for the above referenced project for sample(s) received on 11/26/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

**Project Manager** 

Elly Butte



#### WORK ORDER #: 1211514B

#### Work Order Summary

CLIENT: Mr. Thomas Ashton BILL TO: Accounts Payable

Maul Foster and Alongi Inc.

Maul Foster and Alongi Inc.

2001 NW 19th Ave 400 E. Mill Plain Blvd

Suite 200 Suite 400

Portland, OR 97209 Vancouver, WA 98660

**PHONE:** 971-544-2139 **P.O.** #

**FAX:** 971-544-2140 **PROJECT** # 8006.31.01-05 Park Laundry

**DATE RECEIVED:** 11/26/2012 **CONTACT:** Kelly Buettner **DATE COMPLETED:** 12/13/2012

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
11A	1-SS1-111512	Modified TO-15	3.4 "Hg	15 psi
12A	1-SS2-111512	Modified TO-15	2.6 "Hg	15 psi
13A	1-SS3-111512	Modified TO-15	3.2 "Hg	15 psi
14A	7-SS1-111512	Modified TO-15	3.8 "Hg	15 psi
15A	7-SS2-111512	Modified TO-15	4.8 "Hg	15 psi
16A	7-SS3-111512	Modified TO-15	3.2 "Hg	15 psi
17A	11-SS1-111512	Modified TO-15	0.2 "Hg	15 psi
18A	11-SS2-111512	Modified TO-15	3.8 "Hg	15 psi
19A	11-SS3-111512	Modified TO-15	6.4 "Hg	15 psi
20A	11-SS4-111512	Modified TO-15	3.4 "Hg	15 psi
21A	Lab Blank	Modified TO-15	NA	NA
22A	CCV	Modified TO-15	NA	NA
23A	LCS	Modified TO-15	NA	NA
23AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: DATE: 12/13/12

Technical Director

Certfication numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291, TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.

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

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#### LABORATORY NARRATIVE Modified TO-15 Maul Foster and Alongi Inc. Workorder# 1211514B

Ten 1 Liter Summa Canister (100% Certified) samples were received on November 26, 2012. The laboratory performed analysis via modified 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.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
Initial Calibration	<pre><!--=30% RSD with 2 compounds allowed out to < 40% RSD</pre--></pre>	=30% RSD with 4 compounds allowed out to < 40% RSD</td
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

Dilution was performed on samples 11-SS2-111512, 11-SS3-111512, and 11-SS4-111512 due to the presence of high level non-target species.

#### **Definition of Data Qualifying Flags**

Eight 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.
  - UJ- Non-detected compound associated with low bias in the CCV and/or LCS.
  - N The identification is based on presumptive evidence.

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



# Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: 1-SS1-111512

Lab ID#: 1211514B-11A
No Detections Were Found.

Client Sample ID: 1-SS2-111512

Lab ID#: 1211514B-12A

Commonad	Rpt. Limit	Amount	Rpt. Limit	Amount	
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)	
Tetrachloroethene	0.22	0.33	1.5	2.2	

**Client Sample ID: 1-SS3-111512** 

Lab ID#: 1211514B-13A
No Detections Were Found.

Client Sample ID: 7-SS1-111512

Lab ID#: 1211514B-14A

	Rpt. Limit	Amount	Rpt. Limit	Amount	
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)	
Tetrachloroethene	0.23	1.8	1.6	12	

**Client Sample ID: 7-SS2-111512** 

Lab ID#: 1211514B-15A

	Kpt. Limit	Amount	Kpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Tetrachloroethene	0.24	1.2	1.6	7.8

Det Limit

Dot Limit

**Client Sample ID: 7-SS3-111512** 

Lab ID#: 1211514B-16A

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Tetrachloroethene	0.23	2.0	1.5	14

**Client Sample ID: 11-SS1-111512** 

Lab ID#: 1211514B-17A
No Detections Were Found.



# Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

**Client Sample ID: 11-SS2-111512** 

Lab ID#: 1211514B-18A
No Detections Were Found.

**Client Sample ID: 11-SS3-111512** 

Lab ID#: 1211514B-19A
No Detections Were Found.

**Client Sample ID: 11-SS4-111512** 

Lab ID#: 1211514B-20A

Compound	Rpt. Limit	Amount	Rpt. Limit	Amount
	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Tetrachloroethene	0.71	1.0	4.8	6.9



# Client Sample ID: 1-SS1-111512 Lab ID#: 1211514B-11A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v113010	Date of Collection: 11/15/12 4:37:00 PM
Dil. Factor:	2.28	Date of Analysis: 11/30/12 02:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.23	Not Detected	0.58	Not Detected
Chloroethane	1.1	Not Detected	3.0	Not Detected
1,1-Dichloroethene	0.23	Not Detected	0.90	Not Detected
trans-1,2-Dichloroethene	0.23	Not Detected	0.90	Not Detected
1,1-Dichloroethane	0.23	Not Detected	0.92	Not Detected
cis-1,2-Dichloroethene	0.23	Not Detected	0.90	Not Detected
1,2-Dichloroethane	0.23	Not Detected	0.92	Not Detected
Trichloroethene	0.23	Not Detected	1.2	Not Detected
Tetrachloroethene	0.23	Not Detected	1.5	Not Detected

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	97	70-130	
Toluene-d8	103	70-130	
4-Bromofluorobenzene	110	70-130	



# Client Sample ID: 1-SS2-111512 Lab ID#: 1211514B-12A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v113011	Date of Collection: 11/15/12 5:10:00 PM
Dil. Factor:	2.21	Date of Analysis: 11/30/12 03:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.22	Not Detected	0.56	Not Detected
Chloroethane	1.1	Not Detected	2.9	Not Detected
1,1-Dichloroethene	0.22	Not Detected	0.88	Not Detected
trans-1,2-Dichloroethene	0.22	Not Detected	0.88	Not Detected
1,1-Dichloroethane	0.22	Not Detected	0.89	Not Detected
cis-1,2-Dichloroethene	0.22	Not Detected	0.88	Not Detected
1,2-Dichloroethane	0.22	Not Detected	0.89	Not Detected
Trichloroethene	0.22	Not Detected	1.2	Not Detected
Tetrachloroethene	0.22	0.33	1.5	2.2

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	100	70-130	
Toluene-d8	97	70-130	
4-Bromofluorobenzene	99	70-130	



# Client Sample ID: 1-SS3-111512 Lab ID#: 1211514B-13A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v113012	Date of Collection: 11/15/12 5:23:00 PM
Dil. Factor:	2.26	Date of Analysis: 11/30/12 04:25 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.23	Not Detected	0.58	Not Detected
Chloroethane	1.1	Not Detected	3.0	Not Detected
1,1-Dichloroethene	0.23	Not Detected	0.90	Not Detected
trans-1,2-Dichloroethene	0.23	Not Detected	0.90	Not Detected
1,1-Dichloroethane	0.23	Not Detected	0.91	Not Detected
cis-1,2-Dichloroethene	0.23	Not Detected	0.90	Not Detected
1,2-Dichloroethane	0.23	Not Detected	0.91	Not Detected
Trichloroethene	0.23	Not Detected	1.2	Not Detected
Tetrachloroethene	0.23	Not Detected	1.5	Not Detected

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	101	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	110	70-130	



# Client Sample ID: 7-SS1-111512 Lab ID#: 1211514B-14A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v113013	Date of Collection: 11/15/12 1:10:00 PM
Dil. Factor:	2.31	Date of Analysis: 11/30/12 05:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.23	Not Detected	0.59	Not Detected
Chloroethane	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	0.23	Not Detected	0.92	Not Detected
trans-1,2-Dichloroethene	0.23	Not Detected	0.92	Not Detected
1,1-Dichloroethane	0.23	Not Detected	0.94	Not Detected
cis-1,2-Dichloroethene	0.23	Not Detected	0.92	Not Detected
1,2-Dichloroethane	0.23	Not Detected	0.93	Not Detected
Trichloroethene	0.23	Not Detected	1.2	Not Detected
Tetrachloroethene	0.23	1.8	1.6	12

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	100	70-130	
Toluene-d8	99	70-130	
4-Bromofluorobenzene	104	70-130	



# Client Sample ID: 7-SS2-111512 Lab ID#: 1211514B-15A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v113014	Date of Collection: 11/15/12 1:29:00 PM
Dil. Factor:	2.40	Date of Analysis: 11/30/12 05:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.24	Not Detected	0.61	Not Detected
Chloroethane	1.2	Not Detected	3.2	Not Detected
1,1-Dichloroethene	0.24	Not Detected	0.95	Not Detected
trans-1,2-Dichloroethene	0.24	Not Detected	0.95	Not Detected
1,1-Dichloroethane	0.24	Not Detected	0.97	Not Detected
cis-1,2-Dichloroethene	0.24	Not Detected	0.95	Not Detected
1,2-Dichloroethane	0.24	Not Detected	0.97	Not Detected
Trichloroethene	0.24	Not Detected	1.3	Not Detected
Tetrachloroethene	0.24	1.2	1.6	7.8

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	102	70-130	
Toluene-d8	103	70-130	
4-Bromofluorobenzene	109	70-130	



# Client Sample ID: 7-SS3-111512 Lab ID#: 1211514B-16A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v113015	Date of Collection: 11/15/12 2:07:00 PM
Dil. Factor:	2.26	Date of Analysis: 11/30/12 06:43 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.23	Not Detected	0.58	Not Detected
Chloroethane	1.1	Not Detected	3.0	Not Detected
1,1-Dichloroethene	0.23	Not Detected	0.90	Not Detected
trans-1,2-Dichloroethene	0.23	Not Detected	0.90	Not Detected
1,1-Dichloroethane	0.23	Not Detected	0.91	Not Detected
cis-1,2-Dichloroethene	0.23	Not Detected	0.90	Not Detected
1,2-Dichloroethane	0.23	Not Detected	0.91	Not Detected
Trichloroethene	0.23	Not Detected	1.2	Not Detected
Tetrachloroethene	0.23	2.0	1.5	14

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	99	70-130	
Toluene-d8	101	70-130	
4-Bromofluorobenzene	108	70-130	



# Client Sample ID: 11-SS1-111512 Lab ID#: 1211514B-17A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v113016	Date of Collection: 11/15/12 2:35:00 PM
Dil. Factor:	2.03	Date of Analysis: 11/30/12 07:19 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.20	Not Detected	0.52	Not Detected
Chloroethane	1.0	Not Detected	2.7	Not Detected
1,1-Dichloroethene	0.20	Not Detected	0.80	Not Detected
trans-1,2-Dichloroethene	0.20	Not Detected	0.80	Not Detected
1,1-Dichloroethane	0.20	Not Detected	0.82	Not Detected
cis-1,2-Dichloroethene	0.20	Not Detected	0.80	Not Detected
1,2-Dichloroethane	0.20	Not Detected	0.82	Not Detected
Trichloroethene	0.20	Not Detected	1.1	Not Detected
Tetrachloroethene	0.20	Not Detected	1.4	Not Detected

		Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	102	70-130	
Toluene-d8	98	70-130	
4-Bromofluorobenzene	106	70-130	



# Client Sample ID: 11-SS2-111512 Lab ID#: 1211514B-18A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v113017	Date of Collection: 11/15/12 3:24:00 PM
Dil. Factor:	4.62	Date of Analysis: 11/30/12 08:55 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.46	Not Detected	1.2	Not Detected
Chloroethane	2.3	Not Detected	6.1	Not Detected
1,1-Dichloroethene	0.46	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.46	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.46	Not Detected	1.9	Not Detected
cis-1,2-Dichloroethene	0.46	Not Detected	1.8	Not Detected
1,2-Dichloroethane	0.46	Not Detected	1.9	Not Detected
Trichloroethene	0.46	Not Detected	2.5	Not Detected
Tetrachloroethene	0.46	Not Detected	3.1	Not Detected

		Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	103	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	107	70-130	



### Client Sample ID: 11-SS3-111512 Lab ID#: 1211514B-19A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v113018	Date of Collection: 11/15/12 3:30:00 PM
Dil. Factor:	5.14	Date of Analysis: 11/30/12 09:31 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.51	Not Detected	1.3	Not Detected
Chloroethane	2.6	Not Detected	6.8	Not Detected
1,1-Dichloroethene	0.51	Not Detected	2.0	Not Detected
trans-1,2-Dichloroethene	0.51	Not Detected	2.0	Not Detected
1,1-Dichloroethane	0.51	Not Detected	2.1	Not Detected
cis-1,2-Dichloroethene	0.51	Not Detected	2.0	Not Detected
1,2-Dichloroethane	0.51	Not Detected	2.1	Not Detected
Trichloroethene	0.51	Not Detected	2.8	Not Detected
Tetrachloroethene	0.51	Not Detected	3.5	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	109	70-130



### Client Sample ID: 11-SS4-111512 Lab ID#: 1211514B-20A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v113019	Date of Collection: 11/15/12 4:22:00 PM
Dil. Factor:	7.12	Date of Analysis: 11/30/12 10:17 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.71	Not Detected	1.8	Not Detected
Chloroethane	3.6	Not Detected	9.4	Not Detected
1,1-Dichloroethene	0.71	Not Detected	2.8	Not Detected
trans-1,2-Dichloroethene	0.71	Not Detected	2.8	Not Detected
1,1-Dichloroethane	0.71	Not Detected	2.9	Not Detected
cis-1,2-Dichloroethene	0.71	Not Detected	2.8	Not Detected
1,2-Dichloroethane	0.71	Not Detected	2.9	Not Detected
Trichloroethene	0.71	Not Detected	3.8	Not Detected
Tetrachloroethene	0.71	1.0	4.8	6.9

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	103	70-130



### Client Sample ID: Lab Blank Lab ID#: 1211514B-21A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v113009	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/30/12 01:08 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1-Dichloroethane	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,2-Dichloroethane	0.10	Not Detected	0.40	Not Detected
Trichloroethene	0.10	Not Detected	0.54	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected

		Metnod
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130



### Client Sample ID: CCV Lab ID#: 1211514B-22A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: v113004 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 11/30/12 09:02 AM

Compound	%Recovery
Vinyl Chloride	92
Chloroethane	92
1,1-Dichloroethene	102
trans-1,2-Dichloroethene	100
1,1-Dichloroethane	100
cis-1,2-Dichloroethene	99
1,2-Dichloroethane	110
Trichloroethene	98
Tetrachloroethene	107

Surrogatos	%Recovery	Metnoa Limits
Surrogates	76Recovery	LIIIIIIS
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	108	70-130



### Client Sample ID: LCS Lab ID#: 1211514B-23A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: v113005 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 11/30/12 09:49 AM

Compound	%Recovery
Vinyl Chloride	88
Chloroethane	87
1,1-Dichloroethene	99
trans-1,2-Dichloroethene	104
1,1-Dichloroethane	93
cis-1,2-Dichloroethene	90
1,2-Dichloroethane	104
Trichloroethene	92
Tetrachloroethene	100

Surrogates	%Recovery	Metnod Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130



### Client Sample ID: LCSD Lab ID#: 1211514B-23AA

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: v113006 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 11/30/12 10:32 AM

Compound	%Recovery
Vinyl Chloride	89
Chloroethane	86
1,1-Dichloroethene	101
trans-1,2-Dichloroethene	105
1,1-Dichloroethane	93
cis-1,2-Dichloroethene	90
1,2-Dichloroethane	102
Trichloroethene	91
Tetrachloroethene	104

Surrogates	%Recovery	Metnod Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	102	70-130



### CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA 95630-4719 (916) 985-1000 FAX (916) 985-1020

Page 3 of 5

Project Ma	mager Bill Beaudie / Merideth D.	Andrea		Project Info:				Around ime:	Lab Use	Only urized by:		
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180 BLUE RAVINE ROAD, SUITE B

FOLSOM, CA 95630-4719

(916) 985-1000 FAX (916) 985-1020 of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

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Page \_\_\_\_\_ of \_\_\_\_\_\_

Project Manager Bill Beddie Medideth DiAndrea					Project Info:				Around ime:	Lab Use	-		
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Project No. 8006.31.01

Mr. Guy Barrett October 12, 2012 Page 5

### SAMPLE ANALYSIS AND QUALITY ASSURANCE

Samples will be analyzed for PCE and associated breakdown products (TCE; 1,1-DCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCA; Chloroethane; and vinyl chloride) by Modified U.S. Environmental Protection Agency (USEPA) Method TO-15 selected ion monitoring method to achieve low reporting limits. Eurofins/Air Toxics of Folsom, California, will provide a 6-liter or 1-liter, stainless steel canister (Summa canister) for each sample. Laboratory-specific method reporting limits (MRLs) for VOCs are listed in the following table. The MRLs assume a 6-liter sample size, with the canister dilution factor not incorporated. The dilution factor is determined by the canister size and residual vacuum. For example, a 1-liter sample with a vacuum of 5-inches of mercury would have a MRL approximately 2.4 times higher than the values provided in the following table. If there are high concentrations of nontarget analytes in the samples (e.g., methylene chloride, acetone, toluene), the laboratory may dilute the sample to avoid overloading and damaging its instruments. MFA will coordinate with the laboratory to obtain the lowest possible MRLs.

Table
Analytes, Reporting Limits, and Screening Levels (µg/m³)

Analyte	CAS Number	Reporting Limit	Screening Level—Air	Screening Level —Soil Gas
PCE	127-18-4	0.14	9.6	. 96
TCE	79-01-6	0.016	0.37	3.7
1,1-DCE	75-35-4	0.04	91	910
cis-1,2-DCE	156-59-2	0.08	16	160
trans-1,2-DCE	156-60-5	0.40	32	320
1,1-DCA	75-34-3	0.08	320	3200
Chloroethane	75-00-3	0.13	3	30
Vinyl chloride	75-01-4	0.03	0.28	2.8
Helium	7440-59-7	81799	NE	NE

#### NOTES:

Screening levels are based on Table B-1 of Ecology Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action. Values for PCE and TCE are based on CLARC guidance dated September, 2012.

CAS = Chemical Abstract Service

NE = Not Established

 $\mu g/m^3 = micrograms per cubic meter.$ 

MFA will receive the data electronically from the laboratory and the data will be transferred to a GISKey© database. The data will be validated consistent with Ecology and USEPA protocols. To document data reliability, a memorandum will be prepared summarizing



12/5/2012

Mr. Thomas Ashton Maul Foster and Alongi Inc. 2001 NW 19th Ave Suite 200 Portland OR 97209

Project Name: Park Laundry Project #: 8006.31.01-05 Workorder #: 1211514C

Dear Mr. Thomas Ashton

The following report includes the data for the above referenced project for sample(s) received on 11/26/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

**Project Manager** 

Elly Butte



#### **WORK ORDER #: 1211514C**

#### Work Order Summary

CLIENT: Mr. Thomas Ashton BILL TO: Accounts Payable

Maul Foster and Alongi Inc.

Maul Foster and Alongi Inc.

2001 NW 19th Ave 400 E. Mill Plain Blvd

Suite 200 Suite 400

Portland, OR 97209 Vancouver, WA 98660

**PHONE:** 971-544-2139 **P.O.** #

**FAX:** 971-544-2140 **PROJECT** # 8006.31.01-05 Park Laundry

**DATE RECEIVED:** 11/26/2012 **CONTACT:** Kelly Buettner **DATE COMPLETED:** 12/05/2012

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
11A	1-SS1-111512	Modified ASTM D-1946	3.4 "Hg	15 psi
12A	1-SS2-111512	Modified ASTM D-1946	2.6 "Hg	15 psi
13A	1-SS3-111512	Modified ASTM D-1946	3.2 "Hg	15 psi
14A	7-SS1-111512	Modified ASTM D-1946	3.8 "Hg	15 psi
15A	7-SS2-111512	Modified ASTM D-1946	4.8 "Hg	15 psi
16A	7-SS3-111512	Modified ASTM D-1946	3.2 "Hg	15 psi
17A	11-SS1-111512	Modified ASTM D-1946	0.2 "Hg	15 psi
18A	11-SS2-111512	Modified ASTM D-1946	3.8 "Hg	15 psi
18AA	11-SS2-111512 Lab Duplicate	Modified ASTM D-1946	3.8 "Hg	15 psi
19A	11-SS3-111512	Modified ASTM D-1946	6.4 "Hg	15 psi
20A	11-SS4-111512	Modified ASTM D-1946	3.4 "Hg	15 psi
21A	Lab Blank	Modified ASTM D-1946	NA	NA
22A	LCS	Modified ASTM D-1946	NA	NA
22AA	LCSD	Modified ASTM D-1946	NA	NA

	fleide flages	
CERTIFIED BY:		DATE: $\frac{12/05/12}{}$

Technical Director

Certfication numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291, TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.

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

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.





#### LABORATORY NARRATIVE Modified ASTM D-1946 Maul Foster and Alongi Inc. Workorder# 1211514C

Ten 1 Liter Summa Canister (100% Certified) samples were received on November 26, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Helium in air using GC/TCD. The method involves direct injection of 1.0 mL of sample.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	ASTM D-1946	ATL Modifications
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a >/= 95% accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections > 5 X's the RL.

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

There were no analytical discrepancies.



#### **Definition of Data Qualifying Flags**

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

- B Compound present in laboratory blank greater than reporting limit.
- 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 detection limit.
- M Reported value may be biased due to apparent matrix interferences.

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



# Summary of Detected Compounds NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: 1-SS1-111512

Lab ID#: 1211514C-11A
No Detections Were Found.

Client Sample ID: 1-SS2-111512

Lab ID#: 1211514C-12A
No Detections Were Found.

Client Sample ID: 1-SS3-111512

Lab ID#: 1211514C-13A
No Detections Were Found.

**Client Sample ID: 7-SS1-111512** 

Lab ID#: 1211514C-14A
No Detections Were Found.

Client Sample ID: 7-SS2-111512

Lab ID#: 1211514C-15A

	Rpt. Limit	Amount
Compound	(%)	(%)
Helium	0.12	0.59

**Client Sample ID: 7-SS3-111512** 

Lab ID#: 1211514C-16A

	Rpt. Limit	Amount
Compound	(%)	(%)
Helium	0.11	0.24

**Client Sample ID: 11-SS1-111512** 

Lab ID#: 1211514C-17A
No Detections Were Found.

**Client Sample ID: 11-SS2-111512** 

Lab ID#: 1211514C-18A



# Summary of Detected Compounds NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

**Client Sample ID: 11-SS2-111512** 

Lab ID#: 1211514C-18A

	Rpt. Limit	Amount
Compound	(%)	(%)
Helium	0.12	0.38

Client Sample ID: 11-SS2-111512 Lab Duplicate

Lab ID#: 1211514C-18AA

	Rpt. Limit	Amount
Compound	(%)	(%)
Helium	0.12	0.36

**Client Sample ID: 11-SS3-111512** 

Lab ID#: 1211514C-19A
No Detections Were Found.

**Client Sample ID: 11-SS4-111512** 

Lab ID#: 1211514C-20A
No Detections Were Found.



### Client Sample ID: 1-SS1-111512 Lab ID#: 1211514C-11A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113006	Date of Colle	ction: 11/15/12 4:37:00 PM
Dil. Factor:	2.28	Date of Analy	ysis: 11/30/12 09:17 AM
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.11	Not Detected



### Client Sample ID: 1-SS2-111512 Lab ID#: 1211514C-12A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113007		ction: 11/15/12 5:10:00 PM
Dil. Factor:	2.21	.21 Date of Analysis: 11/30/12	
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.11	Not Detected



### Client Sample ID: 1-SS3-111512 Lab ID#: 1211514C-13A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113005	Date of Colle	ection: 11/15/12 5:23:00 PM
Dil. Factor:	2.26	Date of Analy	ysis: 11/30/12 09:08 AM
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.11	Not Detected



### Client Sample ID: 7-SS1-111512 Lab ID#: 1211514C-14A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113008	Date of Colle	ection: 11/15/12 1:10:00 PM
Dil. Factor:	2.31	Date of Analysis: 11/30/12 09:37 AM	
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.12	Not Detected



### Client Sample ID: 7-SS2-111512 Lab ID#: 1211514C-15A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name: Dil. Factor:	9113009 2.40		etion: 11/15/12 1:29:00 PM sis: 11/30/12 09:45 AM
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.12	0.59



### Client Sample ID: 7-SS3-111512 Lab ID#: 1211514C-16A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name: Dil. Factor:	9113010 2.26		ction: 11/15/12 2:07:00 PM sis: 11/30/12 09:56 AM
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.11	0.24



### Client Sample ID: 11-SS1-111512 Lab ID#: 1211514C-17A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113011	Date of Colle	ection: 11/15/12 2:35:00 PM
Dil. Factor:	2.03	Date of Analysis: 11/30/12 10:06 AM	
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.10	Not Detected



### Client Sample ID: 11-SS2-111512 Lab ID#: 1211514C-18A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name: Dil. Factor:	9113012 2.31		ction: 11/15/12 3:24:00 PM sis: 11/30/12 10:15 AM
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.12	0.38



### Client Sample ID: 11-SS2-111512 Lab Duplicate

### Lab ID#: 1211514C-18AA

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name: Dil. Factor:	9113013 2.31	Date of Collection: 11/15/12 3:24:00 Date of Analysis: 11/30/12 10:24 AM	
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.12	0.36



### Client Sample ID: 11-SS3-111512 Lab ID#: 1211514C-19A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113014	Date of Colle	ection: 11/15/12 3:30:00 PM
Dil. Factor:	2.57	Date of Analysis: 11/30/12 10:36 AM	
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.13	Not Detected



### Client Sample ID: 11-SS4-111512 Lab ID#: 1211514C-20A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113015	Date of Colle	ction: 11/15/12 4:22:00 PM
Dil. Factor:	2.28	Date of Analysis: 11/30/12 10:43 Al	
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.11	Not Detected



### Client Sample ID: Lab Blank Lab ID#: 1211514C-21A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113004	Date of Colle	ction: NA
Dil. Factor:	1.00	Date of Analy	vsis: 11/30/12 08:53 AM
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.050	Not Detected



### Client Sample ID: LCS Lab ID#: 1211514C-22A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name: 9113003 Date of Collection: NA

Dil. Factor: 1.00 Date of Analysis: 11/30/12 08:41 AM

Compound %Recovery

Helium 103



### Client Sample ID: LCSD Lab ID#: 1211514C-22AA

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name: 9113026 Date of Collection: NA

Dil. Factor: 1.00 Date of Analysis: 11/30/12 12:34 PM

Compound %Recovery

Helium 107



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Page 3 of 5

Project Manager Bill Beautie / Merideth D. Andrea					Project Info:					Lab Use Only Pressurized by:		
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Company MFA Email							☑ Normal		Date:			
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### CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping

180 BLUE RAVINE ROAD, SUITE B

FOLSOM, CA 95630-4719

(916) 985-1000 FAX (916) 985-1020 of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

(916) 985-1000 FAX (916) 985-1020

Page \_\_\_\_\_ of \_\_\_\_\_\_

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Project No. 8006.31.01

Mr. Guy Barrett October 12, 2012 Page 5

### SAMPLE ANALYSIS AND QUALITY ASSURANCE

Samples will be analyzed for PCE and associated breakdown products (TCE; 1,1-DCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCA; Chloroethane; and vinyl chloride) by Modified U.S. Environmental Protection Agency (USEPA) Method TO-15 selected ion monitoring method to achieve low reporting limits. Eurofins/Air Toxics of Folsom, California, will provide a 6-liter or 1-liter, stainless steel canister (Summa canister) for each sample. Laboratory-specific method reporting limits (MRLs) for VOCs are listed in the following table. The MRLs assume a 6-liter sample size, with the canister dilution factor not incorporated. The dilution factor is determined by the canister size and residual vacuum. For example, a 1-liter sample with a vacuum of 5-inches of mercury would have a MRL approximately 2.4 times higher than the values provided in the following table. If there are high concentrations of nontarget analytes in the samples (e.g., methylene chloride, acetone, toluene), the laboratory may dilute the sample to avoid overloading and damaging its instruments. MFA will coordinate with the laboratory to obtain the lowest possible MRLs.

Table
Analytes, Reporting Limits, and Screening Levels (µg/m³)

Analyte	CAS Number	Reporting Limit	Screening Level—Air	Screening Level —Soil Gas
PCE	127-18-4	0.14	9.6	. 96
TCE	79-01-6	0.016	0.37	3.7
1,1-DCE	75-35-4	0.04	91	910
cis-1,2-DCE	156-59-2	80.0	16	160
trans-1,2-DCE	156-60-5	0.40	32	320
1,1-DCA	75-34-3	80.0	320	3200
Chloroethane	75-00-3	0.13	3	30
Vinyl chloride	75-01-4	0.03	0.28	2.8
Helium	7440-59-7	81799	NE	NE

NOTES:

Screening levels are based on Table B-1 of Ecology Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action. Values for PCE and TCE are based on CLARC guidance dated September, 2012.

CAS = Chemical Abstract Service

NE = Not Established

 $\mu g/m^3 = micrograms per cubic meter.$ 

MFA will receive the data electronically from the laboratory and the data will be transferred to a GISKey© database. The data will be validated consistent with Ecology and USEPA protocols. To document data reliability, a memorandum will be prepared summarizing



1/13/2013

Mr. Thomas Ashton Maul Foster and Alongi Inc. 2001 NW 19th Ave Suite 200 Portland OR 97209

Project Name: Park Laundry Project #: 8006.31.01-05 Workorder #: 1211514DR1

Dear Mr. Thomas Ashton

The following report includes the data for the above referenced project for sample(s) received on 11/26/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

**Project Manager** 

Welly Butte



#### **WORK ORDER #:** 1211514DR1

Work Order Summary

**CLIENT:** Mr. Thomas Ashton **BILL TO:** Accounts Payable

> Maul Foster and Alongi Inc. Maul Foster and Alongi Inc.

2001 NW 19th Ave 400 E. Mill Plain Blvd

Suite 200 Suite 400

Portland, OR 97209 Vancouver, WA 98660

PHONE: 971-544-2139 P.O. #

FAX: 971-544-2140 PROJECT# 8006.31.01-05 Park Laundry

DATE RECEIVED: 11/26/2012 **CONTACT:** Kelly Buettner

**DATE COMPLETED:** 12/13/2012 DATE REISSUED: 01/13/2013

			RECEIPT	FINAL
FRACTION #	NAME	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
01A	10-IA1-111512	Modified TO-15 SIM	7.0 "Hg	5 psi
02A	10-IA2-111512	Modified TO-15 SIM	5.0 "Hg	5 psi
03A	10-CS1-111512	Modified TO-15 SIM	0.8 "Hg	5 psi
04A	11-IA1-111512	Modified TO-15 SIM	4.8 "Hg	5 psi
05A	11-IA2-111512	Modified TO-15 SIM	3.6 "Hg	5 psi
06A	11-IA3-111512	Modified TO-15 SIM	3.6 "Hg	5 psi
07A	13-IA1-111612	Modified TO-15 SIM	4.2 "Hg	5 psi
08A	13-IA2-111612	Modified TO-15 SIM	4.8 "Hg	5 psi
09A	24-IA1-111612	Modified TO-15 SIM	3.8 "Hg	5 psi
10A	24-IA2-111612	Modified TO-15 SIM	4.0 "Hg	5 psi
11A	Lab Blank	Modified TO-15 SIM	NA	NA
12A	CCV	Modified TO-15 SIM	NA	NA
13A	LCS	Modified TO-15 SIM	NA	NA
13AA	LCSD	Modified TO-15 SIM	NA	NA

	The	eral player			
CERTIFIED BY:			DATE:	01/13/13	

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291, TX NELAP - T104704434-12-4, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.

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

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.







#### LABORATORY NARRATIVE Modified TO-15 SIM Maul Foster and Alongi Inc. Workorder# 1211514DR1

Ten 6 Liter Summa Canister (SIM Certified) samples were received on November 26, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition 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.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	<pre><!--=30% RSD with 2 compounds allowed out to < 40% RSD</pre--></pre>	Project specific; default criteria is =30% RSD with 10% of compounds allowed out to < 40% RSD</td
Daily Calibration	+- 30% Difference	Project specific; default criteria is = 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers</td
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

There were no analytical discrepancies.

This workorder was created to evaluate Trichloroethene (TCE) and 1,2-Dichloroethane (1,2-DCA) in all samples down to the Method Detection Limit to allow for comparison of results to the required screening levels. Please note that this workorder fraction contains only a subset of the requested analytes. The full list evaluated to the Reporting Limit (RL), including TCE and 1,2-DCA, were reported in workorder 1211514A on 12-13-12.

All canisters used for this project have been certified to the RL for the target analytes. Concentrations that are below the level at which the canister was certified may be false positives.

THE WORK ORDER WAS RE-ISSUED ON 1/13/13 TO INCLUDE THE MDL VALUES IN THE FINAL REPORT.



#### **Definition of Data Qualifying Flags**

Eight 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.
  - UJ- Non-detected compound associated with low bias in the CCV
  - N The identification is based on presumptive evidence.

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



**Client ID:** 10-IA1-111512

**Lab ID:** 1211514DR1-01A **Date/Time Analyzed:** 12/5/12 08:53 AM

**Date/Time Collecte** 11/15/12 10:03 AM **Dilution Factor:** 1.75

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msda.i / a120419simD

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.0076	0.035	0.14	0.33	
Trichloroethene	79-01-6	0.026	0.047	0.19	0.030 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	116
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	100



Client ID: 10-IA2-111512

**Lab ID:** 1211514DR1-02A

**Date/Time Collecte** 11/15/12 10:07 AM **Dilution Factor:** 1.61

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msda.i / a120420simD

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.0070	0.032	0.13	0.44	
Trichloroethene	79-01-6	0.024	0.043	0.17	0.026 J	

Date/Time Analyzed:

12/5/12 09:30 AM

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	117
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	102



Client ID: 10-CS1-111512

**Lab ID:** 1211514DR1-03A

**Date/Time Collecte** 11/15/12 10:14 AM

Media: 6 Liter Summa Canister (SIM Certified)

Date/Time Analyzed: 12/5/12 10:06 AM

**Dilution Factor:** 1.38

Instrument/Filename: msda.i / a120421simD

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,2-Dichloroethane	107-06-2	0.0060	0.028	0.11	0.063 J	
Trichloroethene	79-01-6	0.021	0.037	0.15	0.035 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	114
4-Bromofluorobenzene	460-00-4	70-130	94
Toluene-d8	2037-26-5	70-130	101



**Client ID:** 11-IA1-111512

**Lab ID:** 1211514DR1-04A **Date/Time Analyzed:** 12/5/12 10:42 AM

Date/Time Collecte 11/15/12 10:40 AM Dilution Factor: 1.60

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msda.i / a120422simD

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.0070	0.032	0.13	0.22	
Trichloroethene	79-01-6	0.024	0.043	0.17	0.043 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	114
4-Bromofluorobenzene	460-00-4	70-130	97
Toluene-d8	2037-26-5	70-130	101



Client ID: 11-IA2-111512

**Lab ID:** 1211514DR1-05A **Date/Time Analyzed:** 12/5/12 11:21 AM

**Date/Time Collecte** 11/15/12 10:42 AM **Dilution Factor:** 1.52

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msda.i / a120423simD

	242"	MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.0066	0.031	0.12	0.20	
Trichloroethene	79-01-6	0.023	0.041	0.16	0.051 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	113
4-Bromofluorobenzene	460-00-4	70-130	94
Toluene-d8	2037-26-5	70-130	100



Client ID: 11-IA3-111512

**Lab ID:** 1211514DR1-06A **Date/Time Analyzed:** 12/5/12 12:12 PM

Date/Time Collecte 11/15/12 10:43 AM Dilution Factor: 1.52

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msda.i / a120424simD

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.0066	0.031	0.12	0.19	
Trichloroethene	79-01-6	0.023	0.041	0.16	0.035 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	119
4-Bromofluorobenzene	460-00-4	70-130	98
Toluene-d8	2037-26-5	70-130	102



**Client ID:** 13-IA1-111612

**Lab ID:** 1211514DR1-07A **Date/Time Analyzed:** 12/5/12 12:48 PM

Date/Time Collecte 11/16/12 09:39 AM Dilution Factor: 1.56

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msda.i / a120425simD

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,2-Dichloroethane	107-06-2	0.0068	0.032	0.13	0.48	
Trichloroethene	79-01-6	0.023	0.042	0.17	0.030 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	115
4-Bromofluorobenzene	460-00-4	70-130	92
Toluene-d8	2037-26-5	70-130	100



**Client ID:** 13-IA2-111612

**Lab ID:** 1211514DR1-08A **Date/Time Analyzed:** 12/5/12 01:24 PM

Date/Time Collecte 11/16/12 09:46 AM Dilution Factor: 1.60

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msda.i / a120426simD

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.0070	0.032	0.13	0.67	
Trichloroethene	79-01-6	0.024	0.043	0.17	0.095 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	116
4-Bromofluorobenzene	460-00-4	70-130	95
Toluene-d8	2037-26-5	70-130	100



**Client ID:** 24-IA1-111612

**Lab ID:** 1211514DR1-09A **Date/Time Analyzed:** 12/5/12 02:00 PM

**Date/Time Collecte** 11/16/12 11:49 AM **Dilution Factor:** 1.53

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msda.i / a120427simD

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,2-Dichloroethane	107-06-2	0.0067	0.031	0.12	0.080 J	
Trichloroethene	79-01-6	0.023	0.041	0.16	0.068 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	118
4-Bromofluorobenzene	460-00-4	70-130	98
Toluene-d8	2037-26-5	70-130	101



**Client ID:** 24-IA2-111612

**Lab ID:** 1211514DR1-10A **Date/Time Analyzed:** 12/5/12 02:36 PM

**Date/Time Collecte** 11/16/12 10:58 AM **Dilution Factor:** 1.55

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msda.i / a120428simD

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.0068	0.031	0.12	0.080 J	
Trichloroethene	79-01-6	0.023	0.042	0.17	0.029 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	119
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	100



Client ID: Lab Blank

**Lab ID:** 1211514DR1-11A **Date/Time Analyzed:** 12/4/12 10:19 PM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msda.i / a120416simE

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.0044	0.020	0.081	Not Detected	
Trichloroethene	79-01-6	0.015	0.027	0.11	Not Detected	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	118
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	102



Client ID: CCV

**Lab ID:** 1211514DR1-12A **Date/Time Analyzed:** 12/4/12 06:01 PM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msda.i / a120412sim

Compound	CAS#	%Recovery
1,2-Dichloroethane	107-06-2	125
Trichloroethene	79-01-6	101

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	114	
4-Bromofluorobenzene	460-00-4	70-130	101	
Toluene-d8	2037-26-5	70-130	102	



Client ID: LCS

**Lab ID:** 1211514DR1-13A **Date/Time Analyzed:** 12/4/12 06:51 PM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msda.i / a120413sim

Compound	CAS#	%Recovery
1,2-Dichloroethane	107-06-2	120
Trichloroethene	79-01-6	95

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	121
4-Bromofluorobenzene	460-00-4	70-130	110
Toluene-d8	2037-26-5	70-130	106

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Client ID: LCSD

**Lab ID:** 1211514DR1-13AA **Date/Time Analyzed:** 12/4/12 07:46 PM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msda.i / a120414sim

Compound	CAS#	%Recovery
1,2-Dichloroethane	107-06-2	116
Trichloroethene	79-01-6	96

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	122
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	110

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Sample Transportation Notice
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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA 95630-4719 (916) 985-1000 FAX (916) 985-1020

Page 3 of 5.

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Sample Transportation Notice

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Page \_\_\_\_\_ of \_\_\_\_5

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Project No. 8006.31.01

Mr. Guy Barrett October 12, 2012 Page 5

### SAMPLE ANALYSIS AND QUALITY ASSURANCE

Samples will be analyzed for PCE and associated breakdown products (TCE; 1,1-DCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCA; Chloroethane; and vinyl chloride) by Modified U.S. Environmental Protection Agency (USEPA) Method TO-15 selected ion monitoring method to achieve low reporting limits. Eurofins/Air Toxics of Folsom, California, will provide a 6-liter or 1-liter, stainless steel canister (Summa canister) for each sample. Laboratory-specific method reporting limits (MRLs) for VOCs are listed in the following table. The MRLs assume a 6-liter sample size, with the canister dilution factor not incorporated. The dilution factor is determined by the canister size and residual vacuum. For example, a 1-liter sample with a vacuum of 5-inches of mercury would have a MRL approximately 2.4 times higher than the values provided in the following table. If there are high concentrations of nontarget analytes in the samples (e.g., methylene chloride, acetone, toluene), the laboratory may dilute the sample to avoid overloading and damaging its instruments. MFA will coordinate with the laboratory to obtain the lowest possible MRLs.

Table
Analytes, Reporting Limits, and Screening Levels (µg/m³)

Analyte	CAS Number	Reporting Limit	Screening Level—Air	Screening Level —Soil Gas
PCE	127-18-4	0.14	9.6	. 96
TCE	79-01-6	0.016	0.37	3.7
1,1-DCE	75-35-4	0.04	91	910
cis-1,2-DCE	156-59-2	0.08	16	<sub>4</sub> 160
trans-1,2-DCE	156-60-5	0.40	32	· 320
1,1-DCA	75-34-3	0.08	320	3200
Chloroethane	75-00-3	0.13	3	30
Vinyl chloride	75-01-4	0.03	0,28	2.8
Helium	7440-59-7	81799	NE	ŅЕ

NOTES:

Screening levels are based on Table B-1 of Ecology Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action, Values for PCE and TCE are based on CLARC guidance dated September, 2012.

CAS = Chemical Abstract Service

NE = Not Established

 $\mu g/m^3 = micrograms per cubic meter.$ 

MFA will receive the data electronically from the laboratory and the data will be transferred to a GISKey© database. The data will be validated consistent with Ecology and USEPA protocols. To document data reliability, a memorandum will be prepared summarizing



1/14/2013

Mr. Thomas Ashton Maul Foster and Alongi Inc. 2001 NW 19th Ave Suite 200 Portland OR 97209

Project Name: Park Laundry Project #: 8006.31.01-05 Workorder #: 1211514ER2

Dear Mr. Thomas Ashton

The following report includes the data for the above referenced project for sample(s) received on 11/26/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

**Project Manager** 

Welly Butte



### **WORK ORDER #: 1211514ER2**

Work Order Summary

CLIENT: Mr. Thomas Ashton BILL TO: Accounts Payable

Maul Foster and Alongi Inc.

Maul Foster and Alongi Inc.

2001 NW 19th Ave 400 E. Mill Plain Blvd

Suite 200 Suite 400

Portland, OR 97209 Vancouver, WA 98660

**PHONE:** 971-544-2139 **P.O.** #

**FAX:** 971-544-2140 **PROJECT** # 8006.31.01-05 Park Laundry

DATE RECEIVED: 11/26/2012 CONTACT: Kelly Buettner

**DATE COMPLETED:** 12/13/2012 **DATE REISSUED:** 01/14/2013

			RECEIPT	FINAL
FRACTION #	NAME	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
11A	1-SS1-111512	Modified TO-15	3.4 "Hg	15 psi
12A	1-SS2-111512	Modified TO-15	2.6 "Hg	15 psi
13A	1-SS3-111512	Modified TO-15	3.2 "Hg	15 psi
14A	7-SS1-111512	Modified TO-15	3.8 "Hg	15 psi
15A	7-SS2-111512	Modified TO-15	4.8 "Hg	15 psi
16A	7-SS3-111512	Modified TO-15	3.2 "Hg	15 psi
17A	11-SS1-111512	Modified TO-15	0.2 "Hg	15 psi
18A	11-SS2-111512	Modified TO-15	3.8 "Hg	15 psi
19A	11-SS3-111512	Modified TO-15	6.4 "Hg	15 psi
20A	11-SS4-111512	Modified TO-15	3.4 "Hg	15 psi
21A	Lab Blank	Modified TO-15	NA	NA
22A	CCV	Modified TO-15	NA	NA
23A	LCS	Modified TO-15	NA	NA
23AA	LCSD	Modified TO-15	NA	NA

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CERTIFIED BY:	0 0	DATE: $\frac{01/14/13}{}$

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291, TX NELAP - T104704434-12-4, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.

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

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.







### LABORATORY NARRATIVE Modified TO-15 Maul Foster and Alongi Inc. Workorder# 1211514ER2

Ten 1 Liter Summa Canister (100% Certified) samples were received on November 26, 2012. The laboratory performed analysis via modified 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.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
Initial Calibration	=30% RSD with 2<br compounds allowed out to < 40% RSD	$<\!\!/=\!\!30\%$ RSD with 4 compounds allowed out to $<\!40\%$ RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

### **Receiving Notes**

There were no receiving discrepancies.

### **Analytical Notes**

Dilution was performed on samples 11-SS2-111512, 11-SS3-111512, and 11-SS4-111512 due to the presence of high level non-target species.

This workorder was created to evaluate Trichloroethene (TCE) and 1,2-Dichloroethane (1,2-DCA) in all samples down to the Method Detection Limit to allow for comparison of results to the required screening levels. Please note that this workorder fraction contains only a subset of the requested analytes. The full list evaluated to the Reporting Limit (RL), including TCE and 1,2-DCA, were reported in workorder 1211514B on 12-13-12.

All canisters used for this project have been certified to the RL for the target analytes. Concentrations that are below the level at which the canister was certified may be false positives.

THE WORK ORDER WAS RE-ISSUED ON 1/14/13 TO INCLUDE THE MDL VALUES IN THE FINAL REPORT.

THE WORK ORDER WAS REISSUED ON 1/14/13 TO APPLY THE REPORTING LIMITS AND ASSOCIATED RESULTS GENERATED FROM THE FULL SCAN TO-15 DATA FILE CONSISTENT WITH WORKORDER 1211515A, RATHER THAN THE LOWER SIM REPORTING LIMITS AND RESULTS GENERATED FROM THE TO-15 SIM DATA FILE. CHANGING THE REPORTING LIMITS FROM SIM TO FULL SCAN CAUSED SOME



PREVIOUSLY REPORTED COMPOUNDS TO BE BELOW THE REPORTING LIMIT AND WERE THEREFORE REPORTED AS "NOT DETECTED".

### **Definition of Data Qualifying Flags**

Eight 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.
  - UJ- Non-detected compound associated with low bias in the CCV
  - N The identification is based on presumptive evidence.

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



**Client ID:** 1-SS1-111512

**Lab ID:** 1211514ER2-11A **Date/Time Analyzed:** 11/30/12 02:10 PM

Date/Time Collecte 11/15/12 04:37 PM Dilution Factor: 2.28

Media: 1 Liter Summa Canister (100% Certified) Instrument/Filename: msdv.i / v113010er1

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.075	0.46	0.92	Not Detected	
Trichloroethene	79-01-6	0.19	0.61	1.2	0.29 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	97
4-Bromofluorobenzene	460-00-4	70-130	110
Toluene-d8	2037-26-5	70-130	103



**Client ID:** 1-SS2-111512

**Lab ID:** 1211514ER2-12A **Date/Time Analyzed:** 11/30/12 03:04 PM

Date/Time Collecte 11/15/12 05:10 PM Dilution Factor: 2.21

Media: 1 Liter Summa Canister (100% Certified) Instrument/Filename: msdv.i / v113011er1

		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,2-Dichloroethane	107-06-2	0.073	0.45	0.89	Not Detected
Trichloroethene	79-01-6	0.18	0.59	1.2	Not Detected

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	100
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	97



**Client ID:** 1-SS3-111512

**Lab ID:** 1211514ER2-13A **Date/Time Analyzed:** 11/30/12 04:25 PM

Date/Time Collecte 11/15/12 05:23 PM Dilution Factor: 2.26

Media: 1 Liter Summa Canister (100% Certified) Instrument/Filename: msdv.i / v113012er1

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.074	0.46	0.91	Not Detected	
Trichloroethene	79-01-6	0.19	0.61	1.2	0.35 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	101
4-Bromofluorobenzene	460-00-4	70-130	110
Toluene-d8	2037-26-5	70-130	100



**Client ID:** 7-SS1-111512

**Lab ID:** 1211514ER2-14A **Date/Time Analyzed:** 11/30/12 05:02 PM

Date/Time Collecte 11/15/12 01:10 PM Dilution Factor: 2.31

Media: 1 Liter Summa Canister (100% Certified) Instrument/Filename: msdv.i / v113013er1

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.076	0.47	0.93	Not Detected	
Trichloroethene	79-01-6	0.19	0.62	1.2	0.31 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	100
4-Bromofluorobenzene	460-00-4	70-130	104
Toluene-d8	2037-26-5	70-130	99



**Client ID:** 7-SS2-111512

**Lab ID:** 1211514ER2-15A **Date/Time Analyzed:** 11/30/12 05:52 PM

**Date/Time Collecte** 11/15/12 01:29 PM **Dilution Factor:** 2.40

Media: 1 Liter Summa Canister (100% Certified) Instrument/Filename: msdv.i / v113014er1

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.079	0.48	0.97	Not Detected	
Trichloroethene	79-01-6	0.20	0.64	1.3	0.36 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	102
4-Bromofluorobenzene	460-00-4	70-130	109
Toluene-d8	2037-26-5	70-130	103



**Client ID:** 7-SS3-111512

**Lab ID:** 1211514ER2-16A **Date/Time Analyzed:** 11/30/12 06:43 PM

Date/Time Collecte 11/15/12 02:07 PM Dilution Factor: 2.26

Media: 1 Liter Summa Canister (100% Certified) Instrument/Filename: msdv.i / v113015er1

		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,2-Dichloroethane	107-06-2	0.074	0.46	0.91	Not Detected
Trichloroethene	79-01-6	0.19	0.61	1.2	Not Detected

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	99	
4-Bromofluorobenzene	460-00-4	70-130	108	
Toluene-d8	2037-26-5	70-130	101	



**Client ID:** 11-SS1-111512

**Lab ID:** 1211514ER2-17A **Date/Time Analyzed:** 11/30/12 07:19 PM

Date/Time Collecte 11/15/12 02:35 PM Dilution Factor: 2.03

Media: 1 Liter Summa Canister (100% Certified) Instrument/Filename: msdv.i / v113016er1

		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,2-Dichloroethane	107-06-2	0.067	0.41	0.82	0.22 J
Trichloroethene	79-01-6	0.17	0.54	1.1	Not Detected

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	102
4-Bromofluorobenzene	460-00-4	70-130	106
Toluene-d8	2037-26-5	70-130	98



**Client ID:** 11-SS2-111512

**Lab ID:** 1211514ER2-18A **Date/Time Analyzed:** 11/30/12 08:55 PM

Date/Time Collecte 11/15/12 03:24 PM Dilution Factor: 4.62

Media: 1 Liter Summa Canister (100% Certified) Instrument/Filename: msdv.i / v113017er1

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.15	0.93	1.9	0.72 J	
Trichloroethene	79-01-6	0.38	1.2	2.5	Not Detected	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	103
4-Bromofluorobenzene	460-00-4	70-130	107
Toluene-d8	2037-26-5	70-130	100



**Client ID:** 11-SS3-111512

**Lab ID:** 1211514ER2-19A **Date/Time Analyzed:** 11/30/12 09:31 PM

Date/Time Collecte 11/15/12 03:30 PM Dilution Factor: 5.14

Media: 1 Liter Summa Canister (100% Certified) Instrument/Filename: msdv.i / v113018er1

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.17	1.0	2.1	Not Detected	
Trichloroethene	79-01-6	0.42	1.4	2.8	Not Detected	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	101
4-Bromofluorobenzene	460-00-4	70-130	109
Toluene-d8	2037-26-5	70-130	100



**Client ID:** 11-SS4-111512

**Lab ID:** 1211514ER2-20A **Date/Time Analyzed:** 11/30/12 10:17 PM

Date/Time Collecte 11/15/12 04:22 PM Dilution Factor: 7.12

Media: 1 Liter Summa Canister (100% Certified) Instrument/Filename: msdv.i / v113019er1

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.23	1.4	2.9	Not Detected	
Trichloroethene	79-01-6	0.59	1.9	3.8	Not Detected	

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



Client ID: Lab Blank

**Lab ID:** 1211514ER2-21A **Date/Time Analyzed:** 11/30/12 01:08 PM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdv.i / v113009er1

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.033	0.20	0.40	Not Detected	
Trichloroethene	79-01-6	0.082	0.27	0.54	Not Detected	

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	98	
4-Bromofluorobenzene	460-00-4	70-130	103	
Toluene-d8	2037-26-5	70-130	99	



Client ID: CCV

**Lab ID:** 1211514ER2-22A **Date/Time Analyzed:** 11/30/12 09:02 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdv.i / v113004

Compound	CAS#	%Recovery
1,2-Dichloroethane	107-06-2	110
Trichloroethene	79-01-6	98

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	106
4-Bromofluorobenzene	460-00-4	70-130	108
Toluene-d8	2037-26-5	70-130	100



Client ID: LCS

**Lab ID:** 1211514ER2-23A **Date/Time Analyzed:** 11/30/12 09:49 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdv.i / v113005

Compound	CAS#	%Recovery
1,2-Dichloroethane	107-06-2	104
Trichloroethene	79-01-6	92

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	97
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	99

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Client ID: LCSD

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdv.i / v113006

Compound	CAS#	%Recovery
1,2-Dichloroethane	107-06-2	102
Trichloroethene	79-01-6	91

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	96

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



### CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA 95630-4719 (916) 985-1000 FAX (916) 985-1020

Page 3 of 5

Project Manager Bill Beautie / Merideth D'Andrea			Project Info:			Turn Around Time:		Lab Use Only				
Collected by: (Print and Sign) Thomas Ashbo			P.O. #			☐ Normal		Pressurized by:				
Company_ /\sqrt{A}Email								Date:				
Address Zac. We 19th Hop. City Portland State OR Zip 97209			Project # 3006.31.01~05			Rush		Pressurization Gas:				
Phone 5 <u>৩৪-৭ প্ৰ-প্ৰাণ্ড</u> 5৩ Fax			Project Name Park Laundry			S	pecify	N <sub>2</sub> He		<del>)</del>		
			D	Date Time				Canis		ter Pressure/Vacuum		
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98 A	13-IAZ-111612	5600	11/	6/12	09:46		Copy of the Copy o		-30			- Company of the Comp
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Only	UPS W26/12				·							STREET, STREET



# CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping

180 BLUE RAVINE ROAD, SUITE B

FOLSOM, CA 95630-4719

(916) 985-1000 FAX (916) 985-1020 of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

(916) 985-1000 FAX (916) 985-1020

Page \_\_\_\_\_ of \_\_\_\_\_\_

Project Manager Bill Bestie Medidoth DiAndrea			Project Info:				Around ime:	Lab Use	-				
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Phone 503	-944-9715 Fax				Project	Name Park	lacia.	ndly	s	pecify		N <sub>2</sub> He	9
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15/1	7-552-111512		35690	11/	15/12	13:29				-225	- 4		Grand Burner
19 W	7-553-111512		97105	11/	15/12	14:07		2 Associate		-30	-4.5		
17K	11-551-111512		9453	11/)	5/12	14:35				- 29.5	-4.5		
(8 bx	11-352-111512		346ca	11/1	5/12	15:24				-28	-4.5		
161 bt	11-553-111512		9518	11/1	5/12	15:30		- Colonia de la		-29.5	-4.5		
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Project No. 8006.31.01

Mr. Guy Barrett October 12, 2012 Page 5

#### SAMPLE ANALYSIS AND QUALITY ASSURANCE

Samples will be analyzed for PCE and associated breakdown products (TCE; 1,1-DCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCA; Chloroethane; and vinyl chloride) by Modified U.S. Environmental Protection Agency (USEPA) Method TO-15 selected ion monitoring method to achieve low reporting limits. Eurofins/Air Toxics of Folsom, California, will provide a 6-liter or 1-liter, stainless steel canister (Summa canister) for each sample. Laboratory-specific method reporting limits (MRLs) for VOCs are listed in the following table. The MRLs assume a 6-liter sample size, with the canister dilution factor not incorporated. The dilution factor is determined by the canister size and residual vacuum. For example, a 1-liter sample with a vacuum of 5-inches of mercury would have a MRL approximately 2.4 times higher than the values provided in the following table. If there are high concentrations of nontarget analytes in the samples (e.g., methylene chloride, acetone, toluene), the laboratory may dilute the sample to avoid overloading and damaging its instruments. MFA will coordinate with the laboratory to obtain the lowest possible MRLs.

Table
Analytes, Reporting Limits, and Screening Levels (µg/m³)

Analyte	CAS Number	Reporting Limit	Screening Level—Air	Screening Level —Soil Gas
PCE	127-18-4	0.14	9.6	. 96
TCE	79-01-6	0.016	0.37	3.7
1,1-DCE	75-35-4	0.04	91	910
cis-1,2-DCE	156-59-2	0.08	16	160
trans-1,2-DCE	156-60-5	0.40	32	320
1,1-DCA	75-34-3	0.08	320	3200
Chloroethane	75-00-3	0.13	3	30
Vinyl chloride	75-01-4	0.03	0.28	2.8
Helium	7440-59-7	81799	NE	NE

#### NOTES:

Screening levels are based on Table B-1 of Ecology Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action. Values for PCE and TCE are based on CLARC guidance dated September, 2012.

CAS = Chemical Abstract Service

NE = Not Established

 $\mu g/m^3 = micrograms per cubic meter.$ 

MFA will receive the data electronically from the laboratory and the data will be transferred to a GISKey© database. The data will be validated consistent with Ecology and USEPA protocols. To document data reliability, a memorandum will be prepared summarizing



Mr. Thomas Ashton Maul Foster and Alongi Inc.

2001 NW 19th Ave

Suite 200

12/13/2012

Portland OR 97209

Project Name: Park Laundry Project #: 8006.31.01-05 Workorder #: 1211515A

Dear Mr. Thomas Ashton

The following report includes the data for the above referenced project for sample(s) received on 11/26/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

**Project Manager** 

Elly Butte



#### **WORK ORDER #:** 1211515A

#### Work Order Summary

**CLIENT:** Mr. Thomas Ashton **BILL TO:** Accounts Payable

> Maul Foster and Alongi Inc. Maul Foster and Alongi Inc.

2001 NW 19th Ave 400 E. Mill Plain Blvd

Suite 200 Suite 400

Portland, OR 97209 Vancouver, WA 98660

PHONE: 971-544-2139 P.O. #

FAX: 971-544-2140 PROJECT# 8006.31.01-05 Park Laundry

DATE RECEIVED: 11/26/2012 **CONTACT:** Kelly Buettner **DATE COMPLETED:** 12/13/2012

FRACTION #	<u>NAME</u>	<u>TEST</u>	RECEIPT <u>VAC./PRES.</u>	FINAL <u>PRESSURE</u>
01A	13-SS1-111612	Modified TO-15	2.0 "Hg	15 psi
02A	1-SG1-111512	Modified TO-15	2.2 "Hg	15 psi
03A	5-SG1-111512	Modified TO-15	3.6 "Hg	15 psi
04A	11-SG1-111612	Modified TO-15	3.6 "Hg	15 psi
05A	13-SG1-111512	Modified TO-15	5.8 "Hg	15 psi
06A	24-SG1-111512	Modified TO-15	5.2 "Hg	15 psi
07A	27-SG1-111512	Modified TO-15	2.2 "Hg	15 psi
08A	45-SG1-111512	Modified TO-15	3.2 "Hg	15 psi
09A	46-SG1-111512	Modified TO-15	1.8 "Hg	15 psi
10A	Lab Blank	Modified TO-15	NA	NA
11A	CCV	Modified TO-15	NA	NA
12A	LCS	Modified TO-15	NA	NA
12AA	LCSD	Modified TO-15	NA	NA

	The	ual payer		
CERTIFIED BY:			DATE:	12/13/12

Technical Director

Certfication numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291, TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.

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

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.







# LABORATORY NARRATIVE Modified TO-15 Maul Foster and Alongi Inc. Workorder# 1211515A

Nine 1 Liter Summa Canister (100% Certified) samples were received on November 26, 2012. The laboratory performed analysis via modified 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.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
Initial Calibration	<pre><!--=30% RSD with 2 compounds allowed out to < 40% RSD</pre--></pre>	$<\!\!/=\!\!30\%$ RSD with 4 compounds allowed out to $<\!40\%$ RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

Dilution was performed on sample 45-SG1-111512 due to the presence of high level target species.

#### **Definition of Data Qualifying Flags**

Eight 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.
  - UJ- Non-detected compound associated with low bias in the CCV and/or LCS.
  - N The identification is based on presumptive evidence.

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



# Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

**Client Sample ID: 13-SS1-111612** 

Lab ID#: 1211515A-01A

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Tetrachloroethene	0.22	0.29	1.5	1.9

Client Sample ID: 1-SG1-111512

Lab ID#: 1211515A-02A

	Rpt. Limit	Amount	Rpt. Limit	Amount	
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)	
Tetrachloroethene	0.22	2.3	1.5	16	

Client Sample ID: 5-SG1-111512

Lab ID#: 1211515A-03A

	Rpt. Limit	Amount	Rpt. Limit	Amount	
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)	
Tetrachloroethene	0.23	14	1.6	92	

**Client Sample ID: 11-SG1-111612** 

Lab ID#: 1211515A-04A

Compound	Rpt. Limit (ppbv)	(ppbv)	(ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.23	1.8	0.59	4.7
cis-1,2-Dichloroethene	0.23	0.83	0.91	3.3
Trichloroethene	0.23	0.87	1.2	4.7

**Client Sample ID: 13-SG1-111512** 

Lab ID#: 1211515A-05A

Compound	Rpt. Limit (ppbv)	(ppbv)	(ug/m3)	Amount (ug/m3)	
Tetrachloroethene	0.25	3.8	1.7	26	

**Client Sample ID: 24-SG1-111512** 

Lab ID#: 1211515A-06A

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)



# Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

**Client Sample ID: 24-SG1-111512** 

Lab ID#: 1211515A-06A

	Rpt. Limit	Amount	Rpt. Limit	Amount	
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)	
Tetrachloroethene	0.24	0.39	1.6	2.6	

**Client Sample ID: 27-SG1-111512** 

Lab ID#: 1211515A-07A

	Rpt. Limit	Amount	Rpt. Limit	Amount	
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)	
Tetrachloroethene	0.22	0.87	1.5	5.9	

**Client Sample ID: 45-SG1-111512** 

Lab ID#: 1211515A-08A

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Tetrachloroethene	1.1	420	7.7	2800

**Client Sample ID: 46-SG1-111512** 

Lab ID#: 1211515A-09A

	Rpt. Limit	Amount	Rpt. Limit	Amount	
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)	
Tetrachloroethene	0.22	8.3	1.4	56	



# Client Sample ID: 13-SS1-111612 Lab ID#: 1211515A-01A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v120308	Date of Collection: 11/16/12 9:49:00 AM
Dil. Factor:	2.16	Date of Analysis: 12/3/12 02:36 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.22	Not Detected	0.55	Not Detected
Chloroethane	1.1	Not Detected	2.8	Not Detected
1,1-Dichloroethene	0.22	Not Detected	0.86	Not Detected
trans-1,2-Dichloroethene	0.22	Not Detected	0.86	Not Detected
1,1-Dichloroethane	0.22	Not Detected	0.87	Not Detected
cis-1,2-Dichloroethene	0.22	Not Detected	0.86	Not Detected
1,2-Dichloroethane	0.22	Not Detected	0.87	Not Detected
Trichloroethene	0.22	Not Detected	1.2	Not Detected
Tetrachloroethene	0.22	0.29	1.5	1.9

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	100	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	104	70-130	



#### Client Sample ID: 1-SG1-111512 Lab ID#: 1211515A-02A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v120309	Date of Collection: 11/15/12 8:35:00 AM
Dil. Factor:	2.18	Date of Analysis: 12/3/12 03:12 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.22	Not Detected	0.56	Not Detected
Chloroethane	1.1	Not Detected	2.9	Not Detected
1,1-Dichloroethene	0.22	Not Detected	0.86	Not Detected
trans-1,2-Dichloroethene	0.22	Not Detected	0.86	Not Detected
1,1-Dichloroethane	0.22	Not Detected	0.88	Not Detected
cis-1,2-Dichloroethene	0.22	Not Detected	0.86	Not Detected
1,2-Dichloroethane	0.22	Not Detected	0.88	Not Detected
Trichloroethene	0.22	Not Detected	1.2	Not Detected
Tetrachloroethene	0.22	2.3	1.5	16

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	99	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	112	70-130	



#### Client Sample ID: 5-SG1-111512 Lab ID#: 1211515A-03A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v120310	Date of Collection: 11/15/12 10:17:00 A
Dil. Factor:	2.30	Date of Analysis: 12/3/12 03:49 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.23	Not Detected	0.59	Not Detected
Chloroethane	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	0.23	Not Detected	0.91	Not Detected
trans-1,2-Dichloroethene	0.23	Not Detected	0.91	Not Detected
1,1-Dichloroethane	0.23	Not Detected	0.93	Not Detected
cis-1,2-Dichloroethene	0.23	Not Detected	0.91	Not Detected
1,2-Dichloroethane	0.23	Not Detected	0.93	Not Detected
Trichloroethene	0.23	Not Detected	1.2	Not Detected
Tetrachloroethene	0.23	14	1.6	92

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	102	70-130	
Toluene-d8	99	70-130	
4-Bromofluorobenzene	102	70-130	



#### Client Sample ID: 11-SG1-111612 Lab ID#: 1211515A-04A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v120311	Date of Collection: 11/16/12 7:26:00 AM
Dil. Factor:	2.30	Date of Analysis: 12/3/12 04:31 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.23	1.8	0.59	4.7
Chloroethane	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	0.23	Not Detected	0.91	Not Detected
trans-1,2-Dichloroethene	0.23	Not Detected	0.91	Not Detected
1,1-Dichloroethane	0.23	Not Detected	0.93	Not Detected
cis-1,2-Dichloroethene	0.23	0.83	0.91	3.3
1,2-Dichloroethane	0.23	Not Detected	0.93	Not Detected
Trichloroethene	0.23	0.87	1.2	4.7
Tetrachloroethene	0.23	Not Detected	1.6	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	101	70-130



# Client Sample ID: 13-SG1-111512 Lab ID#: 1211515A-05A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v120312	Date of Collection: 11/15/12 11:34:00 A
Dil. Factor:	2.50	Date of Analysis: 12/3/12 05:27 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.25	Not Detected	0.64	Not Detected
Chloroethane	1.2	Not Detected	3.3	Not Detected
1,1-Dichloroethene	0.25	Not Detected	0.99	Not Detected
trans-1,2-Dichloroethene	0.25	Not Detected	0.99	Not Detected
1,1-Dichloroethane	0.25	Not Detected	1.0	Not Detected
cis-1,2-Dichloroethene	0.25	Not Detected	0.99	Not Detected
1,2-Dichloroethane	0.25	Not Detected	1.0	Not Detected
Trichloroethene	0.25	Not Detected	1.3	Not Detected
Tetrachloroethene	0.25	3.8	1.7	26

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130



# Client Sample ID: 24-SG1-111512 Lab ID#: 1211515A-06A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v120313	Date of Collection: 11/15/12 12:35:00 P
Dil. Factor:	2.44	Date of Analysis: 12/3/12 06:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.24	Not Detected	0.62	Not Detected
Chloroethane	1.2	Not Detected	3.2	Not Detected
1,1-Dichloroethene	0.24	Not Detected	0.97	Not Detected
trans-1,2-Dichloroethene	0.24	Not Detected	0.97	Not Detected
1,1-Dichloroethane	0.24	Not Detected	0.99	Not Detected
cis-1,2-Dichloroethene	0.24	Not Detected	0.97	Not Detected
1,2-Dichloroethane	0.24	Not Detected	0.99	Not Detected
Trichloroethene	0.24	Not Detected	1.3	Not Detected
Tetrachloroethene	0.24	0.39	1.6	2.6

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	106	70-130



# Client Sample ID: 27-SG1-111512 Lab ID#: 1211515A-07A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v120314	Date of Collection: 11/15/12 11:38:00 A
Dil. Factor:	2.18	Date of Analysis: 12/3/12 07:21 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.22	Not Detected	0.56	Not Detected
Chloroethane	1.1	Not Detected	2.9	Not Detected
1,1-Dichloroethene	0.22	Not Detected	0.86	Not Detected
trans-1,2-Dichloroethene	0.22	Not Detected	0.86	Not Detected
1,1-Dichloroethane	0.22	Not Detected	0.88	Not Detected
cis-1,2-Dichloroethene	0.22	Not Detected	0.86	Not Detected
1,2-Dichloroethane	0.22	Not Detected	0.88	Not Detected
Trichloroethene	0.22	Not Detected	1.2	Not Detected
Tetrachloroethene	0.22	0.87	1.5	5.9

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	108	70-130



# Client Sample ID: 45-SG1-111512 Lab ID#: 1211515A-08A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v120317	Date of Collection: 11/15/12 9:10:00 AM
Dil. Factor:	11.3	Date of Analysis: 12/3/12 10:46 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
Chloroethane	5.6	Not Detected	15	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.5	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
1,1-Dichloroethane	1.1	Not Detected	4.6	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
1,2-Dichloroethane	1.1	Not Detected	4.6	Not Detected
Trichloroethene	1.1	Not Detected	6.1	Not Detected
Tetrachloroethene	1.1	420	7.7	2800

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	104	70-130	
Toluene-d8	99	70-130	
4-Bromofluorobenzene	105	70-130	



#### Client Sample ID: 46-SG1-111512 Lab ID#: 1211515A-09A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v120318	Date of Collection: 11/15/12 10:20:00 A
Dil. Factor:	2.15	Date of Analysis: 12/4/12 07:10 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.22	Not Detected	0.55	Not Detected
Chloroethane	1.1	Not Detected	2.8	Not Detected
1,1-Dichloroethene	0.22	Not Detected	0.85	Not Detected
trans-1,2-Dichloroethene	0.22	Not Detected	0.85	Not Detected
1,1-Dichloroethane	0.22	Not Detected	0.87	Not Detected
cis-1,2-Dichloroethene	0.22	Not Detected	0.85	Not Detected
1,2-Dichloroethane	0.22	Not Detected	0.87	Not Detected
Trichloroethene	0.22	Not Detected	1.2	Not Detected
Tetrachloroethene	0.22	8.3	1.4	56

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	103	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	107	70-130	



# Client Sample ID: Lab Blank Lab ID#: 1211515A-10A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v120306	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/3/12 01:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1-Dichloroethane	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,2-Dichloroethane	0.10	Not Detected	0.40	Not Detected
Trichloroethene	0.10	Not Detected	0.54	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	105	70-130



#### Client Sample ID: CCV Lab ID#: 1211515A-11A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: v120302 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 12/3/12 09:45 AM

Compound	%Recovery
Vinyl Chloride	93
Chloroethane	96
1,1-Dichloroethene	100
trans-1,2-Dichloroethene	100
1,1-Dichloroethane	100
cis-1,2-Dichloroethene	98
1,2-Dichloroethane	110
Trichloroethene	96
Tetrachloroethene	103

остание турстии постирущения		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	107	70-130



#### Client Sample ID: LCS Lab ID#: 1211515A-12A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: v120303 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 12/3/12 10:49 AM

Compound	%Recovery
Vinyl Chloride	93
Chloroethane	92
1,1-Dichloroethene	103
trans-1,2-Dichloroethene	109
1,1-Dichloroethane	98
cis-1,2-Dichloroethene	95
1,2-Dichloroethane	117
Trichloroethene	93
Tetrachloroethene	102

Surrogates	%Recovery	Metnoa Limits	
	·		
1,2-Dichloroethane-d4	102	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	104	70-130	



#### Client Sample ID: LCSD Lab ID#: 1211515A-12AA

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: v120304 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 12/3/12 11:25 AM

Compound	%Recovery
Vinyl Chloride	91
Chloroethane	89
1,1-Dichloroethene	101
trans-1,2-Dichloroethene	105
1,1-Dichloroethane	96
cis-1,2-Dichloroethene	93
1,2-Dichloroethane	106
Trichloroethene	93
Tetrachloroethene	102

Surrogates	%Recovery	Metnod Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	108	70-130



CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

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Project No. 8006.31.01

Mr. Guy Barrett October 12, 2012 Page 5

#### SAMPLE ANALYSIS AND QUALITY ASSURANCE

Samples will be analyzed for PCE and associated breakdown products (TCE; 1,1-DCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCA; Chloroethane; and vinyl chloride) by Modified U.S. Environmental Protection Agency (USEPA) Method TO-15 selected ion monitoring method to achieve low reporting limits. Eurofins/Air Toxics of Folsom, California, will provide a 6-liter or 1-liter, stainless steel canister (Summa canister) for each sample. Laboratory-specific method reporting limits (MRLs) for VOCs are listed in the following table. The MRLs assume a 6-liter sample size, with the canister dilution factor not incorporated. The dilution factor is determined by the canister size and residual vacuum. For example, a 1-liter sample with a vacuum of 5-inches of mercury would have a MRL approximately 2.4 times higher than the values provided in the following table. If there are high concentrations of nontarget analytes in the samples (e.g., methylene chloride, acetone, toluene), the laboratory may dilute the sample to avoid overloading and damaging its instruments. MFA will coordinate with the laboratory to obtain the lowest possible MRLs.

Table
Analytes, Reporting Limits, and Screening Levels (µg/m³)

Analyte	CAS Number	Reporting Limit	Screening Level—Air	Screening Level —Soil Gas
PCE	127-18-4	0.14	9.6	96
TCE	79-01-6	0.016	0.37	3.7
1,1-DCE	75-35-4	0.04	91	910
cis-1,2-DCE	156-59-2	0.08	16	.160
trans-1,2-DCE	156-60-5	0.40	32 .	320
1,1-DCA	75-34-3	0.08	320	3200
Chloroethane	75-00-3	0.13	3	30
Vinyl chloride	75-01-4	0,03	0.28	2.8
Helium	7440-59-7	81799	NE	ŅЕ

NOTES:

Screening levels are based on Table B-1 of Ecology Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action. Values for PCE and TCE are based on CLARC guidance dated September, 2012.

CAS = Chemical Abstract Service

NE = Not Established

μg/m³ = micrograms per cubic meter.

MFA will receive the data electronically from the laboratory and the data will be transferred to a GISKey© database. The data will be validated consistent with Ecology and USEPA protocols. To document data reliability, a memorandum will be prepared summarizing



12/5/2012

Mr. Thomas Ashton Maul Foster and Alongi Inc. 2001 NW 19th Ave Suite 200 Portland OR 97209

Project Name: Park Laundry Project #: 8006.31.01-05 Workorder #: 1211515B

Dear Mr. Thomas Ashton

The following report includes the data for the above referenced project for sample(s) received on 11/26/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

**Project Manager** 

Elly Butte



#### **WORK ORDER #:** 1211515B

#### Work Order Summary

**CLIENT:** Mr. Thomas Ashton **BILL TO:** Accounts Payable

> Maul Foster and Alongi Inc. Maul Foster and Alongi Inc.

2001 NW 19th Ave 400 E. Mill Plain Blvd

Suite 200 Suite 400

Portland, OR 97209 Vancouver, WA 98660

PHONE: 971-544-2139 P.O. #

FAX: 971-544-2140 PROJECT# 8006.31.01-05 Park Laundry

DATE RECEIVED: 11/26/2012 **CONTACT:** Kelly Buettner **DATE COMPLETED:** 12/05/2012

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
01A	13-SS1-111612	Modified ASTM D-1946	2.0 "Hg	15 psi
02A	1-SG1-111512	Modified ASTM D-1946	2.2 "Hg	15 psi
03A	5-SG1-111512	Modified ASTM D-1946	3.6 "Hg	15 psi
04A	11-SG1-111612	Modified ASTM D-1946	3.6 "Hg	15 psi
05A	13-SG1-111512	Modified ASTM D-1946	5.8 "Hg	15 psi
06A	24-SG1-111512	Modified ASTM D-1946	5.2 "Hg	15 psi
07A	27-SG1-111512	Modified ASTM D-1946	2.2 "Hg	15 psi
08A	45-SG1-111512	Modified ASTM D-1946	3.2 "Hg	15 psi
09A	46-SG1-111512	Modified ASTM D-1946	1.8 "Hg	15 psi
09AA	46-SG1-111512 Lab Duplicate	Modified ASTM D-1946	1.8 "Hg	15 psi
10A	Lab Blank	Modified ASTM D-1946	NA	NA
11A	LCS	Modified ASTM D-1946	NA	NA
11AA	LCSD	Modified ASTM D-1946	NA	NA

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CERTIFIED BY:		DATE: 12/05/12
CERTIFIED DIT		B.112.

Technical Director

Certfication numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291, TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.

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

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.





(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020



#### LABORATORY NARRATIVE Modified ASTM D-1946 Maul Foster and Alongi Inc. Workorder# 1211515B

Nine 1 Liter Summa Canister (100% Certified) samples were received on November 26, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Helium in air using GC/TCD. The method involves direct injection of 1.0 mL of sample.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	ASTM D-1946	ATL Modifications
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a >/= 95% accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections > 5 X's the RL.

# **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

There were no analytical discrepancies.



#### **Definition of Data Qualifying Flags**

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

- B Compound present in laboratory blank greater than reporting limit.
- 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 detection limit.
- M Reported value may be biased due to apparent matrix interferences.

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



# Summary of Detected Compounds NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

**Client Sample ID: 13-SS1-111612** 

Lab ID#: 1211515B-01A
No Detections Were Found.

Client Sample ID: 1-SG1-111512

Lab ID#: 1211515B-02A
No Detections Were Found.

Client Sample ID: 5-SG1-111512

Lab ID#: 1211515B-03A
No Detections Were Found.

**Client Sample ID: 11-SG1-111612** 

Lab ID#: 1211515B-04A
No Detections Were Found.

**Client Sample ID: 13-SG1-111512** 

Lab ID#: 1211515B-05A
No Detections Were Found.

**Client Sample ID: 24-SG1-111512** 

Lab ID#: 1211515B-06A
No Detections Were Found.

**Client Sample ID: 27-SG1-111512** 

Lab ID#: 1211515B-07A
No Detections Were Found.

**Client Sample ID: 45-SG1-111512** 

Lab ID#: 1211515B-08A
No Detections Were Found.

**Client Sample ID: 46-SG1-111512** 

Lab ID#: 1211515B-09A



# Summary of Detected Compounds NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

**Client Sample ID: 46-SG1-111512** 

Lab ID#: 1211515B-09A
No Detections Were Found.

Client Sample ID: 46-SG1-111512 Lab Duplicate

Lab ID#: 1211515B-09AA
No Detections Were Found.



# Client Sample ID: 13-SS1-111612 Lab ID#: 1211515B-01A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113016	Date of Colle	ction: 11/16/12 9:49:00 AM
Dil. Factor:	2.16	Date of Analy	ysis: 11/30/12 10:54 AM
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.11	Not Detected



#### Client Sample ID: 1-SG1-111512 Lab ID#: 1211515B-02A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113017	Date of Colle	ction: 11/15/12 8:35:00 AM
Dil. Factor:	2.18	Date of Analy	ysis: 11/30/12 11:10 AM
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.11	Not Detected



# Client Sample ID: 5-SG1-111512 Lab ID#: 1211515B-03A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113018	Date of Colle	ection: 11/15/12 10:17:00 A
Dil. Factor:	2.30	Date of Analy	ysis: 11/30/12 11:17 AM
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.12	Not Detected



# Client Sample ID: 11-SG1-111612 Lab ID#: 1211515B-04A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113019	Data of Colla	ection: 11/16/12 7:26:00 AM
Dil. Factor:	2.30	Date of Analysis: 11/30/12 11:29	
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.12	Not Detected



# Client Sample ID: 13-SG1-111512 Lab ID#: 1211515B-05A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113020	Date of Colle	Date of Collection: 11/15/12 11:34:00 A	
Dil. Factor:	2.50	Date of Analysis: 11/30/12 11:46 AM		
		Rpt. Limit	Amount	
Compound		(%)	(%)	
Helium		0.12	Not Detected	



# Client Sample ID: 24-SG1-111512 Lab ID#: 1211515B-06A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113021	Date of Collection: 11/15/12 12:35:00 P	
Dil. Factor:	2.44	Date of Analysis: 11/30/12 11:54 AM	
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.12	Not Detected



# Client Sample ID: 27-SG1-111512 Lab ID#: 1211515B-07A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113022	Date of Colle	ction: 11/15/12 11:38:00 A
Dil. Factor:	2.18	Date of Analysis: 11/30/12 12:02 PM	
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.11	Not Detected



# Client Sample ID: 45-SG1-111512 Lab ID#: 1211515B-08A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113023	Date of Collection: 11/15/12 9:10:00 AM	
Dil. Factor:	2.26	Date of Analysis: 11/30/12 12:09 PM	
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.11	Not Detected



### Client Sample ID: 46-SG1-111512 Lab ID#: 1211515B-09A

### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113024	Date of Colle	ction: 11/15/12 10:20:00 A
Dil. Factor:	2.15	Date of Analy	ysis: 11/30/12 12:18 PM
		Rpt. Limit	Amount
Compound		(%)	(%)
Helium		0.11	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)



### Client Sample ID: 46-SG1-111512 Lab Duplicate

Lab ID#: 1211515B-09AA

### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name: 9113025 Dil. Factor: 2.15			ollection: 11/15/12 10:20:00 A palysis: 11/30/12 12:25 PM	
		Rpt. Limit	Amount	
Compound		(%)	(%)	
Helium		0.11	Not Detected	

Container Type: 1 Liter Summa Canister (100% Certified)



### Client Sample ID: Lab Blank Lab ID#: 1211515B-10A

### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113004	Date of Colle	ction: NA	
Dil. Factor:	1.00	Date of Analy	Date of Analysis: 11/30/12 08:53 AM	
		Rpt. Limit	Amount	
Compound		(%)	(%)	
Helium		0.050	Not Detected	

**Container Type: NA - Not Applicable** 



### Client Sample ID: LCS Lab ID#: 1211515B-11A

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name: 9113003 Date of Collection: NA

Dil. Factor: 1.00 Date of Analysis: 11/30/12 08:41 AM

Compound %Recovery

Helium 103

**Container Type: NA - Not Applicable** 



### Client Sample ID: LCSD Lab ID#: 1211515B-11AA

#### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name: 9113026 Date of Collection: NA

Dil. Factor: 1.00 Date of Analysis: 11/30/12 12:34 PM

Compound %Recovery

Helium 107

**Container Type: NA - Not Applicable** 



CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

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Project No. 8006.31.01

Mr. Guy Barrett October 12, 2012 Page 5

### SAMPLE ANALYSIS AND QUALITY ASSURANCE

Samples will be analyzed for PCE and associated breakdown products (TCE; 1,1-DCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCA; Chloroethane; and vinyl chloride) by Modified U.S. Environmental Protection Agency (USEPA) Method TO-15 selected ion monitoring method to achieve low reporting limits. Eurofins/Air Toxics of Folsom, California, will provide a 6-liter or 1-liter, stainless steel canister (Summa canister) for each sample. Laboratory-specific method reporting limits (MRLs) for VOCs are listed in the following table. The MRLs assume a 6-liter sample size, with the canister dilution factor not incorporated. The dilution factor is determined by the canister size and residual vacuum. For example, a 1-liter sample with a vacuum of 5-inches of mercury would have a MRL approximately 2.4 times higher than the values provided in the following table. If there are high concentrations of nontarget analytes in the samples (e.g., methylene chloride, acetone, toluene), the laboratory may dilute the sample to avoid overloading and damaging its instruments. MFA will coordinate with the laboratory to obtain the lowest possible MRLs.

Table
Analytes, Reporting Limits, and Screening Levels (µg/m³)

Analyte	CAS Number	Reporting Limit	Screening Level—Air	Screening Level —Soil Gas
PCE	127-18-4	0.14	9.6	96
TCE	79-01-6	0.016	0.37	3.7
1,1-DCE	75-35-4	0.04	91	910
cis-1,2-DCE	156-59-2	0.08	16	.160
trans-1,2-DCE	156-60-5	0.40	32 .	320
1,1-DCA	75-34-3	0.08	320	3200
Chloroethane	75-00-3	0.13	3	30
Vinyl chloride	75-01-4	0,03	0.28	2.8
Helium	7440-59-7	81799	NE	ŅЕ

NOTES:

Screening levels are based on Table B-1 of Ecology Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action. Values for PCE and TCE are based on CLARC guidance dated September, 2012.

CAS = Chemical Abstract Service

NE = Not Established

μg/m³ = micrograms per cubic meter.

MFA will receive the data electronically from the laboratory and the data will be transferred to a GISKey© database. The data will be validated consistent with Ecology and USEPA protocols. To document data reliability, a memorandum will be prepared summarizing



1/14/2013

Mr. Thomas Ashton Maul Foster and Alongi Inc. 2001 NW 19th Ave Suite 200 Portland OR 97209

Project Name: Park Laundry Project #: 8006.31.01-05 Workorder #: 1211515CR1

Dear Mr. Thomas Ashton

The following report includes the data for the above referenced project for sample(s) received on 11/26/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

**Project Manager** 

Welly Butte



#### **WORK ORDER #:** 1211515CR1

Work Order Summary

**CLIENT:** Mr. Thomas Ashton **BILL TO:** Accounts Payable

> Maul Foster and Alongi Inc. Maul Foster and Alongi Inc.

2001 NW 19th Ave 400 E. Mill Plain Blvd

Suite 200 Suite 400

Portland, OR 97209 Vancouver, WA 98660

PHONE: 971-544-2139 P.O. #

FAX: 971-544-2140 PROJECT# 8006.31.01-05 Park Laundry

DATE RECEIVED: 11/26/2012 **CONTACT:** Kelly Buettner

**DATE COMPLETED:** 12/13/2012 DATE REISSUED: 01/14/2013

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
01A	13-SS1-111612	Modified TO-15	2.0 "Hg	15 psi
02A	1-SG1-111512	Modified TO-15	2.2 "Hg	15 psi
03A	5-SG1-111512	Modified TO-15	3.6 "Hg	15 psi
04A	11-SG1-111612	Modified TO-15	3.6 "Hg	15 psi
05A	13-SG1-111512	Modified TO-15	5.8 "Hg	15 psi
06A	24-SG1-111512	Modified TO-15	5.2 "Hg	15 psi
07A	27-SG1-111512	Modified TO-15	2.2 "Hg	15 psi
08A	45-SG1-111512	Modified TO-15	3.2 "Hg	15 psi
09A	46-SG1-111512	Modified TO-15	1.8 "Hg	15 psi
10A	Lab Blank	Modified TO-15	NA	NA
11A	CCV	Modified TO-15	NA	NA
12A	LCS	Modified TO-15	NA	NA
12AA	LCSD	Modified TO-15	NA	NA

CERTIFIED RV	JE	eide flages	DATE: 01/14/13
CERTIFIED D1.			DATE.

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291, TX NELAP - T104704434-12-4, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.

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

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.





(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020



#### LABORATORY NARRATIVE Modified TO-15 Maul Foster and Alongi Inc. Workorder# 1211515CR1

Nine 1 Liter Summa Canister (100% Certified) samples were received on November 26, 2012. The laboratory performed analysis via modified 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.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
Initial Calibration	=30% RSD with 2<br compounds allowed out to < 40% RSD	=30% RSD with 4 compounds allowed out to < 40% RSD</td
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

Dilution was performed on sample 45-SG1-111512 due to the presence of high level target species.

This workorder was created to evaluate Trichloroethene (TCE) and 1,2-Dichloroethane (1,2-DCA) in all samples down to the Method Detection Limit to allow for comparison of results to the required screening levels. Please note that this workorder fraction contains only a subset of the requested analytes. The full list evaluated to the Reporting Limit (RL), including TCE and 1,2-DCA, were reported in workorder 1211515A on 12-13-12.

All canisters used for this project have been certified to the RL for the target analytes. Concentrations that are below the level at which the canister was certified may be false positives.

THE WORK ORDER WAS REISSUED ON 1/14/13 TO APPLY THE REPORTING LIMITS AND ASSOCIATED RESULTS GENERATED FROM THE FULL SCAN TO-15 DATA FILE CONSISTENT WITH WORKORDER 1211515A, RATHER THAN THE LOWER SIM REPORTING LIMITS AND RESULTS GENERATED FROM THE TO-15 SIM DATA FILE. CHANGING THE REPORTING LIMITS FROM SIM TO FULL SCAN CAUSED SOME PREVIOUSLY REPORTED COMPOUNDS TO BE BELOW THE REPORTING LIMIT AND WERE THEREFORE REPORTED AS "NOT DETECTED".

#### **Definition of Data Qualifying Flags**

Eight 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.
  - UJ- Non-detected compound associated with low bias in the CCV
  - N The identification is based on presumptive evidence.

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



**Client ID:** 13-SS1-111612

**Lab ID:** 1211515CR1-01A **Date/Time Analyzed:** 12/3/12 02:36 PM

Date/Time Collecte 11/16/12 09:49 AM Dilution Factor: 2.16

Media: 1 Liter Summa Canister (100% Certified) Instrument/Filename: msdv.i / v120308cr1

		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,2-Dichloroethane	107-06-2	0.071	0.44	0.87	Not Detected
Trichloroethene	79-01-6	0.18	0.58	1.2	Not Detected

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	100
4-Bromofluorobenzene	460-00-4	70-130	104
Toluene-d8	2037-26-5	70-130	102



**Client ID:** 1-SG1-111512

**Lab ID:** 1211515CR1-02A **Date/Time Analyzed:** 12/3/12 03:12 PM

**Date/Time Collecte** 11/15/12 08:35 AM **Dilution Factor:** 2.18

Media: 1 Liter Summa Canister (100% Certified) Instrument/Filename: msdv.i / v120309cr1

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.072	0.44	0.88	0.34 J	
Trichloroethene	79-01-6	0.18	0.58	1.2	0.95 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	99
4-Bromofluorobenzene	460-00-4	70-130	112
Toluene-d8	2037-26-5	70-130	102



**Client ID:** 5-SG1-111512

**Lab ID:** 1211515CR1-03A **Date/Time Analyzed:** 12/3/12 03:49 PM

**Date/Time Collecte** 11/15/12 10:17 AM **Dilution Factor:** 2.30

Media: 1 Liter Summa Canister (100% Certified) Instrument/Filename: msdv.i / v120310cr1

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.076	0.46	0.93	0.16 J	
Trichloroethene	79-01-6	0.19	0.62	1.2	0.48 J	

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



**Client ID:** 11-SG1-111612

**Lab ID:** 1211515CR1-04A **Date/Time Analyzed:** 12/3/12 04:31 PM

Date/Time Collecte 11/16/12 07:26 AM Dilution Factor: 2.30

Media: 1 Liter Summa Canister (100% Certified) Instrument/Filename: msdv.i / v120311cr1

		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,2-Dichloroethane	107-06-2	0.076	0.46	0.93	Not Detected
Trichloroethene	79-01-6	0.19	0.62	1.2	4.7

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	102	



**Client ID:** 11-SG1-111612

**Lab ID:** 1211515CR1-04A **Date/Time Analyzed:** 12/3/12 04:31 PM

Date/Time Collecte 11/16/12 07:26 AM Dilution Factor: 2.30

Media: 1 Liter Summa Canister (100% Certified) Instrument/Filename: msdv.i / v120311cr1

		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,2-Dichloroethane	107-06-2	0.076	0.46	0.93	Not Detected
Trichloroethene	79-01-6	0.19	0.62	1.2	4.7

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	102	



**Client ID:** 13-SG1-111512

**Lab ID:** 1211515CR1-05A **Date/Time Analyzed:** 12/3/12 05:27 PM

Date/Time Collecte 11/15/12 11:34 AM Dilution Factor: 2.50

Media: 1 Liter Summa Canister (100% Certified) Instrument/Filename: msdv.i / v120312cr1

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.082	0.50	1.0	Not Detected	
Trichloroethene	79-01-6	0.21	0.67	1.3	0.40 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	96
4-Bromofluorobenzene	460-00-4	70-130	100
Toluene-d8	2037-26-5	70-130	101



**Client ID:** 24-SG1-111512

**Lab ID:** 1211515CR1-06A **Date/Time Analyzed:** 12/3/12 06:20 PM

**Date/Time Collecte** 11/15/12 12:35 PM **Dilution Factor:** 2.44

Media: 1 Liter Summa Canister (100% Certified) Instrument/Filename: msdv.i / v120313cr1

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.080	0.49	0.99	Not Detected	
Trichloroethene	79-01-6	0.20	0.66	1.3	0.35 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	106
Toluene-d8	2037-26-5	70-130	104



Client ID: 27-SG1-111512

Lab ID: 1211515CR1-07A Date/Time Analyzed:

**Date/Time Collecte** 11/15/12 11:38 AM **Dilution Factor:** 2.18

Media: 1 Liter Summa Canister (100% Certified) Instrument/Filename: msdv.i / v120314cr1

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.072	0.44	0.88	0.21 J	
Trichloroethene	79-01-6	0.18	0.58	1.2	0.50 J	

12/3/12 07:21 PM

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	102
4-Bromofluorobenzene	460-00-4	70-130	108
Toluene-d8	2037-26-5	70-130	97



45-SG1-111512 Client ID:

1211515CR1-08A Lab ID: Date/Time Analyzed: 12/3/12 10:46 PM 11/15/12 09:10 AM **Date/Time Collecte Dilution Factor:** 

1 Liter Summa Canister (100% Certified) msdv.i / v120317cr1 Media: Instrument/Filename:

Compound	CAS#	MDL (ug/m3)	LOD	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,2-Dichloroethane	107-06-2	0.37	( <b>ug/m3)</b> 2.3	4.6	Not Detected	
Trichloroethene	79-01-6	0.93	3.0	6.1	1.6 J	

11.3

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	104
4-Bromofluorobenzene	460-00-4	70-130	105
Toluene-d8	2037-26-5	70-130	99



**Client ID:** 46-SG1-111512

**Lab ID:** 1211515CR1-09A **Date/Time Analyzed:** 12/4/12 07:10 AM

**Date/Time Collecte** 11/15/12 10:20 AM **Dilution Factor:** 2.15

Media: 1 Liter Summa Canister (100% Certified) Instrument/Filename: msdv.i / v120318cr1

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,2-Dichloroethane	107-06-2	0.071	0.44	0.87	Not Detected	
Trichloroethene	79-01-6	0.18	0.58	1.2	0.25 J	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	103
4-Bromofluorobenzene	460-00-4	70-130	107
Toluene-d8	2037-26-5	70-130	100



Client ID: Lab Blank

**Lab ID:** 1211515CR1-10A **Date/Time Analyzed:** 12/3/12 01:04 PM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdv.i / v120306cr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,2-Dichloroethane	107-06-2	0.033	0.20	0.40	Not Detected	
Trichloroethene	79-01-6	0.082	0.27	0.54	Not Detected	

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	101
4-Bromofluorobenzene	460-00-4	70-130	105
Toluene-d8	2037-26-5	70-130	102



Client ID: CCV

**Lab ID:** 1211515CR1-11A **Date/Time Analyzed:** 12/3/12 09:45 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdv.i / v120302

Compound	CAS#	%Recovery
1,2-Dichloroethane	107-06-2	110
Trichloroethene	79-01-6	96

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	114	
4-Bromofluorobenzene	460-00-4	70-130	107	
Toluene-d8	2037-26-5	70-130	100	



Client ID: LCS

**Lab ID:** 1211515CR1-12A **Date/Time Analyzed:** 12/3/12 10:49 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdv.i / v120303

Compound	CAS#	%Recovery
1,2-Dichloroethane	107-06-2	117
Trichloroethene	79-01-6	93

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	102	
4-Bromofluorobenzene	460-00-4	70-130	104	
Toluene-d8	2037-26-5	70-130	100	

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Client ID: LCSD

**Lab ID:** 1211515CR1-12AA **Date/Time Analyzed:** 12/3/12 11:25 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdv.i / v120304

Compound	CAS#	%Recovery
1,2-Dichloroethane	107-06-2	106
Trichloroethene	79-01-6	93

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	104
4-Bromofluorobenzene	460-00-4	70-130	108
Toluene-d8	2037-26-5	70-130	96

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

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Project No. 8006.31.01

Mr. Guy Barrett October 12, 2012 Page 5

### SAMPLE ANALYSIS AND QUALITY ASSURANCE

Samples will be analyzed for PCE and associated breakdown products (TCE; 1,1-DCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCA; Chloroethane; and vinyl chloride) by Modified U.S. Environmental Protection Agency (USEPA) Method TO-15 selected ion monitoring method to achieve low reporting limits. Eurofins/Air Toxics of Folsom, California, will provide a 6-liter or 1-liter, stainless steel canister (Summa canister) for each sample. Laboratory-specific method reporting limits (MRLs) for VOCs are listed in the following table. The MRLs assume a 6-liter sample size, with the canister dilution factor not incorporated. The dilution factor is determined by the canister size and residual vacuum. For example, a 1-liter sample with a vacuum of 5-inches of mercury would have a MRL approximately 2.4 times higher than the values provided in the following table. If there are high concentrations of nontarget analytes in the samples (e.g., methylene chloride, acetone, toluene), the laboratory may dilute the sample to avoid overloading and damaging its instruments. MFA will coordinate with the laboratory to obtain the lowest possible MRLs.

Table
Analytes, Reporting Limits, and Screening Levels (µg/m³)

Analyte	CAS Number	Reporting Limit	Screening Level—Air	Screening Level —Soil Gas
PCE	127-18-4	0.14	9.6	96
TCE	79-01-6	0.016	0.37	3.7
1,1-DCE	75-35-4	0.04	91	910
cis-1,2-DCE	156-59-2	0.08	16	.160
trans-1,2-DCE	156-60-5	0.40	32 .	320
1,1-DCA	75-34-3	0.08	320	3200
Chloroethane	75-00-3	0.13	3	30
Vinyl chloride	75-01-4	0,03	0.28	2.8
Helium	7440-59-7	81799	NE	ŅЕ

NOTES:

Screening levels are based on Table B-1 of Ecology Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action. Values for PCE and TCE are based on CLARC guidance dated September, 2012.

CAS = Chemical Abstract Service

NE = Not Established

μg/m³ = micrograms per cubic meter.

MFA will receive the data electronically from the laboratory and the data will be transferred to a GISKey© database. The data will be validated consistent with Ecology and USEPA protocols. To document data reliability, a memorandum will be prepared summarizing



8/20/2013 Mr. Thomas Ashton Maul Foster and Alongi Inc. 2001 NW 19th Ave

Suite 200

Portland OR 97209

Project Name: Park Laundry

Project #: 8006.31.01 Workorder #: 1308171

Dear Mr. Thomas Ashton

The following report includes the data for the above referenced project for sample(s) received on 8/6/2013 at Air Toxics Ltd.

The data and associated QC analyzed by Modified 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

Kelly Butte



#### **WORK ORDER #: 1308171**

Work Order Summary

CLIENT: Mr. Thomas Ashton BILL TO: Accounts Payable

Maul Foster and Alongi Inc.

Maul Foster and Alongi Inc.

2001 NW 19th Ave 400 E. Mill Plain Blvd

Suite 200 Suite 400

Portland, OR 97209 Vancouver, WA 98660

**PHONE:** 971-544-2139 **P.O.** #

**FAX:** 971-544-2140 **PROJECT** # 8006.31.01 Park Laundry

**DATE RECEIVED:** 08/06/2013 **CONTACT:** Kelly Buettner **DATE COMPLETED:** 08/20/2013

			RECEIPT	FINAL
FRACTION#	NAME	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
01A	28-SG1-073013	Modified TO-15	5.3 "Hg	14.7 psi
02A	13-SG1-073013	Modified TO-15	6.7 "Hg	15 psi
03A	44-SG1-073113	Modified TO-15	4.3 "Hg	15 psi
04A	45-SG1-073113	Modified TO-15	4.5 "Hg	14.8 psi
05A	46-SG1-073013	Modified TO-15	5.3 "Hg	15.1 psi
06A	27-SG1-072913	Modified TO-15	5.9 "Hg	15 psi
07A	5-SG1-073013	Modified TO-15	4.1 "Hg	14.9 psi
08A	11-SG1-073113	Modified TO-15	5.7 "Hg	14.7 psi
09A	24-SG1-073013	Modified TO-15	7.1 "Hg	14.8 psi
10A	5-SS1-073013	Modified TO-15	3.3 "Hg	14.7 psi
11A	5-SS2-073013	Modified TO-15	3.5 "Hg	15.2 psi
12A	1-SS3-072913	Modified TO-15	4.1 "Hg	14.7 psi
13A	1-SS2-072913	Modified TO-15	3.9 "Hg	15.1 psi
14A	1-SS1-072913	Modified TO-15	4.3 "Hg	14.7 psi
15A	7-SS3-072913	Modified TO-15	5.3 "Hg	15 psi
16A	7-SS2-072913	Modified TO-15	4.3 "Hg	14.9 psi
17A	7-SS1-072913	Modified TO-15	4.5 "Hg	14.8 psi
18A	13-SS1-073013	Modified TO-15	6.7 "Hg	14.6 psi
19A	11-SS4-073113	Modified TO-15	3.9 "Hg	14.8 psi
20A	11-SS3-073113	Modified TO-15	3.7 "Hg	14.8 psi
21A	11-SS2-073113	Modified TO-15	5.5 "Hg	14.8 psi
22A	11-SS1-073113	Modified TO-15	4.5 "Hg	14.7 psi
23A	Lab Blank	Modified TO-15	NA	NA

Continued on next page





#### WORK ORDER #: 1308171

Work Order Summary

CLIENT: Mr. Thomas Ashton BILL TO: Accounts Payable

Maul Foster and Alongi Inc. Maul Foster and Alongi Inc.

2001 NW 19th Ave 400 E. Mill Plain Blvd

Suite 200 Suite 400

Portland, OR 97209 Vancouver, WA 98660

**PHONE:** 971-544-2139 **P.O.** #

**FAX:** 971-544-2140 **PROJECT** # 8006.31.01 Park Laundry

**DATE RECEIVED:** 08/06/2013 **CONTACT:** Kelly Buettner 08/20/2013

			RECEIPT	FINAL
FRACTION #	NAME	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
23B	Lab Blank	Modified TO-15	NA	NA
23C	Lab Blank	Modified TO-15	NA	NA
24A	CCV	Modified TO-15	NA	NA
24B	CCV	Modified TO-15	NA	NA
24C	CCV	Modified TO-15	NA	NA
25A	LCS	Modified TO-15	NA	NA
25AA	LCSD	Modified TO-15	NA	NA
25B	LCS	Modified TO-15	NA	NA
25BB	LCSD	Modified TO-15	NA	NA
25C	LCS	Modified TO-15	NA	NA
25CC	LCSD	Modified TO-15	NA	NA

	The	ide flages		
CERTIFIED BY: _		00	DATE:	08/20/13

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc. 180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 956: (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020





#### LABORATORY NARRATIVE EPA Method TO-15 Maul Foster and Alongi Inc. Workorder# 1308171

twenty-two 1 Liter Summa Canister (100% Certified) samples were received on August 06, 2013. 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**

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page.

As per client project requirements, the laboratory has reported estimated values for Vinyl Chloride, 1,2-Dichloroethane, Trichloroethene 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.

Dilution was performed on samples 28-SG1-073013 and 44-SG1-073113 due to the presence of high level target species.

#### **Definition of Data Qualifying Flags**

Eight 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.

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



**Client ID:** 28-SG1-073013 **Lab ID:** 1308171-01A

Date/Time Collected: 7/30/13 03:17 PM

Media: 1 Liter Summa Canister (100% Certified)

**Date/Time Analyzed:** 8/18/13 10:31 PM

**Dilution Factor:** 16.2

Instrument/Filename: msdj.i / j081827

		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	6.5	13	33	Not Detected
1,1-Dichloroethene	75-35-4	9.7	13	32	Not Detected
1,2-Dichloroethane	107-06-2	6.2	13	33	Not Detected
Chloroethane	75-00-3	29	34	85	Not Detected
cis-1,2-Dichloroethene	156-59-2	5.8	13	32	Not Detected
Tetrachloroethene	127-18-4	18	22	55	16000
trans-1,2-Dichloroethene	156-60-5	11	13	32	Not Detected
Trichloroethene	79-01-6	11	17	44	Not Detected
Vinyl Chloride	75-01-4	5.3	8.3	21	Not Detected

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



Client ID: 13-SG1-073013 Lab ID: 1308171-02A

Date/Time Collected: 7/30/13 01:54 PM

Media: 1 Liter Summa Canister (100% Certified)

**Date/Time Analyzed:** 8/16/13 08:22 PM

**Dilution Factor:** 2.60

**Instrument/Filename:** msdj.i / j081612

Commound	040#	MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	1.0	2.1	5.3	Not Detected
1,1-Dichloroethene	75-35-4	1.6	2.1	5.2	Not Detected
1,2-Dichloroethane	107-06-2	0.99	2.1	5.3	Not Detected
Chloroethane	75-00-3	4.6	5.5	14	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.94	2.1	5.2	Not Detected
Tetrachloroethene	127-18-4	2.9	3.5	8.8	30
trans-1,2-Dichloroethene	156-60-5	1.8	2.1	5.2	Not Detected
Trichloroethene	79-01-6	1.8	2.8	7.0	2.4 J
Vinyl Chloride	75-01-4	0.86	1.3	3.3	Not Detected

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	83	
4-Bromofluorobenzene	460-00-4	70-130	103	
Toluene-d8	2037-26-5	70-130	97	



**Client ID:** 44-SG1-073113 **Lab ID:** 1308171-03A

Date/Time Collected: 7/31/13 10:00 AM

Media: 1 Liter Summa Canister (100% Certified)

**Date/Time Analyzed:** 8/18/13 12:42 PM

**Dilution Factor:** 9.44

Instrument/Filename: msdj.i / j081808

Compound	CAS#	MDL (ug/m3)	LOD	Rpt. Limit (ug/m3)	Amount (ug/m3)
1.1-Dichloroethane	75-34-3	3.8	( <b>ug/m3)</b> 7.6		Not Detected
1,1-Dichloroethene	75-34-3 75-35-4	5.7	7.5	19 19	Not Detected
1,2-Dichloroethane	107-06-2	3.6	7.6	19	Not Detected
Chloroethane	75-00-3	17	20	50	Not Detected
cis-1,2-Dichloroethene	156-59-2	3.4	7.5	19	Not Detected
Tetrachloroethene	127-18-4	10	13	32	9500
trans-1,2-Dichloroethene	156-60-5	6.7	7.5	19	Not Detected
Trichloroethene	79-01-6	6.5	10	25	Not Detected
Vinyl Chloride	75-01-4	3.1	4.8	12	Not Detected

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	82
4-Bromofluorobenzene	460-00-4	70-130	98
Toluene-d8	2037-26-5	70-130	97



**Client ID:** 45-SG1-073113 **Lab ID:** 1308171-04A

Date/Time Collected: 7/31/13 09:32 AM

Media: 1 Liter Summa Canister (100% Certified)

Date/Time Analyzed: 8/16/13 09:58 PM

**Dilution Factor:** 2.36

Instrument/Filename: msdj.i / j081614

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethane	75-34-3	0.94	1.9	4.8	Not Detected
1,1-Dichloroethene	75-35-4	1.4	1.9	4.7	Not Detected
1,2-Dichloroethane	107-06-2	0.90	1.9	4.8	Not Detected
Chloroethane	75-00-3	4.2	5.0	12	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.85	1.9	4.7	Not Detected
Tetrachloroethene	127-18-4	2.6	3.2	8.0	1800
trans-1,2-Dichloroethene	156-60-5	1.7	1.9	4.7	Not Detected
Trichloroethene	79-01-6	1.6	2.5	6.3	Not Detected
Vinyl Chloride	75-01-4	0.78	1.2	3.0	Not Detected

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	82
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	96



**Client ID:** 46-SG1-073013 **Lab ID:** 1308171-05A

Date/Time Collected: 7/30/13 09:47 AM

Media: 1 Liter Summa Canister (100% Certified)

**Date/Time Analyzed:** 8/18/13 01:31 PM

**Dilution Factor:** 2.46

Instrument/Filename: msdj.i / j081809

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,1-Dichloroethane	75-34-3	0.98	2.0	5.0	Not Detected	
1,1-Dichloroethene	75-35-4	1.5	2.0	4.9	Not Detected	
1,2-Dichloroethane	107-06-2	0.94	2.0	5.0	1.2 J	
Chloroethane	75-00-3	4.4	5.2	13	Not Detected	
cis-1,2-Dichloroethene	156-59-2	0.89	2.0	4.9	Not Detected	
Tetrachloroethene	127-18-4	2.7	3.3	8.3	100	
trans-1,2-Dichloroethene	156-60-5	1.7	2.0	4.9	Not Detected	
Trichloroethene	79-01-6	1.7	2.6	6.6	Not Detected	
Vinyl Chloride	75-01-4	0.81	1.2	3.1	Not Detected	

#### J = Estimated value.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	81
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	95



**Client ID:** 27-SG1-072913 **Lab ID:** 1308171-06A

Date/Time Collected: 7/29/13 03:08 PM

Media: 1 Liter Summa Canister (100% Certified)

Date/Time Analyzed: 8/18/13 02:37 PM

**Dilution Factor:** 2.52

Commound	040#	MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	1.0	2.0	5.1	Not Detected
1,1-Dichloroethene	75-35-4	1.5	2.0	5.0	Not Detected
1,2-Dichloroethane	107-06-2	0.96	2.0	5.1	Not Detected
Chloroethane	75-00-3	4.5	5.3	13	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.91	2.0	5.0	Not Detected
Tetrachloroethene	127-18-4	2.8	3.4	8.5	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.8	2.0	5.0	Not Detected
Trichloroethene	79-01-6	1.7	2.7	6.8	Not Detected
Vinyl Chloride	75-01-4	0.83	1.3	3.2	Not Detected

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	82
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	96



**Client ID:** 5-SG1-073013 **Lab ID:** 1308171-07A

Date/Time Collected: 7/30/13 10:00 AM

Media: 1 Liter Summa Canister (100% Certified)

Date/Time Analyzed: 8/18/13 03:04 PM

**Dilution Factor:** 2.33

Compound	CAS#	MDL (ug/m3)	LOD	Rpt. Limit (ug/m3)	Amount (ug/m3)
•	CA5#	(ug/ilis)	(ug/m3)	(ug/iii3)	
1,1-Dichloroethane	75-34-3	0.93	1.9	4.7	Not Detected
1,1-Dichloroethene	75-35-4	1.4	1.8	4.6	Not Detected
1,2-Dichloroethane	107-06-2	0.89	1.9	4.7	Not Detected
Chloroethane	75-00-3	4.2	4.9	12	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.84	1.8	4.6	Not Detected
Tetrachloroethene	127-18-4	2.6	3.2	7.9	250
trans-1,2-Dichloroethene	156-60-5	1.6	1.8	4.6	Not Detected
Trichloroethene	79-01-6	1.6	2.5	6.3	Not Detected
Vinyl Chloride	75-01-4	0.77	1.2	3.0	Not Detected

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	81	
4-Bromofluorobenzene	460-00-4	70-130	101	
Toluene-d8	2037-26-5	70-130	96	



**Client ID:** 11-SG1-073113 **Lab ID:** 1308171-08A

Date/Time Collected: 7/31/13 11:03 AM

Media: 1 Liter Summa Canister (100% Certified)

**Date/Time Analyzed:** 8/18/13 03:32 PM

**Dilution Factor:** 2.47

**Instrument/Filename:** msdj.i / j081812

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,1-Dichloroethane	75-34-3	0.99	2.0	5.0	Not Detected	
1,1-Dichloroethene	75-35-4	1.5	2.0	4.9	Not Detected	
1,2-Dichloroethane	107-06-2	0.94	2.0	5.0	Not Detected	
Chloroethane	75-00-3	4.4	5.2	13	Not Detected	
cis-1,2-Dichloroethene	156-59-2	0.89	2.0	4.9	13	
Tetrachloroethene	127-18-4	2.8	3.4	8.4	34	
trans-1,2-Dichloroethene	156-60-5	1.8	2.0	4.9	Not Detected	
Trichloroethene	79-01-6	1.7	2.6	6.6	5.2 J	
Vinyl Chloride	75-01-4	0.81	1.3	3.2	2.7 J	

#### J = Estimated value.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	81
4-Bromofluorobenzene	460-00-4	70-130	100
Toluene-d8	2037-26-5	70-130	94



**Client ID:** 24-SG1-073013 **Lab ID:** 1308171-09A

Date/Time Collected: 7/30/13 03:37 PM

Media: 1 Liter Summa Canister (100% Certified)

Date/Time Analyzed: 8/18/13 03:59 PM

**Dilution Factor:** 2.63

Compound	CACH	MDL	LOD	Rpt. Limit	Amount
•	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	1.0	2.1	5.3	Not Detected
1,1-Dichloroethene	75-35-4	1.6	2.1	5.2	Not Detected
1,2-Dichloroethane	107-06-2	1.0	2.1	5.3	Not Detected
Chloroethane	75-00-3	4.7	5.6	14	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.95	2.1	5.2	Not Detected
Tetrachloroethene	127-18-4	2.9	3.6	8.9	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.9	2.1	5.2	Not Detected
Trichloroethene	79-01-6	1.8	2.8	7.1	Not Detected
Vinyl Chloride	75-01-4	0.87	1.3	3.4	Not Detected

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	82
4-Bromofluorobenzene	460-00-4	70-130	103
Toluene-d8	2037-26-5	70-130	94



**Client ID:** 5-SS1-073013 **Lab ID:** 1308171-10A

**Date/Time Collected:** 7/30/13 11:00 AM

Media: 1 Liter Summa Canister (100% Certified)

**Date/Time Analyzed:** 8/18/13 05:21 PM

**Dilution Factor:** 2.24

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethane	75-34-3	0.90	1.8	4.5	Not Detected
1,1-Dichloroethene	75-35-4	1.3	1.8	4.4	Not Detected
1,2-Dichloroethane	107-06-2	0.86	1.8	4.5	Not Detected
Chloroethane	75-00-3	4.0	4.7	12	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.81	1.8	4.4	Not Detected
Tetrachloroethene	127-18-4	2.5	3.0	7.6	750
trans-1,2-Dichloroethene	156-60-5	1.6	1.8	4.4	Not Detected
Trichloroethene	79-01-6	1.6	2.4	6.0	Not Detected
Vinyl Chloride	75-01-4	0.74	1.1	2.9	Not Detected

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	80	
4-Bromofluorobenzene	460-00-4	70-130	97	
Toluene-d8	2037-26-5	70-130	102	



**Client ID:** 5-SS2-073013

**Lab ID:** 1308171-11A

Date/Time Collected: 7/30/13 10:57 AM

Media: 1 Liter Summa Canister (100% Certified)

Date/Time Analyzed: 8/18/13 04:54 PM

**Dilution Factor:** 2.30

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethane	75-34-3	0.92	1.9	4.6	Not Detected
1,1-Dichloroethene	75-35-4	1.4	1.8	4.6	Not Detected
1,2-Dichloroethane	107-06-2	0.88	1.9	4.6	Not Detected
Chloroethane	75-00-3	4.1	4.8	12	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.83	1.8	4.6	Not Detected
Tetrachloroethene	127-18-4	2.6	3.1	7.8	320
trans-1,2-Dichloroethene	156-60-5	1.6	1.8	4.6	Not Detected
Trichloroethene	79-01-6	1.6	2.5	6.2	Not Detected
Vinyl Chloride	75-01-4	0.76	1.2	2.9	Not Detected

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	79
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	96



Client ID: 1-SS3-072913 Lab ID: 1308171-12A

Date/Time Collected: 7/29/13 01:50 PM

Media: 1 Liter Summa Canister (100% Certified)

Date/Time Analyzed: 8/18/13 06:43 PM

**Dilution Factor:** 2.32

		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.93	1.9	4.7	Not Detected
1,1-Dichloroethene	75-35-4	1.4	1.8	4.6	Not Detected
1,2-Dichloroethane	107-06-2	0.88	1.9	4.7	Not Detected
Chloroethane	75-00-3	4.1	4.9	12	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.84	1.8	4.6	Not Detected
Tetrachloroethene	127-18-4	2.6	3.1	7.9	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.6	1.8	4.6	Not Detected
Trichloroethene	79-01-6	1.6	2.5	6.2	Not Detected
Vinyl Chloride	75-01-4	0.76	1.2	3.0	Not Detected

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	95



Client ID: 1-SS2-072913

**Lab ID:** 1308171-13A

Date/Time Collected: 7/29/13 12:47 PM

Media: 1 Liter Summa Canister (100% Certified)

Date/Time Analyzed: 8/18/13 07:05 PM

**Dilution Factor:** 2.33

		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.93	1.9	4.7	Not Detected
1,1-Dichloroethene	75-35-4	1.4	1.8	4.6	Not Detected
1,2-Dichloroethane	107-06-2	0.89	1.9	4.7	Not Detected
Chloroethane	75-00-3	4.2	4.9	12	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.84	1.8	4.6	Not Detected
Tetrachloroethene	127-18-4	2.6	3.2	7.9	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.6	1.8	4.6	Not Detected
Trichloroethene	79-01-6	1.6	2.5	6.3	Not Detected
Vinyl Chloride	75-01-4	0.77	1.2	3.0	Not Detected

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	84
4-Bromofluorobenzene	460-00-4	70-130	103
Toluene-d8	2037-26-5	70-130	97



**Client ID:** 1-SS1-072913 **Lab ID:** 1308171-14A

Date/Time Collected: 7/29/13 12:52 PM

Media: 1 Liter Summa Canister (100% Certified)

Date/Time Analyzed: 8/18/13 08:48 PM

**Dilution Factor:** 2.33

		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.93	1.9	4.7	Not Detected
1,1-Dichloroethene	75-35-4	1.4	1.8	4.6	Not Detected
1,2-Dichloroethane	107-06-2	0.89	1.9	4.7	Not Detected
Chloroethane	75-00-3	4.2	4.9	12	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.84	1.8	4.6	Not Detected
Tetrachloroethene	127-18-4	2.6	3.2	7.9	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.6	1.8	4.6	Not Detected
Trichloroethene	79-01-6	1.6	2.5	6.3	Not Detected
Vinyl Chloride	75-01-4	0.77	1.2	3.0	Not Detected

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	88
4-Bromofluorobenzene	460-00-4	70-130	104
Toluene-d8	2037-26-5	70-130	95



**Client ID:** 7-SS3-072913

**Lab ID:** 1308171-15A

Date/Time Collected: 7/29/13 11:01 AM

Media: 1 Liter Summa Canister (100% Certified)

Date/Time Analyzed: 8/18/13 09:14 PM

**Dilution Factor:** 2.45

Company	040#	MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.98	2.0	5.0	Not Detected
1,1-Dichloroethene	75-35-4	1.5	1.9	4.8	Not Detected
1,2-Dichloroethane	107-06-2	0.94	2.0	5.0	Not Detected
Chloroethane	75-00-3	4.4	5.2	13	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.88	1.9	4.8	Not Detected
Tetrachloroethene	127-18-4	2.7	3.3	8.3	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.7	1.9	4.8	Not Detected
Trichloroethene	79-01-6	1.7	2.6	6.6	Not Detected
Vinyl Chloride	75-01-4	0.81	1.2	3.1	Not Detected

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	93
4-Bromofluorobenzene	460-00-4	70-130	105
Toluene-d8	2037-26-5	70-130	98



**Client ID:** 7-SS2-072913

**Lab ID:** 1308171-16A

Date/Time Collected: 7/29/13 11:40 AM

Media: 1 Liter Summa Canister (100% Certified)

Date/Time Analyzed: 8/18/13 09:38 PM

**Dilution Factor:** 2.35

0		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.94	1.9	4.8	Not Detected
1,1-Dichloroethene	75-35-4	1.4	1.9	4.6	Not Detected
1,2-Dichloroethane	107-06-2	0.90	1.9	4.8	Not Detected
Chloroethane	75-00-3	4.2	5.0	12	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.85	1.9	4.6	Not Detected
Tetrachloroethene	127-18-4	2.6	3.2	8.0	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.7	1.9	4.6	Not Detected
Trichloroethene	79-01-6	1.6	2.5	6.3	Not Detected
Vinyl Chloride	75-01-4	0.78	1.2	3.0	Not Detected

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	91
4-Bromofluorobenzene	460-00-4	70-130	103
Toluene-d8	2037-26-5	70-130	98



**Client ID:** 7-SS1-072913 **Lab ID:** 1308171-17A

Date/Time Collected: 7/29/13 10:51 AM

Media: 1 Liter Summa Canister (100% Certified)

Date/Time Analyzed: 8/18/13 10:01 PM

**Dilution Factor:** 2.36

		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.94	1.9	4.8	Not Detected
1,1-Dichloroethene	75-35-4	1.4	1.9	4.7	Not Detected
1,2-Dichloroethane	107-06-2	0.90	1.9	4.8	Not Detected
Chloroethane	75-00-3	4.2	5.0	12	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.85	1.9	4.7	Not Detected
Tetrachloroethene	127-18-4	2.6	3.2	8.0	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.7	1.9	4.7	Not Detected
Trichloroethene	79-01-6	1.6	2.5	6.3	Not Detected
Vinyl Chloride	75-01-4	0.78	1.2	3.0	Not Detected

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	89	
4-Bromofluorobenzene	460-00-4	70-130	108	
Toluene-d8	2037-26-5	70-130	98	



Client ID: 13-SS1-073013 Lab ID: 1308171-18A

Date/Time Collected: 7/30/13 02:11 PM

Media: 1 Liter Summa Canister (100% Certified)

**Date/Time Analyzed:** 8/18/13 10:41 PM

Dilution Factor: 2.57

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,1-Dichloroethane	75-34-3	1.0	2.1	5.2	Not Detected	
1,1-Dichloroethene	75-35-4	1.1	2.0	5.1	Not Detected	
1,2-Dichloroethane	107-06-2	0.85	2.1	5.2	Not Detected	
Chloroethane	75-00-3	2.4	6.1	14	Not Detected	
cis-1,2-Dichloroethene	156-59-2	1.3	2.0	5.1	Not Detected	
Tetrachloroethene	127-18-4	1.6	3.5	8.7	Not Detected	
trans-1,2-Dichloroethene	156-60-5	1.3	2.0	5.1	Not Detected	
Trichloroethene	79-01-6	1.2	2.8	6.9	Not Detected	
Vinyl Chloride	75-01-4	0.96	1.3	3.3	Not Detected	

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	88	
4-Bromofluorobenzene	460-00-4	70-130	106	
Toluene-d8	2037-26-5	70-130	94	



**Client ID:** 11-SS4-073113 **Lab ID:** 1308171-19A

Date/Time Collected: 7/31/13 01:56 PM

Media: 1 Liter Summa Canister (100% Certified)

**Date/Time Analyzed:** 8/18/13 10:09 PM

**Dilution Factor:** 2.30

Compound	CAC#	MDL	LOD	Rpt. Limit	Amount
· ·	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.92	1.9	4.6	Not Detected
1,1-Dichloroethene	75-35-4	1.0	1.8	4.6	Not Detected
1,2-Dichloroethane	107-06-2	0.76	1.9	4.6	Not Detected
Chloroethane	75-00-3	2.1	5.5	12	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.2	1.8	4.6	Not Detected
Tetrachloroethene	127-18-4	1.4	3.1	7.8	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.2	1.8	4.6	Not Detected
Trichloroethene	79-01-6	1.1	2.5	6.2	Not Detected
Vinyl Chloride	75-01-4	0.86	1.2	2.9	Not Detected

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	89	
4-Bromofluorobenzene	460-00-4	70-130	108	
Toluene-d8	2037-26-5	70-130	93	



**Client ID:** 11-SS3-073113 **Lab ID:** 1308171-20A

Date/Time Collected: 7/31/13 01:03 PM

Media: 1 Liter Summa Canister (100% Certified)

**Date/Time Analyzed:** 8/18/13 09:43 PM

**Dilution Factor:** 2.29

0	0.10%	MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.92	1.8	4.6	Not Detected
1,1-Dichloroethene	75-35-4	0.99	1.8	4.5	Not Detected
1,2-Dichloroethane	107-06-2	0.76	1.8	4.6	Not Detected
Chloroethane	75-00-3	2.1	5.4	12	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.2	1.8	4.5	Not Detected
Tetrachloroethene	127-18-4	1.4	3.1	7.8	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.2	1.8	4.5	Not Detected
Trichloroethene	79-01-6	1.1	2.5	6.2	Not Detected
Vinyl Chloride	75-01-4	0.85	1.2	2.9	Not Detected

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	88
4-Bromofluorobenzene	460-00-4	70-130	108
Toluene-d8	2037-26-5	70-130	92



Client ID: 11-SS2-073113 Lab ID: 1308171-21A

Date/Time Collected: 7/31/13 12:52 PM

Media: 1 Liter Summa Canister (100% Certified)

**Date/Time Analyzed:** 8/18/13 09:18 PM

**Dilution Factor:** 2.46

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethane	75-34-3	0.99	2.0	5.0	Not Detected
1,1-Dichloroethene	75-34-3 75-35-4	1.1	2.0		Not Detected  Not Detected
•			-	4.9	
1,2-Dichloroethane	107-06-2	0.81	2.0	5.0	Not Detected
Chloroethane	75-00-3	2.3	5.8	13	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.2	2.0	4.9	Not Detected
Tetrachloroethene	127-18-4	1.5	3.3	8.3	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.2	2.0	4.9	Not Detected
Trichloroethene	79-01-6	1.2	2.6	6.6	Not Detected
Vinyl Chloride	75-01-4	0.92	1.2	3.1	Not Detected

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	86
4-Bromofluorobenzene	460-00-4	70-130	110
Toluene-d8	2037-26-5	70-130	93



Client ID: 11-SS1-073113 Lab ID: 1308171-22A

Date/Time Collected: 7/31/13 01:39 PM

Media: 1 Liter Summa Canister (100% Certified)

Date/Time Analyzed: 8/18/13 08:48 PM

**Dilution Factor:** 2.35

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1.1-Dichloroethane					Not Detected
r, r-Dichioroethane	75-34-3	0.94	1.9	4.8	Not Detected
1,1-Dichloroethene	75-35-4	1.0	1.9	4.6	Not Detected
1,2-Dichloroethane	107-06-2	0.78	1.9	4.8	Not Detected
Chloroethane	75-00-3	2.2	5.6	12	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.2	1.9	4.6	Not Detected
Tetrachloroethene	127-18-4	1.4	3.2	8.0	10
trans-1,2-Dichloroethene	156-60-5	1.2	1.9	4.6	Not Detected
Trichloroethene	79-01-6	1.1	2.5	6.3	Not Detected
Vinyl Chloride	75-01-4	0.88	1.2	3.0	Not Detected

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	88
4-Bromofluorobenzene	460-00-4	70-130	109
Toluene-d8	2037-26-5	70-130	92



Client ID: Lab Blank Lab ID: 1308171-23A

Date/Time Collected: NA - Not Applicable

Media: NA - Not Applicable

**Date/Time Analyzed:** 8/16/13 03:16 PM

Dilution Factor: 1.00

Instrument/Filename: msdj.i / j081606a

0	2.2.	MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.40	0.81	2.0	Not Detected
1,1-Dichloroethene	75-35-4	0.60	0.79	2.0	Not Detected
1,2-Dichloroethane	107-06-2	0.38	0.81	2.0	Not Detected
Chloroethane	75-00-3	1.8	2.1	5.3	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.36	0.79	2.0	Not Detected
Tetrachloroethene	127-18-4	1.1	1.4	3.4	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.71	0.79	2.0	Not Detected
Trichloroethene	79-01-6	0.69	1.1	2.7	Not Detected
Vinyl Chloride	75-01-4	0.33	0.51	1.3	Not Detected

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



Client ID: Lab Blank Lab ID: 1308171-23B

Date/Time Collected: NA - Not Applicable

Media: NA - Not Applicable

Date/Time Analyzed: 8/18/13 11:22 AM

**Dilution Factor:** 1.00

Instrument/Filename: msdj.i / j081806a

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethane	75-34-3	0.40	0.81	2.0	Not Detected
1,1-Dichloroethene	75-35-4	0.60	0.79	2.0	Not Detected
1,2-Dichloroethane	107-06-2	0.38	0.81	2.0	0.40 J
Chloroethane	75-00-3	1.8	2.1	5.3	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.36	0.79	2.0	Not Detected
Tetrachloroethene	127-18-4	1.1	1.4	3.4	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.71	0.79	2.0	Not Detected
Trichloroethene	79-01-6	0.69	1.1	2.7	Not Detected
Vinyl Chloride	75-01-4	0.33	0.51	1.3	Not Detected

#### J = Estimated value.

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	82	
4-Bromofluorobenzene	460-00-4	70-130	104	
Toluene-d8	2037-26-5	70-130	96	



Client ID: Lab Blank
Lab ID: 1308171-23C

**Date/Time Collected:** NA - Not Applicable

Media: NA - Not Applicable

Date/Time Analyzed: 8/18/13 10:48 AM

**Dilution Factor:** 1.00

Instrument/Filename: msd3.i / 3081805a

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethane	75-34-3	0.40	0.81	2.0	Not Detected
1,1-Dichloroethene	75-35-4	0.43	0.79	2.0	Not Detected
1,2-Dichloroethane	107-06-2	0.33	0.81	2.0	0.43 J
Chloroethane	75-00-3	0.93	2.4	5.3	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.51	0.79	2.0	Not Detected
Tetrachloroethene	127-18-4	0.61	1.4	3.4	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.51	0.79	2.0	Not Detected
Trichloroethene	79-01-6	0.47	1.1	2.7	0.55 J
Vinyl Chloride	75-01-4	0.37	0.51	1.3	Not Detected

#### J = Estimated value.

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	77	
4-Bromofluorobenzene	460-00-4	70-130	106	
Toluene-d8	2037-26-5	70-130	91	



Client ID: CCV

**Lab ID:** 1308171-24A **Date/Time Analyzed:** 8/16/13 12:41 PM

**Date/Time Collected:** NA - Not Applicable **Dilution Factor:** 1.00

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	89
1,1-Dichloroethene	75-35-4	99
1,2-Dichloroethane	107-06-2	87
Chloroethane	75-00-3	90
cis-1,2-Dichloroethene	156-59-2	97
Tetrachloroethene	127-18-4	97
trans-1,2-Dichloroethene	156-60-5	96
Trichloroethene	79-01-6	94
Vinyl Chloride	75-01-4	98

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	93
4-Bromofluorobenzene	460-00-4	70-130	104
Toluene-d8	2037-26-5	70-130	99



Client ID: CCV

**Lab ID:** 1308171-24B **Date/Time Analyzed:** 8/18/13 08:52 AM

**Date/Time Collected:** NA - Not Applicable **Dilution Factor:** 1.00

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	87
1,1-Dichloroethene	75-35-4	99
1,2-Dichloroethane	107-06-2	78
Chloroethane	75-00-3	97
cis-1,2-Dichloroethene	156-59-2	105
Tetrachloroethene	127-18-4	98
trans-1,2-Dichloroethene	156-60-5	97
Trichloroethene	79-01-6	92
Vinyl Chloride	75-01-4	100

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	78	
4-Bromofluorobenzene	460-00-4	70-130	103	
Toluene-d8	2037-26-5	70-130	98	



Client ID: CCV

**Lab ID:** 1308171-24C **Date/Time Analyzed:** 8/18/13 09:04 AM

**Date/Time Collected:** NA - Not Applicable **Dilution Factor:** 1.00

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	86
1,1-Dichloroethene	75-35-4	111
1,2-Dichloroethane	107-06-2	76
Chloroethane	75-00-3	87
cis-1,2-Dichloroethene	156-59-2	107
Tetrachloroethene	127-18-4	111
trans-1,2-Dichloroethene	156-60-5	102
Trichloroethene	79-01-6	92
Vinyl Chloride	75-01-4	86

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	77	
4-Bromofluorobenzene	460-00-4	70-130	107	
Toluene-d8	2037-26-5	70-130	92	



Client ID: LCS

**Lab ID:** 1308171-25A **Date/Time Analyzed:** 8/16/13 01:15 PM

**Date/Time Collected:** NA - Not Applicable **Dilution Factor:** 1.00

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	88
1,1-Dichloroethene	75-35-4	110
1,2-Dichloroethane	107-06-2	89
Chloroethane	75-00-3	96
cis-1,2-Dichloroethene	156-59-2	99
Tetrachloroethene	127-18-4	100
trans-1,2-Dichloroethene	156-60-5	112
Trichloroethene	79-01-6	102
Vinyl Chloride	75-01-4	104

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	88	
4-Bromofluorobenzene	460-00-4	70-130	106	
Toluene-d8	2037-26-5	70-130	101	

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Client ID: LCSD

**Lab ID:** 1308171-25AA **Date/Time Analyzed:** 8/16/13 01:51 PM

**Date/Time Collected:** NA - Not Applicable **Dilution Factor:** 1.00

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	90
1,1-Dichloroethene	75-35-4	110
1,2-Dichloroethane	107-06-2	88
Chloroethane	75-00-3	99
cis-1,2-Dichloroethene	156-59-2	100
Tetrachloroethene	127-18-4	98
trans-1,2-Dichloroethene	156-60-5	112
Trichloroethene	79-01-6	102
Vinyl Chloride	75-01-4	104

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	88	
4-Bromofluorobenzene	460-00-4	70-130	103	
Toluene-d8	2037-26-5	70-130	101	

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Client ID: LCS

**Lab ID:** 1308171-25B **Date/Time Analyzed:** 8/18/13 09:25 AM

**Date/Time Collected:** NA - Not Applicable **Dilution Factor:** 1.00

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	90
1,1-Dichloroethene	75-35-4	113
1,2-Dichloroethane	107-06-2	77
Chloroethane	75-00-3	102
cis-1,2-Dichloroethene	156-59-2	102
Tetrachloroethene	127-18-4	101
trans-1,2-Dichloroethene	156-60-5	116
Trichloroethene	79-01-6	100
Vinyl Chloride	75-01-4	108

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	80	
4-Bromofluorobenzene	460-00-4	70-130	103	
Toluene-d8	2037-26-5	70-130	97	

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Client ID: LCSD

**Lab ID:** 1308171-25BB **Date/Time Analyzed:** 8/18/13 09:49 AM

**Date/Time Collected:** NA - Not Applicable **Dilution Factor:** 1.00

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	86
1,1-Dichloroethene	75-35-4	106
1,2-Dichloroethane	107-06-2	77
Chloroethane	75-00-3	94
cis-1,2-Dichloroethene	156-59-2	99
Tetrachloroethene	127-18-4	98
trans-1,2-Dichloroethene	156-60-5	113
Trichloroethene	79-01-6	98
Vinyl Chloride	75-01-4	106

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	80	
4-Bromofluorobenzene	460-00-4	70-130	104	
Toluene-d8	2037-26-5	70-130	100	

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Client ID: LCS

**Lab ID:** 1308171-25C **Date/Time Analyzed:** 8/18/13 09:34 AM

**Date/Time Collected:** NA - Not Applicable **Dilution Factor:** 1.00

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	90
1,1-Dichloroethene	75-35-4	124
1,2-Dichloroethane	107-06-2	78
Chloroethane	75-00-3	90
cis-1,2-Dichloroethene	156-59-2	112
Tetrachloroethene	127-18-4	111
trans-1,2-Dichloroethene	156-60-5	123
Trichloroethene	79-01-6	95
Vinyl Chloride	75-01-4	93

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	80	
4-Bromofluorobenzene	460-00-4	70-130	109	
Toluene-d8	2037-26-5	70-130	93	

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Client ID: LCSD

**Lab ID:** 1308171-25CC **Date/Time Analyzed:** 8/18/13 10:18 AM

**Date/Time Collected:** NA - Not Applicable **Dilution Factor:** 1.00

Media: NA - Not Applicable Instrument/Filename: msd3.i / 3081804

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	77
1,1-Dichloroethene	75-35-4	106
1,2-Dichloroethane	107-06-2	67 Q
Chloroethane	75-00-3	79
cis-1,2-Dichloroethene	156-59-2	94
Tetrachloroethene	127-18-4	94
trans-1,2-Dichloroethene	156-60-5	104
Trichloroethene	79-01-6	82
Vinyl Chloride	75-01-4	81

### Q = Exceeds Quality Control limits.

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	76	
4-Bromofluorobenzene	460-00-4	70-130	106	
Toluene-d8	2037-26-5	70-130	92	

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



### CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice

Recording signature on this document indicates that sample is being shipped in compliance with 180 SEUE RAVINE ROAD, SUITE 9 ati applicable local. State, Focarat, national, and international taws, regulations and ordinances of any rand. Air Toxics Limited assumes no liability with respect to the collection, handling or etiaping of those samples. Refinguishing signature size inclustes agreement to hold harmless, defend, and Indomnify Air Toxics United against any stalm, demand, priaction, of any kind, related to the collection, handling, or sivipping of pamples, D.O.T. Hattine (800) 467-4922.

FOLSOM, CA 95630-4719 (916) 935-1000 FAX (915) 955-1020

Page 1 of 6

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### CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in pornalization with 180 RLUE RAVINE ROAD, SUITE 6 at applicable local. State Federal, national, and international laws, regulations and ordinances of any kind. Air foxios Littled bassumes no liability with respect to the collection, heitdCing of shipping of these samples. Relaquishing signature also indicates agreement to hold harmless, defend. and indemnity Air Toxics Utrified against any claim, demand, or sotion, of any kind, referred to the collection, handling, or shipping of camples, O.C.T. Hatline (900) 467-4922

FOLSOM, CA 95630-4719 (918) 985-1000 FAX (916) 985-1020

Page Z 여 😥

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### CHAIN-OF-CUSTODY RECORD

THE PRESENCE GROWN OF ISSUED AND PROPERTY.

Sample Transportation Notice

Healing dishing signature on this document indicates that sample is being shipped in exhiption of the BLUE RAVINE ROAD, SUITE B at applicable total. State. Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handing anotherping of those compact. Relinquishing signature also indicates agreement to hold harmlass, detend, and indemnity Air Toxics Limited against any daint, demand, or action, of any kind, related to the collection, handling, or shipping of camples, D.O. I. Harting (800) / 67,4599.

FOLSOM, CA 95636-4719 (916) 995-1000 FAX (916) 985-1020

Page 3 of 6

Project Manager _	Project Manager 3.11 Design (c. Project Imp.: Turn Around Lab Lac Cont									
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#### MFA Project #8006.31.00.

Here is the list of analytes with our screening values.

For all of the listed analytes, please ensure that the reported concentrations on the issued report(s) are below the screening values listed below. In most cases, the MRL will be below the screening value so the MRL should be reported. However, some samples may need the MDL reported instead, in order attain a reported value below the screening value. Please use the MRL as not default reported value, unless the MOL is necessary.

Please assess the need to use the MRL or MDL on a sample by sample (and analyte by analyte) basis.

Analyte	Air Screening Values (µg/m³) for 6-liter canisters	Soil Gas Streening Values (µg/m²) for 1 liter canisters
. 1,1 dichloroethane	i320	3200
1,1-dichloroethene	91	910
1,2-dichloroothane	0.096	0.96
Chlordethane	3	7 30
C's-1,2- dichlorombene	16	160
Tetrashioroethene	9.6	96
Trans 1,2- dichorpethene	32	320
Trichicroethene	0.37 -	3.7
Vinyi chloride	0.28	28
Flefium **	Plusse Seport Logge WHE	Please Report to the MRL

Phase give me a call if you have any questions regarding this request.

⊌aa⊃rde.

Tiomes Ashton

503-501-5204



8/19/2013

Mr. Thomas Ashton Maul Foster and Alongi Inc. 2001 NW 19th Ave Suite 200 Portland OR 97209

Project Name: Park Laundry

Project #: 8006.31.01 Workorder #: 1308172A

Dear Mr. Thomas Ashton

The following report includes the data for the above referenced project for sample(s) received on 8/6/2013 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

**Project Manager** 

Welly Butte



### WORK ORDER #: 1308172A

Work Order Summary

CLIENT: Mr. Thomas Ashton BILL TO: Accounts Payable

Maul Foster and Alongi Inc.

Maul Foster and Alongi Inc.

2001 NW 19th Ave 400 E. Mill Plain Blvd

Suite 200 Suite 400

Portland, OR 97209 Vancouver, WA 98660

**PHONE:** 971-544-2139 **P.O.** #

**FAX:** 971-544-2140 **PROJECT** # 8006.31.01 Park Laundry

**DATE RECEIVED:** 08/06/2013 **CONTACT:** Kelly Buettner 08/19/2013

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
01A	13-IA2-073013	Modified TO-15 SIM	1.0 "Hg	5 psi
02A	13-IA1-073013	Modified TO-15 SIM	5.4 "Hg	5 psi
03A	5-IA3-073013	Modified TO-15 SIM	4.4 "Hg	5 psi
05A	11-IA2-072913	Modified TO-15 SIM	3.2 "Hg	5 psi
06A	11-IA3-072913	Modified TO-15 SIM	3.2 "Hg	5 psi
08A	11-IA1-072913	Modified TO-15 SIM	3.2 "Hg	5 psi
10A	9-IA1-072913	Modified TO-15 SIM	3.2 "Hg	5 psi
11A	7-IA2-072913	Modified TO-15 SIM	2.0 "Hg	5 psi
12A	7-IA1-072913	Modified TO-15 SIM	4.2 "Hg	5 psi
13A	9-IA2-072913	Modified TO-15 SIM	2.8 "Hg	5 psi
14A	10-IA2-072913	Modified TO-15 SIM	3.4 "Hg	5 psi
15A	10-CS1-072913	Modified TO-15 SIM	3.4 "Hg	5 psi
17A	1-IA2-072913	Modified TO-15 SIM	4.0 "Hg	5 psi
18A	1-IA1-072913	Modified TO-15 SIM	4.5 "Hg	5 psi
19A	Lab Blank	Modified TO-15 SIM	NA	NA
19B	Lab Blank	Modified TO-15 SIM	NA	NA
20A	CCV	Modified TO-15 SIM	NA	NA
20B	CCV	Modified TO-15 SIM	NA	NA
21A	LCS	Modified TO-15 SIM	NA	NA
21AA	LCSD	Modified TO-15 SIM	NA	NA
21B	LCS	Modified TO-15 SIM	NA	NA
21BB	LCSD	Modified TO-15 SIM	NA	NA

	fleide flages	
CERTIFIED BY:		DATE: 08/19/13
CERTIFIED DIT		

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291, TX NELAP - T104704434-12-4, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.

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

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#### LABORATORY NARRATIVE Modified TO-15 SIM Maul Foster and Alongi Inc. Workorder# 1308172A

Fourteen 6 Liter Summa Canister (SIM Certified) samples were received on August 06, 2013. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition 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.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	=30% RSD with 2<br compounds allowed out to < 40% RSD	Project specific; default criteria is =30% RSD with 10% of compounds allowed out to < 40% RSD</td
Daily Calibration	+- 30% Difference	Project specific; default criteria is = 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers</td
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

As per project specific client request, the laboratory has reported estimated values for target compound 1,2-Dichloroethane 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.

Dilution was performed on sample 9-IA1-072913 due to the presence of high level non-target species.

#### **Definition of Data Qualifying Flags**

Eight 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.

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



**Client ID:** 13-IA2-073013

**Lab ID:** 1308172A-01A **Date/Time Analyzed:** 8/13/13 09:23 PM

Date/Time Collecte 7/30/13 01:39 PM Dilution Factor: 1.39

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdc.i / c081315sim

		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.0024	0.022	0.11	Not Detected
1,1-Dichloroethene	75-35-4	0.0022	0.022	0.055	Not Detected
1,2-Dichloroethane	107-06-2	0.024	0.024	0.11	2.2
Chloroethane	75-00-3	0.010	NA	0.18	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.0098	0.022	0.11	Not Detected
Tetrachloroethene	127-18-4	0.011	0.038	0.19	0.36
trans-1,2-Dichloroethene	156-60-5	0.013	0.022	0.55	Not Detected
Trichloroethene	79-01-6	0.0060	0.030	0.15	Not Detected
Vinyl Chloride	75-01-4	0.0048	0.014	0.036	Not Detected

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	107	
4-Bromofluorobenzene	460-00-4	70-130	97	
Toluene-d8	2037-26-5	70-130	104	



**Client ID:** 13-IA1-073013

**Lab ID:** 1308172A-02A **Date/Time Analyzed:** 8/13/13 09:59 PM

Date/Time Collecte 7/30/13 01:36 PM Dilution Factor: 1.63

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdc.i / c081316sim

0	212"	MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,1-Dichloroethane	75-34-3	0.0028	0.026	0.13	Not Detected	
1,1-Dichloroethene	75-35-4	0.0026	0.026	0.065	Not Detected	
1,2-Dichloroethane	107-06-2	0.028	0.028	0.13	0.57	
Chloroethane	75-00-3	0.012	NA	0.22	Not Detected	
cis-1,2-Dichloroethene	156-59-2	0.012	0.026	0.13	Not Detected	
Tetrachloroethene	127-18-4	0.013	0.044	0.22	Not Detected	
trans-1,2-Dichloroethene	156-60-5	0.016	0.026	0.65	Not Detected	
Trichloroethene	79-01-6	0.0071	0.035	0.18	Not Detected	
Vinyl Chloride	75-01-4	0.0056	0.017	0.042	Not Detected	

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	105	
4-Bromofluorobenzene	460-00-4	70-130	96	
Toluene-d8	2037-26-5	70-130	104	



**Client ID:** 5-IA3-073013

**Lab ID:** 1308172A-03A

Date/Time Collecte 7/30/13 10:14 AM Dilution Factor:

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdc.i / c081317sim

0	040"	MDL (***/***2)	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,1-Dichloroethane	75-34-3	0.0027	0.025	0.13	Not Detected	
1,1-Dichloroethene	75-35-4	0.0025	0.025	0.062	Not Detected	
1,2-Dichloroethane	107-06-2	0.027	0.027	0.13	0.15	
Chloroethane	75-00-3	0.011	NA	0.21	Not Detected	
cis-1,2-Dichloroethene	156-59-2	0.011	0.025	0.12	Not Detected	
Tetrachloroethene	127-18-4	0.013	0.042	0.21	0.81	
trans-1,2-Dichloroethene	156-60-5	0.015	0.025	0.62	Not Detected	
Trichloroethene	79-01-6	0.0068	0.034	0.17	0.68	
Vinyl Chloride	75-01-4	0.0054	0.016	0.040	Not Detected	

Date/Time Analyzed:

8/13/13 10:47 PM

1.57

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	105	
4-Bromofluorobenzene	460-00-4	70-130	99	
Toluene-d8	2037-26-5	70-130	105	



**Client ID:** 11-IA2-072913

**Lab ID:** 1308172A-05A **Date/Time Analyzed:** 8/14/13 06:00 AM

Date/Time Collecte 7/29/13 12:36 PM Dilution Factor: 1.50

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdc.i / c081318sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1.1-Dichloroethane	75-34-3	0.0026	0.024	0.12	Not Detected	
1,1-Dichloroethene	75-35-4	0.0024	0.024	0.059	Not Detected	
1,2-Dichloroethane	107-06-2	0.025	0.026	0.12	0.54	
Chloroethane	75-00-3	0.011	NA	0.20	Not Detected	
cis-1,2-Dichloroethene	156-59-2	0.010	0.024	0.12	Not Detected	
Tetrachloroethene	127-18-4	0.012	0.041	0.20	Not Detected	
trans-1,2-Dichloroethene	156-60-5	0.014	0.024	0.59	Not Detected	
Trichloroethene	79-01-6	0.0065	0.032	0.16	Not Detected	
Vinyl Chloride	75-01-4	0.0052	0.015	0.038	Not Detected	

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	105	
4-Bromofluorobenzene	460-00-4	70-130	95	
Toluene-d8	2037-26-5	70-130	105	



Client ID: 11-IA3-072913

Lab ID: 1308172A-06A Date/Time Analyzed:

**Date/Time Collecte** 7/29/13 12:38 PM **Dilution Factor:** 1.50

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdc.i / c081319sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,1-Dichloroethane	75-34-3	0.0026	0.024	0.12	Not Detected	
1,1-Dichloroethene	75-35-4	0.0024	0.024	0.059	Not Detected	
1,2-Dichloroethane	107-06-2	0.025	0.026	0.12	0.39	
Chloroethane	75-00-3	0.011	NA	0.20	Not Detected	
cis-1,2-Dichloroethene	156-59-2	0.010	0.024	0.12	Not Detected	
Tetrachloroethene	127-18-4	0.012	0.041	0.20	0.29	
trans-1,2-Dichloroethene	156-60-5	0.014	0.024	0.59	Not Detected	
Trichloroethene	79-01-6	0.0065	0.032	0.16	Not Detected	
Vinyl Chloride	75-01-4	0.0052	0.015	0.038	Not Detected	

8/14/13 06:36 AM

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	105	
4-Bromofluorobenzene	460-00-4	70-130	94	
Toluene-d8	2037-26-5	70-130	104	



**Client ID:** 11-IA1-072913

**Lab ID:** 1308172A-08A **Date/Time Analyzed:** 8/14/13 07:11 AM

Date/Time Collecte 7/29/13 12:34 PM Dilution Factor: 1.50

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdc.i / c081320sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,1-Dichloroethane	75-34-3	0.0026	0.024	0.12	Not Detected	
1,1-Dichloroethene	75-35-4	0.0024	0.024	0.059	Not Detected	
1,2-Dichloroethane	107-06-2	0.025	0.026	0.12	0.54	
Chloroethane	75-00-3	0.011	NA	0.20	Not Detected	
cis-1,2-Dichloroethene	156-59-2	0.010	0.024	0.12	Not Detected	
Tetrachloroethene	127-18-4	0.012	0.041	0.20	0.46	
trans-1,2-Dichloroethene	156-60-5	0.014	0.024	0.59	Not Detected	
Trichloroethene	79-01-6	0.0065	0.032	0.16	Not Detected	
Vinyl Chloride	75-01-4	0.0052	0.015	0.038	0.074	

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	105	
4-Bromofluorobenzene	460-00-4	70-130	94	
Toluene-d8	2037-26-5	70-130	104	



**Client ID:** 9-IA1-072913

**Lab ID:** 1308172A-10A

Date/Time Collecte 7/29/13 10:51 AM

Media: 6 Liter Summa Canister (SIM Certified)

Date/Time Analyzed: 8/14/13 07:59 AM

**Dilution Factor:** 3.12

Instrument/Filename: msdc.i / c081321sim

Commound	040#	MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.0054	0.050	0.25	Not Detected
1,1-Dichloroethene	75-35-4	0.0049	0.049	0.12	Not Detected
1,2-Dichloroethane	107-06-2	0.053	0.053	0.25	0.47
Chloroethane	75-00-3	0.023	NA	0.41	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.022	0.049	0.25	Not Detected
Tetrachloroethene	127-18-4	0.026	0.085	0.42	1.1
trans-1,2-Dichloroethene	156-60-5	0.030	0.049	1.2	Not Detected
Trichloroethene	79-01-6	0.014	0.067	0.34	1.3
Vinyl Chloride	75-01-4	0.011	0.032	0.080	0.083

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	102	
4-Bromofluorobenzene	460-00-4	70-130	93	
Toluene-d8	2037-26-5	70-130	103	



Client ID: 7-IA2-072913 Lab ID: 1308172A-11A

Date/Time Collecte 7/29/13 10:05 AM

Media: 6 Liter Summa Canister (SIM Certified)

Date/Time Analyzed: 8/14/13 12:53 PM

Dilution Factor: 1.44

Instrument/Filename: msdc.i / c081407sim

		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.0025	0.023	0.12	Not Detected
1,1-Dichloroethene	75-35-4	0.0023	0.023	0.057	Not Detected
1,2-Dichloroethane	107-06-2	0.024	0.024	0.12	0.10 J
Chloroethane	75-00-3	0.010	NA	0.19	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.010	0.023	0.11	Not Detected
Tetrachloroethene	127-18-4	0.012	0.039	0.20	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.014	0.023	0.57	Not Detected
Trichloroethene	79-01-6	0.0063	0.031	0.15	Not Detected
Vinyl Chloride	75-01-4	0.0050	0.015	0.037	Not Detected

#### J = Estimated value.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	106
4-Bromofluorobenzene	460-00-4	70-130	97
Toluene-d8	2037-26-5	70-130	103



**Client ID:** 7-IA1-072913

**Lab ID:** 1308172A-12A **Date/Time Collecte** 7/29/13 10:04 AM

Media: 6 Liter Summa Canister (SIM Certified)

Date/Time Analyzed: 8/14/13 01:46 PM

**Dilution Factor:** 1.56

Instrument/Filename: msdc.i / c081408sim

		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.0027	0.025	0.13	Not Detected
1,1-Dichloroethene	75-35-4	0.0025	0.025	0.062	Not Detected
1,2-Dichloroethane	107-06-2	0.026	0.026	0.13	0.076 J
Chloroethane	75-00-3	0.011	NA	0.20	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.011	0.025	0.12	Not Detected
Tetrachloroethene	127-18-4	0.013	0.042	0.21	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.015	0.025	0.62	Not Detected
Trichloroethene	79-01-6	0.0068	0.034	0.17	Not Detected
Vinyl Chloride	75-01-4	0.0054	0.016	0.040	Not Detected

#### J = Estimated value.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	106
4-Bromofluorobenzene	460-00-4	70-130	98
Toluene-d8	2037-26-5	70-130	104



**Client ID:** 9-IA2-072913

**Lab ID:** 1308172A-13A

Date/Time Collecte 7/29/13 10:43 AM

Media: 6 Liter Summa Canister (SIM Certified)

Date/Time Analyzed: 8/14/13 02:33 PM

**Dilution Factor:** 1.48

Instrument/Filename: msdc.i / c081409sim

		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.0026	0.024	0.12	Not Detected
1,1-Dichloroethene	75-35-4	0.0023	0.023	0.059	Not Detected
1,2-Dichloroethane	107-06-2	0.025	0.025	0.12	0.14
Chloroethane	75-00-3	0.011	NA	0.20	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.010	0.023	0.12	Not Detected
Tetrachloroethene	127-18-4	0.012	0.040	0.20	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.014	0.023	0.59	Not Detected
Trichloroethene	79-01-6	0.0064	0.032	0.16	Not Detected
Vinyl Chloride	75-01-4	0.0051	0.015	0.038	Not Detected

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	105	
4-Bromofluorobenzene	460-00-4	70-130	97	
Toluene-d8	2037-26-5	70-130	103	



Client ID: 10-IA2-072913 Lab ID: 1308172A-14A

Date/Time Collecte 7/29/13 11:46 AM

Media: 6 Liter Summa Canister (SIM Certified)

Date/Time Analyzed: 8/14/13 03:25 PM

**Dilution Factor:** 1.51

Instrument/Filename: msdc.i / c081410sim

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,1-Dichloroethane	75-34-3	0.0026	0.024	0.12	Not Detected	
1,1-Dichloroethene	75-35-4	0.0024	0.024	0.060	Not Detected	
1,2-Dichloroethane	107-06-2	0.026	0.026	0.12	0.33	
Chloroethane	75-00-3	0.011	NA	0.20	Not Detected	
cis-1,2-Dichloroethene	156-59-2	0.011	0.024	0.12	Not Detected	
Tetrachloroethene	127-18-4	0.012	0.041	0.20	Not Detected	
trans-1,2-Dichloroethene	156-60-5	0.014	0.024	0.60	Not Detected	
Trichloroethene	79-01-6	0.0066	0.032	0.16	Not Detected	
Vinyl Chloride	75-01-4	0.0052	0.015	0.038	Not Detected	

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	106	
4-Bromofluorobenzene	460-00-4	70-130	96	
Toluene-d8	2037-26-5	70-130	104	



**Client ID:** 10-CS1-072913

**Lab ID:** 1308172A-15A

Date/Time Collecte 7/29/13 11:48 AM

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdc.i / c081411sim

	,					
		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,1-Dichloroethane	75-34-3	0.0026	0.024	0.12	Not Detected	
1,1-Dichloroethene	75-35-4	0.0024	0.024	0.060	Not Detected	
1,2-Dichloroethane	107-06-2	0.026	0.026	0.12	0.055 J	
Chloroethane	75-00-3	0.011	NA	0.20	Not Detected	
cis-1,2-Dichloroethene	156-59-2	0.011	0.024	0.12	Not Detected	
Tetrachloroethene	127-18-4	0.012	0.041	0.20	Not Detected	
trans-1,2-Dichloroethene	156-60-5	0.014	0.024	0.60	Not Detected	
Trichloroethene	79-01-6	0.0066	0.032	0.16	Not Detected	
Vinyl Chloride	75-01-4	0.0052	0.015	0.038	Not Detected	

Date/Time Analyzed:

**Dilution Factor:** 

8/14/13 04:12 PM

1.51

#### J = Estimated value.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	107
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	104



**Client ID:** 1-IA2-072913

**Lab ID:** 1308172A-17A

Date/Time Collecte 7/29/13 12:03 PM

Media: 6 Liter Summa Canister (SIM Certified)

Date/Time Analyzed: 8/14/13 05:36 PM

**Dilution Factor:** 1.55

Instrument/Filename: msdc.i / c081413sim

O-manual.	040#	MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.0027	0.025	0.12	Not Detected
1,1-Dichloroethene	75-35-4	0.0024	0.024	0.061	Not Detected
1,2-Dichloroethane	107-06-2	0.026	0.026	0.12	0.074 J
Chloroethane	75-00-3	0.011	NA	0.20	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.011	0.024	0.12	Not Detected
Tetrachloroethene	127-18-4	0.013	0.042	0.21	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.015	0.024	0.61	Not Detected
Trichloroethene	79-01-6	0.0067	0.033	0.17	0.47
Vinyl Chloride	75-01-4	0.0053	0.016	0.040	Not Detected

#### J = Estimated value.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	108
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	104



**Client ID:** 1-IA1-072913

**Lab ID:** 1308172A-18A

Date/Time Collecte 7/29/13 12:00 PM

Media: 6 Liter Summa Canister (SIM Certified)

Date/Time Analyzed: 8/14/13 06:18 PM

**Dilution Factor:** 1.58

Instrument/Filename: msdc.i / c081414sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,1-Dichloroethane	75-34-3	0.0028	0.026	0.13	Not Detected	
1,1-Dichloroethene	75-35-4	0.0025	0.025	0.063	Not Detected	
1,2-Dichloroethane	107-06-2	0.027	0.027	0.13	0.17	
Chloroethane	75-00-3	0.012	NA	0.21	Not Detected	
cis-1,2-Dichloroethene	156-59-2	0.011	0.025	0.12	Not Detected	
Tetrachloroethene	127-18-4	0.013	0.043	0.21	Not Detected	
trans-1,2-Dichloroethene	156-60-5	0.015	0.025	0.63	Not Detected	
Trichloroethene	79-01-6	0.0069	0.034	0.17	2.2	
Vinyl Chloride	75-01-4	0.0054	0.016	0.040	Not Detected	

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	111	
4-Bromofluorobenzene	460-00-4	70-130	97	
Toluene-d8	2037-26-5	70-130	102	



Client ID: Lab Blank Lab ID: 1308172A-19A

Date/Time Collecte NA - Not Applicable

Media: NA - Not Applicable

Date/Time Analyzed: 8/13/13 01:05 PM

**Dilution Factor:** 1.00

Instrument/Filename: msdc.i / c081306simc

		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.0017	0.016	0.081	Not Detected
1,1-Dichloroethene	75-35-4	0.0016	0.016	0.040	Not Detected
1,2-Dichloroethane	107-06-2	0.017	0.017	0.081	Not Detected
Chloroethane	75-00-3	0.0073	NA	0.13	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.0070	0.016	0.079	Not Detected
Tetrachloroethene	127-18-4	0.0082	0.027	0.14	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.0095	0.016	0.40	Not Detected
Trichloroethene	79-01-6	0.0044	0.022	0.11	Not Detected
Vinyl Chloride	75-01-4	0.0034	0.010	0.026	Not Detected

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	105	
4-Bromofluorobenzene	460-00-4	70-130	96	
Toluene-d8	2037-26-5	70-130	103	



Client ID: Lab Blank

Lab ID: 1308172A-19B Date/Time Analyzed:

Date/Time CollecteNA - Not ApplicableDilution Factor:1.00

Media: NA - Not Applicable Instrument/Filename: msdc.i / c081406sima

Compound	CAS#	MDL	LOD	Rpt. Limit	Amount	
Compound	CA5#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,1-Dichloroethane	75-34-3	0.0017	0.016	0.081	Not Detected	
1,1-Dichloroethene	75-35-4	0.0016	0.016	0.040	Not Detected	
1,2-Dichloroethane	107-06-2	0.017	0.017	0.081	Not Detected	
Chloroethane	75-00-3	0.0073	NA	0.13	Not Detected	
cis-1,2-Dichloroethene	156-59-2	0.0070	0.016	0.079	Not Detected	
Tetrachloroethene	127-18-4	0.0082	0.027	0.14	Not Detected	
trans-1,2-Dichloroethene	156-60-5	0.0095	0.016	0.40	Not Detected	
Trichloroethene	79-01-6	0.0044	0.022	0.11	Not Detected	
Vinyl Chloride	75-01-4	0.0034	0.010	0.026	Not Detected	

8/14/13 12:03 PM

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	104	
4-Bromofluorobenzene	460-00-4	70-130	96	
Toluene-d8	2037-26-5	70-130	103	



Client ID: CCV

**Lab ID:** 1308172A-20A **Date/Time Analyzed:** 8/13/13 09:17 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdc.i / c081302sim

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	99
1,1-Dichloroethene	75-35-4	96
1,2-Dichloroethane	107-06-2	102
Chloroethane	75-00-3	97
cis-1,2-Dichloroethene	156-59-2	92
Tetrachloroethene	127-18-4	101
trans-1,2-Dichloroethene	156-60-5	95
Trichloroethene	79-01-6	95
Vinyl Chloride	75-01-4	90

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	106	
4-Bromofluorobenzene	460-00-4	70-130	105	
Toluene-d8	2037-26-5	70-130	92	



Client ID: CCV

**Lab ID:** 1308172A-20B **Date/Time Analyzed:** 8/14/13 08:59 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdc.i / c081402sim

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	99
1,1-Dichloroethene	75-35-4	100
1,2-Dichloroethane	107-06-2	103
Chloroethane	75-00-3	97
cis-1,2-Dichloroethene	156-59-2	92
Tetrachloroethene	127-18-4	99
trans-1,2-Dichloroethene	156-60-5	97
Trichloroethene	79-01-6	94
Vinyl Chloride	75-01-4	86

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	107	
4-Bromofluorobenzene	460-00-4	70-130	108	
Toluene-d8	2037-26-5	70-130	93	



Client ID: LCS

**Lab ID:** 1308172A-21A **Date/Time Analyzed:** 8/13/13 10:07 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdc.i / c081303sim

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	100
1,1-Dichloroethene	75-35-4	107
1,2-Dichloroethane	107-06-2	104
Chloroethane	75-00-3	100
cis-1,2-Dichloroethene	156-59-2	95
Tetrachloroethene	127-18-4	100
trans-1,2-Dichloroethene	156-60-5	110
Trichloroethene	79-01-6	96
Vinyl Chloride	75-01-4	92

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	108	
4-Bromofluorobenzene	460-00-4	70-130	110	
Toluene-d8	2037-26-5	70-130	93	

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Client ID: LCSD

**Lab ID:** 1308172A-21AA **Date/Time Analyzed:** 8/13/13 10:57 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdc.i / c081304sim

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	100
1,1-Dichloroethene	75-35-4	107
1,2-Dichloroethane	107-06-2	104
Chloroethane	75-00-3	98
cis-1,2-Dichloroethene	156-59-2	94
Tetrachloroethene	127-18-4	100
trans-1,2-Dichloroethene	156-60-5	109
Trichloroethene	79-01-6	96
Vinyl Chloride	75-01-4	91

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	107	
4-Bromofluorobenzene	460-00-4	70-130	108	
Toluene-d8	2037-26-5	70-130	92	

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Client ID: LCS

**Lab ID:** 1308172A-21B **Date/Time Analyzed:** 8/14/13 09:41 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdc.i / c081403sim

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	100
1,1-Dichloroethene	75-35-4	109
1,2-Dichloroethane	107-06-2	106
Chloroethane	75-00-3	102
cis-1,2-Dichloroethene	156-59-2	95
Tetrachloroethene	127-18-4	100
trans-1,2-Dichloroethene	156-60-5	112
Trichloroethene	79-01-6	96
Vinyl Chloride	75-01-4	90

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	108	
4-Bromofluorobenzene	460-00-4	70-130	110	
Toluene-d8	2037-26-5	70-130	93	

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Client ID: LCSD

**Lab ID:** 1308172A-21BB **Date/Time Analyzed:** 8/14/13 10:23 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdc.i / c081404sim

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	100
1,1-Dichloroethene	75-35-4	110
1,2-Dichloroethane	107-06-2	106
Chloroethane	75-00-3	103
cis-1,2-Dichloroethene	156-59-2	95
Tetrachloroethene	127-18-4	100
trans-1,2-Dichloroethene	156-60-5	112
Trichloroethene	79-01-6	96
Vinyl Chloride	75-01-4	91

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	107
4-Bromofluorobenzene	460-00-4	70-130	111
Toluene-d8	2037-26-5	70-130	95

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



#### **CHAIN-OF-CUSTODY RECORD**

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federai, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA 95630-4719 (916) 985-1000 FAX (916) 985-1020

Page 3 of 6

Project Manager 13.11 Beadie			Project Info:					Turn Around		Lab Use Only			
Collected by	1: (Print and Sign) Thomas Agusa -		Za.	P.O. #						me:	Press	urized by:	
Company MFA Email trishtone manifoster							[	🔀 Normal		Date:			
Address Zoo	NW 19th Ave City Portland St	ate OZZip 47	200	Projec	1# <u>8006</u>	, 51,01			Rush Rush		Pressurization Gas:		Gas:
Риоле	503-501-5204 Fax			Projec	t Name <u>Par</u>	k Lac	ndry			pecify		Ñ <sub>2</sub> H	é
1000 6157 A	,		D	ate	Time		1070 December of the second		9100 MAXICON (22)	Canis	ter Pres	sure/Vac	uum
Lab I.D.	Field Sample I.D. (Location)	Can #	of Co	llection	of Collection	Analy	ses Re	quest	ted	Initial	Final	Receipt	Final
	11-552-073113	35649	7/:	31/13	12:52	TO-15	51 M	5 e e	, i.e.c.	-24	-5		
	11-551-073113	37713	7/	3//13	13:39		Particular Section 1			30	~5		
91/	13-IAZ-073013	33376	71:	39/13	13:35		a training and a second			- 30	-2.5		
074	13- IAI-073013	1588	713	3-113	13:36		**Coligates parent			- 30	-55		
JJA	5-IA3-073013	4214	7/	30/13	10:14		ant top day,			-29	-5		
	0A3-073013	12957	713	0/13	1322		Iold			-30	-5		
05/A	11- IAZ-072913	33909	7/2	9/13	12:36	TO-15	SIM.	Sec. 1	du bes	-3	~ 3		
06A	11-I43-072913	11026	7/3	9/13	12:38						-35		
	0A1-072913	5 361	7/2	9/13	11:32	H	Ad			-30	- 5		
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#### **CHAIN-OF-CUSTODY RECORD**

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with 180 BLUE RAVINE ROAD, SUITE B all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples, D.O.T. Hotline (800) 467-4922

FOLSOM, CA 95630-4719 (916) 985-1000 FAX (916) 985-1020

Page 4\_ of 6\_

Project Manager Sill Beadic			Pro	oject Info:	Turn Around Time:		Lab Use Only			
Collected by: (Print and Sign) Thomas Ashton			P.O	) #					urized by:	
Company	MFA Email task	ntoneo moul Fost	Laza I		***************************************	M No		Date:		
Address 2	DOLAN 19th Ave City Portland	State <u>CR</u> Zip <u>977</u>	201 Pro	ject # <u>800.</u>	31.01	Ru	ısh	Press	urization (	Gas:
Phone	503501-5204 Fax		Pro	ject Name	K Laundry	sp	necify		N <sub>2</sub> H	e
			Date	Time		H.C. WOLLDWING CO.	Canist	ter Pres	sure/Vac	uum
Lab I.D.	Field Sample I.D. (Location)	Can#	of Collecti	on of Collection	Analyses Reques	sted	Initial	Final	Receipt	Final (psi)
	0AZ-07Z913	32109	7129/	/3 //:25	Hold		- 24.5	-5		
15/4	9-IA1-072913	12938	7/29/	13 10:51	TO-15 5/M 5	S. H.	- 28	-5		
1118	7-142-072913	5086	7/2911	3 10 es	- Carlotte		- Za	~ [		
12M	7-IA1-072913	14113	7/29/1	3 10:04	sittan 227,500		-30	~ S		
13A	9-IAZ-072913	13439	7/29/	13 10 43	· · · · · · · · · · · · · · · · · · ·		- 30	- Laj		
MA	10-5AZ-07Z913	1565	7/29/	13 11:46	Expression in an article in the control of the cont		- 30	-4.5		
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1711	1 - TA2 - 072913	10741	7129/	13 12:03	TO-15 SIM Se.	: Nelly	- 30	-5		
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	8/2/13 13:00	Received by: (signatu Received by: (signatu	,HTC_	04001154						
Relinquishe	ed by: (signature) Date/Time	Received by: (signatu	ıre) Date/	Time	Compoun	ds °	mend 1	Set.	hns h	r. 12
Lab	Lab Shipper Name Air Bill # Temp (°C) Condition Custody Seals Intact? Work Order #									
Use Only	(8)		NH	6000	Yes No	) No	ne 🕽 [ 🤅	५०४(=	t C	
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#### **Attachment**

#### MFA Project #8006.31.01

Here is the list of analytes with our screening values.

For all of the listed analytes, please ensure that the reported concentrations on the issued report(s) are below the screening values listed below. In most cases, the MRL will be below the screening value so the MRL should be reported. However, some samples may need the MDL reported instead, in order attain a reported value below the screening value. Please use the MRL as the default reported value, unless the MDL is necessary.

Please assess the need to use the MRL or MDL on a sample by sample (and analyte by analyte) basis.

Analyte	Air Screening Values Analyte (μg/m³) for 6-liter canisters			
1,1-dichloroethane	320	3200		
1,1-dichloroethene	91	910		
1,2-dichloroethane	0.096	0.96		
Chloroethane	3	30		
Cis-1,2- dichloroethene	16	160		
Tetrachloroethene	9.6	96		
Trans-1,2- dichoroethene	32	320		
Trichloroethene	0.37	3.7		
Vinyl chloride	0.28	2.8		
Helium **	Please Report to the MRL	Please Report to the MRL		

Please give me a call if you have any questions regarding this request.

Regards,

Thomas Ashton

503-501-5204



8/22/2013

Mr. Thomas Ashton Maul Foster and Alongi Inc. 2001 NW 19th Ave Suite 200 Portland OR 97209

Project Name: Park Laundry

Project #: 8006.31.01 Workorder #: 1308172B

Dear Mr. Thomas Ashton

The following report includes the data for the above referenced project for sample(s) received on 8/6/2013 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

Welly Butte



#### WORK ORDER #: 1308172B

Work Order Summary

CLIENT: Mr. Thomas Ashton BILL TO: Accounts Payable

Maul Foster and Alongi Inc.

Maul Foster and Alongi Inc.

2001 NW 19th Ave 400 E. Mill Plain Blvd

Suite 200 Suite 400

Portland, OR 97209 Vancouver, WA 98660

**PHONE:** 971-544-2139 **P.O.** #

**FAX:** 971-544-2140 **PROJECT** # 8006.31.01 Park Laundry

DATE RECEIVED: 08/06/2013 CONTACT: Kelly Buettner 08/22/2013

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
04A	OA3-073013	Modified TO-15 SIM	4.8 "Hg	5 psi
16A	OA3-072913	Modified TO-15 SIM	3.0 "Hg	5 psi
17A	Lab Blank	Modified TO-15 SIM	NA	NA
18A	CCV	Modified TO-15 SIM	NA	NA
19A	LCS	Modified TO-15 SIM	NA	NA
19AA	LCSD	Modified TO-15 SIM	NA	NA
16A 17A 18A 19A	OA3-072913 Lab Blank CCV LCS	Modified TO-15 SIM Modified TO-15 SIM Modified TO-15 SIM Modified TO-15 SIM	3.0 "Hg NA NA NA	5 psi NA NA NA

CERTIFIED RV	JE	erde Jlayer	DATE: 08/22/13
CERTIFIED D1.			DATE.

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, VA NELAP - 460197, WA NELAP - C935 Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013. Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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#### LABORATORY NARRATIVE Modified TO-15 SIM Maul Foster and Alongi Inc. Workorder# 1308172B

Two 6 Liter Summa Canister (SIM Certified) samples were received on August 06, 2013. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition 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.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	=30% RSD with 2<br compounds allowed out to < 40% RSD	Project specific; default criteria is =30% RSD with 10% of compounds allowed out to < 40% RSD</td
Daily Calibration	+- 30% Difference	Project specific; default criteria is = 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers</td
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

#### **Receiving Notes**

Samples OA3-073013 and OA3-072913 were removed from "Hold" and placed on "Active" status per client request on 8/14/2013.

#### **Analytical Notes**

As per project specific client request the laboratory has reported estimated values for 1,2-Dichloroethane 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**

Eight 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.

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



**Client ID:** OA3-073013

**Lab ID:** 1308172B-04A

Date/Time Collecte 7/30/13 01:22 PM

Media: 6 Liter Summa Canister (SIM Certified)

Date/Time Analyzed: 8/15/13 02:43 PM

**Dilution Factor:** 1.60

Instrument/Filename: msdc.i / c081509sim

Commonad	040#	MDL (v.e/m2)	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,1-Dichloroethane	75-34-3	0.0028	0.026	0.13	Not Detected	
1,1-Dichloroethene	75-35-4	0.0025	0.025	0.063	Not Detected	
1,2-Dichloroethane	107-06-2	0.027	0.027	0.13	0.061 J	
Chloroethane	75-00-3	0.012	NA	0.21	Not Detected	
cis-1,2-Dichloroethene	156-59-2	0.011	0.025	0.13	Not Detected	
Tetrachloroethene	127-18-4	0.013	0.043	0.22	Not Detected	
trans-1,2-Dichloroethene	156-60-5	0.015	0.025	0.63	Not Detected	
Trichloroethene	79-01-6	0.0070	0.034	0.17	Not Detected	
Vinyl Chloride	75-01-4	0.0055	0.016	0.041	Not Detected	

#### J = Estimated value.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	106
4-Bromofluorobenzene	460-00-4	70-130	94
Toluene-d8	2037-26-5	70-130	104



**Client ID:** OA3-072913

**Lab ID:** 1308172B-16A

Date/Time Collecte 7/29/13 11:17 AM

Media: 6 Liter Summa Canister (SIM Certified)

Date/Time Analyzed: 8/15/13 04:08 PM

**Dilution Factor:** 1.49

Instrument/Filename: msdc.i / c081511sim

		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.0026	0.024	0.12	Not Detected
1,1-Dichloroethene	75-35-4	0.0024	0.024	0.059	Not Detected
1,2-Dichloroethane	107-06-2	0.025	0.025	0.12	0.16
Chloroethane	75-00-3	0.011	NA	0.20	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.010	0.024	0.12	Not Detected
Tetrachloroethene	127-18-4	0.012	0.040	0.20	0.63
trans-1,2-Dichloroethene	156-60-5	0.014	0.024	0.59	Not Detected
Trichloroethene	79-01-6	0.0065	0.032	0.16	0.26
Vinyl Chloride	75-01-4	0.0051	0.015	0.038	Not Detected

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	108	
4-Bromofluorobenzene	460-00-4	70-130	95	
Toluene-d8	2037-26-5	70-130	104	



Client ID: Lab Blank

Lab ID:1308172B-17ADate/Time Analyzed:8/15/13 12:04 PMDate/Time CollecteNA - Not ApplicableDilution Factor:1.00

Media: NA - Not Applicable Instrument/Filename: msdc.i / c081506csim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethane	75-34-3	0.0017	0.016	0.081	Not Detected
1,1-Dichloroethene	75-35-4	0.0016	0.016	0.040	Not Detected
1,2-Dichloroethane	107-06-2	0.017	0.017	0.081	Not Detected
Chloroethane	75-00-3	0.0073	NA	0.13	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.0070	0.016	0.079	Not Detected
Tetrachloroethene	127-18-4	0.0082	0.027	0.14	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.0095	0.016	0.40	Not Detected
Trichloroethene	79-01-6	0.0044	0.022	0.11	Not Detected
Vinyl Chloride	75-01-4	0.0034	0.010	0.026	Not Detected

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	104	
4-Bromofluorobenzene	460-00-4	70-130	96	
Toluene-d8	2037-26-5	70-130	102	



Client ID: CCV

**Lab ID:** 1308172B-18A **Date/Time Analyzed:** 8/15/13 09:12 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdc.i / c081502sim

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	99
1,1-Dichloroethene	75-35-4	97
1,2-Dichloroethane	107-06-2	102
Chloroethane	75-00-3	96
cis-1,2-Dichloroethene	156-59-2	92
Tetrachloroethene	127-18-4	98
trans-1,2-Dichloroethene	156-60-5	97
Trichloroethene	79-01-6	94
Vinyl Chloride	75-01-4	88

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	108	
4-Bromofluorobenzene	460-00-4	70-130	108	
Toluene-d8	2037-26-5	70-130	94	



Client ID: LCS

**Lab ID:** 1308172B-19A **Date/Time Analyzed:** 8/15/13 09:53 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdc.i / c081503sim

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	98
1,1-Dichloroethene	75-35-4	108
1,2-Dichloroethane	107-06-2	104
Chloroethane	75-00-3	102
cis-1,2-Dichloroethene	156-59-2	94
Tetrachloroethene	127-18-4	98
trans-1,2-Dichloroethene	156-60-5	110
Trichloroethene	79-01-6	95
Vinyl Chloride	75-01-4	89

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	107
4-Bromofluorobenzene	460-00-4	70-130	109
Toluene-d8	2037-26-5	70-130	96

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Client ID: LCSD

**Lab ID:** 1308172B-19AA **Date/Time Analyzed:** 8/15/13 10:36 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdc.i / c081504sim

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	98
1,1-Dichloroethene	75-35-4	108
1,2-Dichloroethane	107-06-2	105
Chloroethane	75-00-3	100
cis-1,2-Dichloroethene	156-59-2	93
Tetrachloroethene	127-18-4	100
trans-1,2-Dichloroethene	156-60-5	110
Trichloroethene	79-01-6	95
Vinyl Chloride	75-01-4	88

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	107
4-Bromofluorobenzene	460-00-4	70-130	109
Toluene-d8	2037-26-5	70-130	93

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, (916) 985-1060 FAX (916) 985-1020 and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

Page 3 of 6

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, detend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples, D.O.T. Hotline (800) 467-4922

Page 4 of 6

Project Man	ager Bill Budie	Strainter of Stabburg	-		ct info:		Tur	n Around	Lab Us	o Only	\$55\$61640
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WEST PRINTING & GRAPHICS (818) 704-6000

1308172

#### Attachment

### MFA Project #8006.31.01

Here is the list of analytes with our screening values.

For all of the listed analytes, please ensure that the reported concentrations on the issued report(s) are below the screening values listed below. In most cases, the MRL will be below the screening value so the MRL should be reported. However, some samples may need the MDL reported instead, in order attain a reported value below the screening value. Please use the MRL as the default reported value, unless the MDL is necessary.

Please assess the need to use the MRL or MDL on a sample by sample (and analyte by analyte) basis.

Analyte	Air Screening Values (µg/m³) for 6-liter canisters	Soil Gas Screening Values (µg/m³) for 1- liter canisters
1,1-dichloroethane	320	3200
1,1-dichloroethene	91	910
1,2-dichloroethane	0.096	0.96
Chloroethane	3	30
Cis-1,2- dichloroethene	16	160
Tetrachloroethene	9.6	96
Trans-1,2- dichoroethene	32	320
Trichloroethene	0.37	3.7
Vinyl chloride	0.28	2.8
Helium **	Please Report to the MRL	Please Report to the MRL

Please give me a call if you have any questions regarding this request.

Regards,

Phomas Ashton

503-501-5204



8/19/2013

Mr. Thomas Ashton Maul Foster and Alongi Inc. 2001 NW 19th Ave Suite 200 Portland OR 97209

Project Name: Park Laundry

Project #: 8006.31.01 Workorder #: 1308173A

Dear Mr. Thomas Ashton

The following report includes the data for the above referenced project for sample(s) received on 8/6/2013 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

**Project Manager** 

Elly Butte



#### WORK ORDER #: 1308173A

Work Order Summary

CLIENT: Mr. Thomas Ashton BILL TO: Accounts Payable

Maul Foster and Alongi Inc.

Maul Foster and Alongi Inc.

2001 NW 19th Ave 400 E. Mill Plain Blvd

Suite 200 Suite 400

Portland, OR 97209 Vancouver, WA 98660

**PHONE:** 971-544-2139 **P.O.** #

**FAX:** 971-544-2140 **PROJECT** # 8006.31.01 Park Laundry

**DATE RECEIVED:** 08/06/2013 **CONTACT:** Kelly Buettner 08/19/2013

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
01A	10-IA1-072913	Modified TO-15 SIM	2.8 "Hg	4.9 psi
02A	1-IA3-072913	Modified TO-15 SIM	3.1 "Hg	4.9 psi
03A	27-IA1-073013	Modified TO-15 SIM	3.7 "Hg	5 psi
04A	27-IA2-073013	Modified TO-15 SIM	4.9 "Hg	5 psi
05A	28-IA1-073013	Modified TO-15 SIM	6.5 "Hg	5 psi
07A	27-CS1-073013	Modified TO-15 SIM	3.3 "Hg	4.9 psi
08A	28-IA2-073013	Modified TO-15 SIM	4.9 "Hg	5.1 psi
09A	28-IA3-073013	Modified TO-15 SIM	3.5 "Hg	4.9 psi
12A	5-IA2-073013	Modified TO-15 SIM	4.1 "Hg	4.8 psi
13A	5-IA1-073013	Modified TO-15 SIM	3.7 "Hg	5 psi
14A	Lab Blank	Modified TO-15 SIM	NA	NA
14B	Lab Blank	Modified TO-15 SIM	NA	NA
15A	CCV	Modified TO-15 SIM	NA	NA
15B	CCV	Modified TO-15 SIM	NA	NA
16A	LCS	Modified TO-15 SIM	NA	NA
16AA	LCSD	Modified TO-15 SIM	NA	NA
16B	LCS	Modified TO-15 SIM	NA	NA
16BB	LCSD	Modified TO-15 SIM	NA	NA

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CERTIFIED BY:	0 00	DATE: $\frac{08/19/13}{}$

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291, TX NELAP - T104704434-12-4, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.

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

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#### LABORATORY NARRATIVE Modified TO-15 SIM Maul Foster and Alongi Inc. Workorder# 1308173A

Ten 6 Liter Summa Canister (SIM Certified) samples were received on August 06, 2013. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition 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.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	=30% RSD with 2<br compounds allowed out to < 40% RSD	Project specific; default criteria is =30% RSD with 10% of compounds allowed out to < 40% RSD</td
Daily Calibration	+- 30% Difference	Project specific; default criteria is = 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers</td
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

#### **Receiving Notes**

There were no receiving discrepancies.

### **Analytical Notes**

As per project specific client request, the laboratory has reported estimated values for target compound 1,2-Dichloroethane 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**

Eight 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.

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



**Client ID:** 10-IA1-072913

**Lab ID:** 1308173A-01A **Date/Time Analyzed:** 8/12/13 10:08 PM

Date/Time Collecte 7/29/13 11:46 AM Dilution Factor: 1.47

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdc.i / c081216sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,1-Dichloroethane	75-34-3	0.0026	0.024	0.12	Not Detected	
1,1-Dichloroethene	75-35-4	0.0023	0.023	0.058	Not Detected	
1,2-Dichloroethane	107-06-2	0.025	0.025	0.12	0.37	
Chloroethane	75-00-3	0.011	NA	0.19	Not Detected	
cis-1,2-Dichloroethene	156-59-2	0.010	0.023	0.12	Not Detected	
Tetrachloroethene	127-18-4	0.012	0.040	0.20	0.25	
trans-1,2-Dichloroethene	156-60-5	0.014	0.023	0.58	Not Detected	
Trichloroethene	79-01-6	0.0064	0.032	0.16	Not Detected	
Vinyl Chloride	75-01-4	0.0051	0.015	0.038	Not Detected	

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	104	
4-Bromofluorobenzene	460-00-4	70-130	95	
Toluene-d8	2037-26-5	70-130	104	



**Client ID:** 1-IA3-072913

**Lab ID:** 1308173A-02A

Date/Time Collecte 7/29/13 12:04 PM Dilution Factor:

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdc.i / c081217sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethane	75-34-3	0.0026	0.024	0.12	Not Detected
1,1-Dichloroethene	75-35-4	0.0023	0.023	0.059	Not Detected
1,2-Dichloroethane	107-06-2	0.025	0.025	0.12	0.069 J
Chloroethane	75-00-3	0.011	NA	0.20	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.010	0.023	0.12	Not Detected
Tetrachloroethene	127-18-4	0.012	0.040	0.20	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.014	0.023	0.59	Not Detected
Trichloroethene	79-01-6	0.0064	0.032	0.16	0.29
Vinyl Chloride	75-01-4	0.0051	0.015	0.038	Not Detected

Date/Time Analyzed:

8/12/13 10:50 PM

1.48

#### J = Estimated value.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	105
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	105



Client ID: 27-IA1-073013 Lab ID: 1308173A-03A

**Date/Time Collecte** 7/30/13 10:52 AM

Media: 6 Liter Summa Canister (SIM Certified)

Date/Time Analyzed: 8/13/13 05:57 AM

**Dilution Factor:** 1.53

Instrument/Filename: msdc.i / c081218sim

O	0.4.0.11	MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.0027	0.025	0.12	Not Detected
1,1-Dichloroethene	75-35-4	0.0024	0.024	0.061	Not Detected
1,2-Dichloroethane	107-06-2	0.026	0.026	0.12	2.1
Chloroethane	75-00-3	0.011	NA	0.20	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.011	0.024	0.12	Not Detected
Tetrachloroethene	127-18-4	0.012	0.042	0.21	1.1
trans-1,2-Dichloroethene	156-60-5	0.014	0.024	0.61	Not Detected
Trichloroethene	79-01-6	0.0067	0.033	0.16	Not Detected
Vinyl Chloride	75-01-4	0.0053	0.016	0.039	Not Detected

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	103	
4-Bromofluorobenzene	460-00-4	70-130	96	
Toluene-d8	2037-26-5	70-130	104	



Client ID: 27-IA2-073013 Lab ID: 1308173A-04A

**Date/Time Collecte** 7/30/13 10:51 AM

Media: 6 Liter Summa Canister (SIM Certified)

Date/Time Analyzed: 8/13/13 07:03 AM

**Dilution Factor:** 1.60

Instrument/Filename: msdc.i / c081219sim

		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.0028	0.026	0.13	Not Detected
1,1-Dichloroethene	75-35-4	0.0025	0.025	0.063	Not Detected
1,2-Dichloroethane	107-06-2	0.027	0.027	0.13	2.6
Chloroethane	75-00-3	0.012	NA	0.21	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.011	0.025	0.13	Not Detected
Tetrachloroethene	127-18-4	0.013	0.043	0.22	1.2
trans-1,2-Dichloroethene	156-60-5	0.015	0.025	0.63	Not Detected
Trichloroethene	79-01-6	0.0070	0.034	0.17	Not Detected
Vinyl Chloride	75-01-4	0.0055	0.016	0.041	Not Detected

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	104	
4-Bromofluorobenzene	460-00-4	70-130	96	
Toluene-d8	2037-26-5	70-130	104	



**Client ID:** 28-IA1-073013

**Lab ID:** 1308173A-05A **Date/Time Analyzed:** 8/13/13 07:57 AM

Date/Time Collecte 7/30/13 12:01 PM Dilution Factor: 1.71

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdc.i / c081220sim

		MDL	LOD	Rpt. Limit	Amount	
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	
1,1-Dichloroethane	75-34-3	0.0030	0.028	0.14	Not Detected	
1,1-Dichloroethene	75-35-4	0.0027	0.027	0.068	Not Detected	
1,2-Dichloroethane	107-06-2	0.029	0.029	0.14	0.32	
Chloroethane	75-00-3	0.012	NA	0.22	Not Detected	
cis-1,2-Dichloroethene	156-59-2	0.012	0.027	0.14	Not Detected	
Tetrachloroethene	127-18-4	0.014	0.046	0.23	0.85	
trans-1,2-Dichloroethene	156-60-5	0.016	0.027	0.68	Not Detected	
Trichloroethene	79-01-6	0.0074	0.037	0.18	Not Detected	
Vinyl Chloride	75-01-4	0.0059	0.017	0.044	Not Detected	

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	105	
4-Bromofluorobenzene	460-00-4	70-130	94	
Toluene-d8	2037-26-5	70-130	103	



**Client ID:** 27-CS1-073013

Lab ID: 1308173A-07A Date/Time Analyzed:

Date/Time Collecte 7/30/13 10:52 AM Dilution Factor: 1.50

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdc.i / c081310sim

Compound	CAS#	MDL (ug/m3)	LOD	Rpt. Limit (ug/m3)	Amount (ug/m3)	
			(ug/m3)			
1,1-Dichloroethane	75-34-3	0.0026	0.024	0.12	Not Detected	
1,1-Dichloroethene	75-35-4	0.0024	0.024	0.059	Not Detected	
1,2-Dichloroethane	107-06-2	0.025	0.026	0.12	0.093 J	
Chloroethane	75-00-3	0.011	NA	0.20	Not Detected	
cis-1,2-Dichloroethene	156-59-2	0.010	0.024	0.12	Not Detected	
Tetrachloroethene	127-18-4	0.012	0.041	0.20	Not Detected	
trans-1,2-Dichloroethene	156-60-5	0.014	0.024	0.59	Not Detected	
Trichloroethene	79-01-6	0.0065	0.032	0.16	0.17	
Vinyl Chloride	75-01-4	0.0052	0.015	0.038	Not Detected	

8/13/13 05:18 PM

#### J = Estimated value.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	107
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	104



**Client ID:** 28-IA2-073013

**Lab ID:** 1308173A-08A **Date/Time Analyzed:** 8/13/13 06:00 PM

Date/Time Collecte 7/30/13 12:03 PM Dilution Factor: 1.61

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdc.i / c081311sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethane	75-34-3	0.0028	0.026	0.13	Not Detected
1,1-Dichloroethene	75-35-4	0.0026	0.026	0.064	Not Detected
1,2-Dichloroethane	107-06-2	0.027	0.027	0.13	0.82
Chloroethane	75-00-3	0.012	NA	0.21	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.011	0.026	0.13	Not Detected
Tetrachloroethene	127-18-4	0.013	0.044	0.22	0.30
trans-1,2-Dichloroethene	156-60-5	0.015	0.026	0.64	Not Detected
Trichloroethene	79-01-6	0.0070	0.035	0.17	Not Detected
Vinyl Chloride	75-01-4	0.0056	0.016	0.041	Not Detected

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	107	
4-Bromofluorobenzene	460-00-4	70-130	96	
Toluene-d8	2037-26-5	70-130	104	



**Client ID:** 28-IA3-073013

**Lab ID:** 1308173A-09A **Date/Time Analyzed:** 8/13/13 06:46 PM

**Date/Time Collecte** 7/30/13 12:06 PM **Dilution Factor:** 1.51

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdc.i / c081312sim

0	212"	MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.0026	0.024	0.12	Not Detected
1,1-Dichloroethene	75-35-4	0.0024	0.024	0.060	Not Detected
1,2-Dichloroethane	107-06-2	0.026	0.026	0.12	0.51
Chloroethane	75-00-3	0.011	NA	0.20	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.011	0.024	0.12	Not Detected
Tetrachloroethene	127-18-4	0.012	0.041	0.20	0.27
trans-1,2-Dichloroethene	156-60-5	0.014	0.024	0.60	Not Detected
Trichloroethene	79-01-6	0.0066	0.032	0.16	Not Detected
Vinyl Chloride	75-01-4	0.0052	0.015	0.038	0.043

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	107	
4-Bromofluorobenzene	460-00-4	70-130	96	
Toluene-d8	2037-26-5	70-130	103	



**Client ID:** 5-IA2-073013

**Lab ID:** 1308173A-12A

Date/Time Collecte 7/30/13 10:07 AM Dilution Factor:

Media: 6 Liter Summa Canister (SIM Certified) Instrument/Filename: msdc.i / c081313sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,1-Dichloroethane	75-34-3	0.0027	0.025	0.12	Not Detected	
1,1-Dichloroethene	75-35-4	0.0024	0.024	0.061	Not Detected	
1,2-Dichloroethane	107-06-2	0.026	0.026	0.12	0.081 J	
Chloroethane	75-00-3	0.011	NA	0.20	Not Detected	
cis-1,2-Dichloroethene	156-59-2	0.011	0.024	0.12	Not Detected	
Tetrachloroethene	127-18-4	0.013	0.042	0.21	0.52	
trans-1,2-Dichloroethene	156-60-5	0.015	0.024	0.61	Not Detected	
Trichloroethene	79-01-6	0.0067	0.033	0.16	Not Detected	
Vinyl Chloride	75-01-4	0.0053	0.016	0.039	Not Detected	

Date/Time Analyzed:

8/13/13 07:22 PM

1.54

#### J = Estimated value.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	105
4-Bromofluorobenzene	460-00-4	70-130	98
Toluene-d8	2037-26-5	70-130	104



**Client ID:** 5-IA1-073013

**Lab ID:** 1308173A-13A

**Date/Time Collecte** 7/30/13 10:18 AM

Media: 6 Liter Summa Canister (SIM Certified)

Date/Time Analyzed: 8/13/13 08:39 PM

Dilution Factor: 1.53

Instrument/Filename: msdc.i / c081314sim

0	212"	MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.0027	0.025	0.12	Not Detected
1,1-Dichloroethene	75-35-4	0.0024	0.024	0.061	Not Detected
1,2-Dichloroethane	107-06-2	0.026	0.026	0.12	0.064 J
Chloroethane	75-00-3	0.011	NA	0.20	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.011	0.024	0.12	Not Detected
Tetrachloroethene	127-18-4	0.012	0.042	0.21	0.44
trans-1,2-Dichloroethene	156-60-5	0.014	0.024	0.61	Not Detected
Trichloroethene	79-01-6	0.0067	0.033	0.16	Not Detected
Vinyl Chloride	75-01-4	0.0053	0.016	0.039	Not Detected

#### J = Estimated value.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	106
4-Bromofluorobenzene	460-00-4	70-130	97
Toluene-d8	2037-26-5	70-130	103



Client ID: Lab Blank

**Lab ID:** 1308173A-14A **Date/Time Analyzed:** 8/12/13 12:32 PM

Date/Time CollecteNA - Not ApplicableDilution Factor:1.00

Media: NA - Not Applicable Instrument/Filename: msdc.i / c081206sima

		MDL	LOD	Rpt. Limit	Amount
Compound	CAS#	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
1,1-Dichloroethane	75-34-3	0.0017	0.016	0.081	Not Detected
1,1-Dichloroethene	75-35-4	0.0016	0.016	0.040	Not Detected
1,2-Dichloroethane	107-06-2	0.017	0.017	0.081	Not Detected
Chloroethane	75-00-3	0.0073	NA	0.13	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.0070	0.016	0.079	Not Detected
Tetrachloroethene	127-18-4	0.0082	0.027	0.14	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.0095	0.016	0.40	Not Detected
Trichloroethene	79-01-6	0.0044	0.022	0.11	Not Detected
Vinyl Chloride	75-01-4	0.0034	0.010	0.026	Not Detected

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	102	
4-Bromofluorobenzene	460-00-4	70-130	96	
Toluene-d8	2037-26-5	70-130	102	



Client ID: Lab Blank

**Lab ID:** 1308173A-14B

Date/Time Collecte NA - Not Applicable

Media: NA - Not Applicable Instrument/Filename: msdc.i / c081306simc

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethane	75-34-3	0.0017	0.016	0.081	Not Detected
1,1-Dichloroethene	75-35-4	0.0016	0.016	0.040	Not Detected
1,2-Dichloroethane	107-06-2	0.017	0.017	0.081	Not Detected
Chloroethane	75-00-3	0.0073	NA	0.13	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.0070	0.016	0.079	Not Detected
Tetrachloroethene	127-18-4	0.0082	0.027	0.14	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.0095	0.016	0.40	Not Detected
Trichloroethene	79-01-6	0.0044	0.022	0.11	Not Detected
Vinyl Chloride	75-01-4	0.0034	0.010	0.026	Not Detected

Date/Time Analyzed:

**Dilution Factor:** 

8/13/13 01:05 PM

1.00

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	105
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	103



Client ID: CCV

**Lab ID:** 1308173A-15A **Date/Time Analyzed:** 8/12/13 09:09 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdc.i / c081202sim

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	97
1,1-Dichloroethene	75-35-4	95
1,2-Dichloroethane	107-06-2	100
Chloroethane	75-00-3	97
cis-1,2-Dichloroethene	156-59-2	92
Tetrachloroethene	127-18-4	106
trans-1,2-Dichloroethene	156-60-5	95
Trichloroethene	79-01-6	98
Vinyl Chloride	75-01-4	89

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	99	
4-Bromofluorobenzene	460-00-4	70-130	103	
Toluene-d8	2037-26-5	70-130	91	



Client ID: CCV

**Lab ID:** 1308173A-15B **Date/Time Analyzed:** 8/13/13 09:17 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdc.i / c081302sim

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	99
1,1-Dichloroethene	75-35-4	96
1,2-Dichloroethane	107-06-2	102
Chloroethane	75-00-3	97
cis-1,2-Dichloroethene	156-59-2	92
Tetrachloroethene	127-18-4	101
trans-1,2-Dichloroethene	156-60-5	95
Trichloroethene	79-01-6	95
Vinyl Chloride	75-01-4	90

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	106	
4-Bromofluorobenzene	460-00-4	70-130	105	
Toluene-d8	2037-26-5	70-130	92	



Client ID: LCS

**Lab ID:** 1308173A-16A **Date/Time Analyzed:** 8/12/13 09:57 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdc.i / c081203sima

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	99
1,1-Dichloroethene	75-35-4	105
1,2-Dichloroethane	107-06-2	101
Chloroethane	75-00-3	100
cis-1,2-Dichloroethene	156-59-2	94
Tetrachloroethene	127-18-4	104
trans-1,2-Dichloroethene	156-60-5	110
Trichloroethene	79-01-6	97
Vinyl Chloride	75-01-4	92

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	103	
4-Bromofluorobenzene	460-00-4	70-130	108	
Toluene-d8	2037-26-5	70-130	92	

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Client ID: LCSD

**Lab ID:** 1308173A-16AA **Date/Time Analyzed:** 8/12/13 10:46 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdc.i / c081204sim

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	99
1,1-Dichloroethene	75-35-4	107
1,2-Dichloroethane	107-06-2	103
Chloroethane	75-00-3	104
cis-1,2-Dichloroethene	156-59-2	95
Tetrachloroethene	127-18-4	102
trans-1,2-Dichloroethene	156-60-5	112
Trichloroethene	79-01-6	98
Vinyl Chloride	75-01-4	93

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	103
4-Bromofluorobenzene	460-00-4	70-130	112
Toluene-d8	2037-26-5	70-130	95

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Client ID: LCS

**Lab ID:** 1308173A-16B **Date/Time Analyzed:** 8/13/13 10:07 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdc.i / c081303sim

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	100
1,1-Dichloroethene	75-35-4	107
1,2-Dichloroethane	107-06-2	104
Chloroethane	75-00-3	100
cis-1,2-Dichloroethene	156-59-2	95
Tetrachloroethene	127-18-4	100
trans-1,2-Dichloroethene	156-60-5	110
Trichloroethene	79-01-6	96
Vinyl Chloride	75-01-4	92

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	108
4-Bromofluorobenzene	460-00-4	70-130	110
Toluene-d8	2037-26-5	70-130	93

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



Client ID: LCSD

**Lab ID:** 1308173A-16BB **Date/Time Analyzed:** 8/13/13 10:57 AM

Date/Time Collecte NA - Not Applicable Dilution Factor: 1.00

Media: NA - Not Applicable Instrument/Filename: msdc.i / c081304sim

Compound	CAS#	%Recovery
1,1-Dichloroethane	75-34-3	100
1,1-Dichloroethene	75-35-4	107
1,2-Dichloroethane	107-06-2	104
Chloroethane	75-00-3	98
cis-1,2-Dichloroethene	156-59-2	94
Tetrachloroethene	127-18-4	100
trans-1,2-Dichloroethene	156-60-5	109
Trichloroethene	79-01-6	96
Vinyl Chloride	75-01-4	91

Surrogates	CAS#	Limits	%Recovery	
1,2-Dichloroethane-d4	17060-07-0	70-130	107	
4-Bromofluorobenzene	460-00-4	70-130	108	
Toluene-d8	2037-26-5	70-130	92	

<sup>\* %</sup> Recovery is calculated using unrounded analytical results.



### **CHAIN-OF-CUSTODY RECORD**

8.17

**Sample Transportation Notice** 

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

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Page 5 of 6

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os V	28-IA1-073013	21009	71	30/13	12:01				-30	-4		
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094	28-IA3-073013	9413	71	30/13	12:06				-30	-4		
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### **CHAIN-OF-CUSTODY RECORD**

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

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Page <u>6</u> of <u>6</u>

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#### Attachment

### MFA Project #8006.31.01

Here is the list of analytes with our screening values.

For all of the listed analytes, please ensure that the reported concentrations on the issued report(s) are below the screening values listed below. In most cases, the MRL will be below the screening value so the MRL should be reported. However, some samples may need the MDL reported instead, in order attain a reported value below the screening value. Please use the MRL as the default reported value, unless the MDL is necessary.

Please assess the need to use the MRL or MDL on a sample by sample (and analyte by analyte) basis.

Analyte	Air Screening Values (µg/m³) for 6-liter canisters	Soil Gas Screening Values (µg/m³) for 1- liter canisters
1,1-dichloroethane	320	3200
1,1-dichloroethene	91	910
1,2-dichloroethane	0.096	0.96
Chloroethane	3	30
Cis-1,2- dichloroethene	16	160
Tetrachloroethene	9.6	96
Trans-1,2- dichoroethene	32	320
Trichloroethene	0.37	3.7
Vinyl chloride	0.28	2.8
Helium ***	Please Report to the MRL	Please Report to the MRL

Please give me a call if you have any questions regarding this request.

Regards.

Thomas Ashton

503-501-5204

# APPENDIX E DATA VALIDATION



## DATA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

### PROJECT NO. 8006.31.01 | DECEMBER 13, 2012 | UNION RIDGE INVESTMENT COMPANY

This report reviews the analytical results for air samples collected by the Maul Foster & Alongi, Inc. project team on the Union Ridge Investment Company site located at 122 N. Main Avenue in Ridgefield, Washington. The samples were collected in November 2012.

Eurofins Air Toxics, Inc. (AT) performed the analyses. AT report numbers 1211513A, 1211513B, 1211513C, 1211513D, 1211513E, 1211513FR1, 1211514A, 1211514B, 1211514C, 1211514DR1, 1211514ER2, 1211515A, 1211515B, and 1211515CR1 were reviewed. The analyses performed are listed below.

Analysis	Reference
Volatile organic compounds in ambient air (chlorinated hydrocarbons)	Modified USEPA TO-15/TO-15 SIM
Permanent gases	Modified ASTM D-1946

ASTM = American Society for Testing and Materials. SIM = selective ion monitoring. USEPA = U.S. Environmental Protection Agency.

#### DATA QUALIFICATIONS

Analytical results were evaluated according to applicable sections of USEPA procedures (USEPA, 2008, 2010) and appropriate laboratory and method-specific guidelines (AT, 2012; USEPA, 1986).

Data validation procedures were modified, as appropriate, to accommodate quality-control requirements for methods not specifically addressed by the functional guidelines.

Soil gas samples were collected under a helium shroud to detect leaks in the collection system. Report 1211514C, indicated helium detections for some samples. All helium detections were below the recommended concentration for resampling (NJDEP, 2012). The samples were also analyzed for USEPA TO-15 (see report 1211514B). USEPA TO-15 results may be biased low when helium is also indicated in the same sample. USEPA TO-15 detections in samples with detectable helium were qualified with a "J," as estimated.

Sample	Helium (%)	USEPA TO-15 Report	Analyte	Original Result (µg/m³)	Qualified Result (µg/m³)
7-SS2	0.59	1211514B	PCE	7.8	7.8 J
7-SS3	0.24	1211514B	PCE	14	14 J

NOTES

 $\mu g/m^3$  = microgram per cubic meter.

PCE = tetrachloroethene.

The data are considered acceptable for their intended use, with the appropriate data qualifiers assigned.

### HOLDING TIMES, PRESERVATION, AND SAMPLE STORAGE

### **Holding Times**

Extractions and analyses were performed within the recommended holding time criteria.

### Preservation and Sample Storage

The samples were preserved and stored appropriately, with the following exceptions: in sample delivery groups 1211513A and 1211513C, canisters for samples 1-IA2-111512, 27-CS1-111512, and OA2-111512 were measured at ambient pressure in the field and upon receipt at the laboratory.

#### **BLANKS**

#### Method Blanks

Laboratory method blank analyses were performed at the required frequencies. For purposes of data qualification, the method blanks were associated with all samples prepared in the analytical batch. If an analyte was detected in a sample and in the associated method blank, the sample result was qualified if the concentration was less than five times the method blank concentration. All method blank results are either below the reporting limit (RL) and/or associated with non-detect sample results.

If an analyte was detected in a sample and in the associated method blank below the RL but above the method detection limit (MDL), sample detections below the level found in the method blank were qualified as "UJ" and reported as not detected (at or below the levels found in the method blank). Sample detections above the level found in the method blank were not qualified.

In report 1211513D, some analytes were detected in the laboratory method blank and between the RL and MDL. Associated sample detections above the level found in the method blank were not qualified. Associated sample detections below the level found in the method blank were qualified as "UJ" and reported as not detected (at or below the levels found in the method blank).

Report	Sample	Component	Original Result (µg/m³)	Qualified Result (µg/m³)
1211513D_d	24-CS1-111512	TCE	0.051 J	0.052 UJ
1211513D_d	27-IA2-111512	TCE	0.050 J	0.052 UJ
NOTE: TCE = trichloroethen	e.			

All remaining laboratory method blanks were non-detect.

#### Trip Blanks

Trip blanks were not required for this sampling event.

### **Equipment Rinsate Blanks**

Equipment rinsate blanks were not required for this sampling event, as all samples were collected using dedicated, single-use equipment.

### SURROGATE RECOVERY RESULTS

The samples were spiked with surrogate compounds to evaluate laboratory performance on individual samples. All surrogate recoveries were within acceptance limits.

### MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

MS/MSD results are used to evaluate laboratory precision and accuracy. MS/MSD samples were not required for these sampling events.

#### LABORATORY DUPLICATE RESULTS

Duplicate results are used to evaluate laboratory precision. Laboratory duplicate samples were reported for 1211514C and 1211515B. All relative percent differences were within acceptance limits.

### LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RESULTS

An LCS/LCSD is spiked with target analytes to provide information on laboratory precision and accuracy. The LCS/LCSD samples were extracted and analyzed at the required frequency. All LCS/LCSD analytes were within acceptance limits for percent recovery.

#### FIELD DUPLICATE RESULTS

Field duplicate samples measure both field and laboratory precision. Field duplicates were not submitted for analysis.

### CONTINUING CALIBRATION VERIFICATION RESULTS

CCV results are used to demonstrate instrument precision and accuracy through the end of the sample batch All CCVs were within acceptance limits for percent recovery.

#### REPORTING LIMITS

The chain of custody was submitted to the laboratory with an attachment indicating target RLs for all analytes. The target RL for TCE was later adjusted from 0.016  $\mu g/m^3$  to 0.11  $\mu g/m^3$  because of the type of sample canisters used for this project. AT used the target RLs for non-detect results, except for samples requiring dilutions because of high analyte

concentrations and/or matrix interferences. Most RLs were elevated because of canister dilution caused by residual canister vacuum.

AT reported 1,2-dichloroethane and TCE to the MDL in addendum reports 1211513D, 1211513E, 1211513FR1, 1211514DR1, 1211514ER2, and 1211515CR1. Results reported between the MDL and RL were qualified with a "J" by the laboratory.

#### DATA PACKAGE

The data packages were reviewed for transcription errors, omissions, and anomalies.

The chain of custody for all reports includes instructions to see an attachment for the list of requested analytical compounds. The attachment submitted with the chains of custody is not the final version submitted to the laboratory; it does not include 1,2-dichloroethane. A final version of the attachment that includes 1,2-dichloroethane was submitted to the laboratory.

In report 1211513A, the result for PCE from USEPA Method TO-15 SIM for sample 7-IA2-111512 was reported as estimated, with a "J" qualifier, because of a rounding protocol used by the laboratory. The rounding protocol and data qualification were verified by the reviewer.

Report 1211514D surrogate acceptance limits are incorrectly reported as 0-130 for all samples. The correct limits are 70-130.

No additional issues were found.

- AT. 2012. Quality assurance manual. Eurofins Air Toxics, Inc., Folsom, California.
- NJDEP. 2012. Vapor intrusion technical guidance. Vers 2.0. New Jersey Department of Environmental Protection Site Remediation Program. January.
- USEPA. 1986. Test methods for evaluating solid waste: physical/chemical methods. EPA-530/SW-846. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. September (revision 6, February 2007).
- USEPA. 2008. USEPA contract laboratory program, national functional guidelines for organics data review. EPA 540/R-08/01. U.S. Environmental Protection Agency, Office of Emergency and Remedial Response. June.
- USEPA. 2010. USEPA contract laboratory program national functional guidelines for inorganic superfund data review. EPA 540/R-10/011. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. January.

# DATA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

PROJECT NO. 8006.31.01 | AUGUST 23, 2013 | UNION RIDGE INVESTMENT COMPANY

This report reviews the analytical results for air samples collected by the Maul Foster & Alongi, Inc. (MFA) project team on the former Park Laundry site located at 122 N. Main Avenue in Ridgefield, Washington. The samples were collected in July 2013.

Eurofins Air Toxics, Inc. (AT) performed the analyses. AT report numbers 1308171, 1308172A, 1308172B, and 1308173A were reviewed. The analyses performed and samples analyzed are listed below.

Analysis Reference

Volatile organic compounds in ambient air (chlorinated	Modified USEPA TO-15/Modified
hydrocarbons)	USEPA TO-15 SIM

SIM = selective ion monitoring.

USEPA = U.S. Environmental Protection Agency.

Samples Analyzed						
SDG No. 1308171	SDG No. 1308172A	SDG No. 1308172B	SDG No. 1308173A			
28-SG1-073013	13-IA2-073013	OA3-073013	10-IA1-072913			
13-SG1-073013	13-IA1-073013	OA3-072913	1-IA3-072913			
44-SG1-073113	5-IA3-073013	-	27-IA1-073013			
45-SG1-073113	11-IA2-072913	-	27-IA2-073013			
46-SG1-073013	11-IA3-072913	-	28-IA1-073013			
27-SG1-072913	11-IA1-072913	-	27-CS1-073013			
5-SG1-073013	9-IA1-072913	-	28-IA2-073013			
11-SG1-073113	7-IA2-072913	-	28-IA3-073013			
24-SG1-073013	7-IA1-072913	-	5-IA2-073013			
5-SS1-073013	9-IA2-072913	-	5-IA1-073013			
5-SS2-073013	10-IA2-072913	-	-			
1-SS3-072913	10-CS1-072913	-	-			
1-SS2-072913	1-IA2-072913	-	-			
1-SS1-072913	I-IA1-072913	-	-			
7-SS3-072913	-	-	-			
7-SS2-072913	-	-	-			
7-SS1-072913	-	-	-			
13-SS1-073013	-	-	-			
11-SS4-073113	-	-	-			
11-SS3-073113	-	-	-			

Samples Analyzed										
SDG No. 1308171 SDG No. 1308172A SDG No. 1308172B SDG No. 1308173A										
11-SS2-073113	-	-	-							
11-SS1-073113										

SDG = Sample delivery group

# DATA QUALIFICATIONS

Analytical results were evaluated according to applicable sections of USEPA procedures (USEPA, 2008) and appropriate laboratory and method-specific guidelines (AT, 2013; USEPA, 1986).

Data validation procedures were modified, as appropriate, to accommodate quality-control requirements for methods not addressed by the functional guidelines (i.e., Modified USEPA TO-15).

The data are considered acceptable for their intended use, with the appropriate data qualifiers assigned.

# HOLDING TIMES, PRESERVATION, AND SAMPLE STORAGE

# **Holding Times**

Extractions and analyses were performed within the recommended holding time criteria.

# Preservation and Sample Storage

The samples were preserved and stored appropriately.

### **BIANKS**

### Method Blanks

Laboratory method blank analyses were performed at the required frequencies. For purposes of data qualification, the method blanks were associated with all samples prepared in the analytical batch. If an analyte was detected in a sample and in the associated method blank, the sample result was qualified if the concentration was less than ten times the method blank concentration. Method reporting limits (MRLs) were elevated to the concentration detected in the samples, and results were qualified as not detected "U" at the elevated MRL.

If an analyte was detected in a sample and in the associated method blank was below the reporting limit but above the method detection limit (MDL), sample detections below the level found in the method blank were qualified as "U" at the reporting limit.

In report 1308171, the USEPA Method TO-15 method blank analyzed on August 18, 2013, on instrument msd3.i showed detections below the MRL for 1,2-dichloroethane and trichloroethene. The samples associated with this method blank were all non-detect, so no qualifications were made. The USEPA Method TO-15 method blank analyzed on

August 18, 2013, on instrument msdj.i showed a detection below the MRL for 1,2-dichloroethane (at 0.40 microgram per cubic meter  $[\mu g/m^3]$ ). The samples associated with this method blank were qualified as follows:

Sample	Component	Original Result (µg/ m³)	Qualified Result (µg/ m³)
46-SG1-073013	1,2-dichloroethane	1.2 J	5.0 U

J = estimated.

All remaining laboratory method blanks were non-detect.

# Trip Blanks

Trip blanks were not required for this sampling event.

# **Equipment Rinsate Blanks**

Equipment rinsate blanks were not required for this sampling event, as all samples were collected using dedicated, single-use equipment.

## SURROGATE RECOVERY RESULTS

The samples were spiked with surrogate compounds to evaluate laboratory performance on individual samples. All surrogate recoveries were within acceptance limits.

## MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

Matrix spike/matrix spike duplicate (MS/MSD) results are used to evaluate laboratory precision and accuracy. MS/MSD samples were not reported.

## LABORATORY DUPLICATE RESULTS

Duplicate results are used to evaluate laboratory precision. Laboratory duplicate samples were not reported.

# LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RESULTS

A laboratory control sample/laboratory control sample duplicate (LCS/LCSD) is spiked with target analytes to provide information on laboratory precision and accuracy. The LCS/LCSD samples were extracted and analyzed at the required frequency.

In report 1308171, the LCSD analyzed on August 18, 2013, on instrument msd3.i exceeded the lower acceptance limit for 1,2-dichloroethane. The LCS had acceptable recovery and the exceedance was minor; thus, no results were qualified.

All remaining LCS/LCSD analytes were within acceptance limits for percent recovery and relative percent differences.

### FIELD DUPLICATE RESULTS

Field duplicate samples measure both field and laboratory precision. Field duplicates were not submitted for analysis.

# CONTINUING CALIBRATION VERIFICATION RESULTS

Continuing calibration verification (CCV) results are used to demonstrate instrument precision and accuracy through the end of the sample batch.

All CCVs were within acceptance limits for percent recovery.

### REPORTING LIMITS

AT used routine reporting limits for non-detect results, except for 1,2-dichloroethane, trichloroethane, and vinyl chloride, analyzed by Modified USEPA TO-15; and 1,2-dichloroethane, analyzed by Modified USEPA Method TO-15 SIM, which were evaluated to the MDL at the request of the MFA project manager. AT reported MDLs for all results, but only the analytes listed above were evaluated below the MRL. All reporting limits were elevated because of canister dilution caused by residual canister vacuum. Reporting limits were additionally raised for samples that required dilutions because of high analyte concentrations and/or matrix interferences.

# DATA PACKAGE

The data packages were reviewed for transcription errors, omissions, and anomalies.

The soil gas and soil gas subslab samples submitted for report 1308171 were collected under a helium shroud to detect leaks in the collection system. Helium was included on the requested compounds list, which was submitted to the laboratory as an attachment for each chain of custody. However, the laboratory did not conduct helium analysis for these samples. The samples were collected in a manner consistent with the project standard operating procedures for soil gas and subslab soil gas sampling. Before collection of each sample, a shut-in test was successfully performed to verify the absence of leakage into the sampling train. Additionally, air purged through the sampling apparatus was analyzed with field detectors to verify the absence of helium. These procedures indicated acceptable sampling system integrity.

Two of the subslab soil gas samples (11-SS2-073113 and 11-SS1-073113) were originally submitted on the chain of custody with samples reported in 1308172A and 1308172B. These two samples were reported with other soil gas samples in report 1308171.

No additional issues were found.

- AT. 2013. Quality assurance manual. Eurofins Air Toxics, Inc., Folsom, California.
- USEPA. 1986. Test methods for evaluating solid waste: physical/chemical methods. EPA-530/SW-846. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. September (revision 6, February 2007).
- USEPA. 2008. USEPA contract laboratory program, national functional guidelines for organics data review. EPA 540/R-08/01. U.S. Environmental Protection Agency, Office of Emergency and Remedial Response. June.

2001 NW 19th Avenue, Suite 200 | Portland, OR 97209 | 971 544-2139 | www.maulfoster.com

August 29, 2011 Project No. 8006.31.01 Mr. Guy Barrett Washington Department of Ecology PO Box 47775 Olympia, Washington 98504-7775

Re: Data Submittal for Former Park Laundry Property, Ridgefield, Washington

Dear Mr. Barrett:

Maul Foster & Alongi, Inc. (MFA) has prepared this letter on behalf of Union Ridge Investment Company (URIC) for the property located at 122 N. Main Avenue in Ridgefield, Washington (the Property) (see Figure 1). The first phases of the remedial investigation (RI) indicated that volatile organic compounds (VOCs) are present on the Property and on neighboring properties. The Property was historically used by Park Laundry, which may have performed dry cleaning operations that resulted in the release of tetrachloroethene (PCE).

To date, MFA has performed soil, groundwater, and soil-gas investigations in March 2010, October 2010, and most recently in June 2011. The purpose of this letter and attachments is to provide you with the results of the most recent round of site characterization activities. Investigations have included the evaluation of environmental media (i.e., soil, groundwater, and soil vapor) for PCE and its degradation products (including trichloroethene [TCE], cis-1, 2-dichloroethene [DCE], trans-1, 2-DCE, and vinyl chloride).

MFA's June 2011 investigation defined the uppermost water bearing zone (UWBZ) at the site and defined the surface of a clay unit that perches groundwater and limits vertical infiltration. In June 2011, borings were advanced to the north, northeast, and northwest of the Property to further delineate contamination in the uppermost UWBZ. At Ecology's request, monitoring wells were installed on and downgradient of the Property and additional soil-gas probes were advanced in areas with elevated detections of PCE in groundwater (i.e. near the Post Office Property; see GP65 on Figure 1). Data from the June 2011 investigation are provided on the attached figures and tables for your reference. Laboratory reports and a data validation memorandum are also attached.

MFA will provide Ecology with a more comprehensive report describing the results of site characterization in greater detail and provide recommendations for additional characterization. Prior to developing recommendations for additional assessment, MFA would like to meet with Ecology and review the project status and results to date.

Mr. Guy Barrett August 29, 2011 Page 2

MFA also plans to contact the City of Ridgefield and provide it with the current data so appropriate safety measures can be taken for workers in the plume area.

Please call either of us if you have questions.

Sincerely,

Maul Foster & Alongi, Inc.



Merideth D'Andrea, LG Project Geologist

Attachments: Tables

Figures

Laboratory Reports and Data Validation Memorandum

cc: Robert Hyatt

Lou Ferriera, Stoel Rives LLP

The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

# **TABLES**



Table 1
Water Level Elevations in Shallow Groundwater
Former Park Laundry
Union Ridge Investment Company
Ridgefield, Washington

Location	Water Level (feet bgs)	TOC Elevation (feet MSL)	Water Level Elevation (feet MSL)
Deep Borings			
B5	5.2	84.95	79.75
В6	7.9	85.54	77.64
В7	5.9	85.39	79.49
В8	9.2	85.30	76.10
В9	8.3	79.57	71.27
Shallow Borings	S	•	
GP24	7	85.72	78.72
GP25	8	85.74	77.74
GP26	5.8	85.43	79.63
GP27	7.8	85.53	77.73
GP28	5.9	85.57	79.67
GP29	6.6	85.43	78.83
GP30	4.7	85.84	81.14
GP31	7.5	85.86	78.36
GP32	6.5	85.65	79.15
GP33	7.3	85.51	78.21
GP34	6.8	85.15	78.35
GP35	8.8	85.61	76.81
GP36	5.5	85.37	79.87
GP37	7.4	85.83	78.43
GP38	8.3	85.30	77.00
GP39	4.4	85.06	80.66
GP40	6.9	85.61	78.71
GP41	6.4	85.76	79.36
GP42	6.2	85.69	79.49
GP43	6.1	85.44	79.34
GP44	6.2	85.56	79.36
GP45	6.9	85.59	78.69
GP46	6.2	85.25	79.05
GP47	5.4	84.77	79.37
GP48	4.8	84.88	80.08
GP49	6.2	84.77	78.57
GP50	6	84.96	78.96
GP51	7.2	85.14	77.94
GP52	7.7	85.26	77.56
GP53	6.7	85.67	78.97
GP54	5.9	85.27	79.37
GP55	7	84.43	77.43

# Table 1 Water Level Elevations in Shallow Groundwater Former Park Laundry Union Ridge Investment Company Ridgefield, Washington

	(feet bgs)	TOC Elevation (feet MSL)	Water Level Elevation (feet MSL)
GP56	6.2	84.97	78.77
GP57	6.7	84.88	78.18
GP58	4.9	85.38	80.48
GP59	8.7	84.90	76.20
GP60	9	84.55	75.55
GP61	7.8	84.96	77.16
GP68	9.1	85.85	76.75
GP69	9.3	86.25	76.95
GP70	9.5	85.52	76.02
GP71	9.1	84.50	75.40
GP72	9.5	84.19	74.69
GP73	8.9	83.98	75.08
GP74	9.9	82.93	73.03
GP75	12.5	83.37	70.87
GP76	11.4	82.59	71.19
GP77	12.8	80.54	67.74
GP78	12.8	83.64	70.84
GP79	8.8	83.87	75.07
GP80	8.9	84.30	75.40
GP81	9.1	84.49	75.39
Monitoring We	ells	•	
MW1	5.89	85.20	79.31
MW2	5.75	84.78	79.03
MW3	6.25	84.70	78.45
MW4	5.98	83.05	77.07
MW5	7.46	83.46	76.00
MW6	7.96	85.11	77.15
MW7	9.01	82.01	73.00

NOTES:

bgs = below ground surface.

MSL = mean sea level.

TOC = top of casing.

Location	Sample ID	Date	Depth (feet bgs)	1,1-Dichloro- ethene	cis-1,2- Dichloroethene	Tetra- chloroethene	trans-1,2- Dichloroethene	Trichloro- ethene	Vinyl chloride
MTCA Metho	A bo			NV	NV	50	NV	30	NV
MTCA Metho	od B			4,000,000	800,000	1,900	1,600,000	11,000	670
B5	B5-S-0.5	03/03/2010	0.5	7.72 U	7.72 U	23.8	7.72 U	7.72 U	7.72 U
	B5-S-5.0	03/03/2010	5	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U
	B5-S-12.5	03/03/2010	12.5	6.99 U	6.99 U	7,490	6.99 U	6.99 U	6.99 U
	B5-S-14.0	03/03/2010	14	6.45 U	6.45 U	1,880	6.45 U	6.45 U	6.45 U
	B5-S-39.0	03/15/2010	39	9.13 U	9.13 U	9.13 U	9.13 U	9.13 U	9.13 U
В6	B6-S-0.5	03/05/2010	0.5	9.64 U	9.64 U	23.7	9.64 U	9.64 U	9.64 U
	B6-S-5.0	03/05/2010	5	11.5 U	11.5 U	11.5 U	11.5 U	11.5 U	11.5 U
	B6-S-12.0	03/05/2010	12	11.4 U	11.4 U	11.4 U	11.4 U	11.4 U	11.4 U
В7	B7-S-14.0	03/03/2010	14	9.72 U	9.72 U	9.72 U	9.72 U	9.72 U	9.72 U
	B7-S-15.5	03/03/2010	15.5	8.42 U	8.42 U	351	8.42 U	8.42 U	8.42 U
B8	B8-S-0.5	03/08/2010	0.5	9.63 U	9.63 U	9.63 U	9.63 U	9.63 U	9.63 U
	B8-S-5.0	03/08/2010	5	9.67 U	9.67 U	15.3	9.67 U	9.67 U	9.67 U
	B8-S-14.5	03/08/2010	14.5	48.9 U	48.9 U	31,400	48.9 U	48.9 U	48.9 U
	B8-S-16.5	03/08/2010	16.5	8.81 U	8.81 U	4,370 HT	8.81 U	8.81 U	8.81 U
	B8-S-40.0	03/17/2010	40	10.7 U	10.7 U	10.7 U	10.7 U	10.7 U	10.7 U
В9	B9-S-19.0	03/09/2010	19	11.6 U	11.6 U	271	11.6 U	21.0	11.6 U
	B9-S-21.5	03/09/2010	21.5	9 U	9 U	507	9 U	332	9 U
	B9-S-42.0	03/19/2010	42	9.33 U	9.33 U	9.33 U	9.33 U	9.33 U	9.33 U
	B9-S-75.0	03/22/2010	75	8.77 U	8.77 U	8.77 U	8.77 U	8.77 U	8.77 U
	B9-S-89.0	03/22/2010	89	8.94 U	8.94 U	8.94 U	8.94 U	8.94 U	8.94 U
B10	B10-S-33.0	03/23/2010	33	8.19 U	8.19 U	8.19 U	8.19 U	8.19 U	8.19 U
	B10-S-57.0	03/24/2010	57	9.41 U	9.41 U	9.41 U	9.41 U	9.41 U	9.41 U
B11	B11-S-88.0	03/26/2010	88	7.78 U	7.78 U	7.78 U	7.78 U	7.78 U	7.78 U
GP24	GP24-S-11.0	03/09/2010	11	10.3 U	10.3 U	10.3 U	10.3 U	10.3 U	10.3 U

Location	Sample ID	Date	Depth (feet bgs)	1,1-Dichloro- ethene	cis-1,2- Dichloroethene	Tetra- chloroethene	trans-1,2- Dichloroethene	Trichloro- ethene	Vinyl chloride
MTCA Metho	od A			NV	NV	50	NV	30	NV
MTCA Metho	MTCA Method B				800,000	1,900	1,600,000	11,000	670
GP25	GP25-S-11.5	03/04/2010	11.5	10.9 U	10.9 U	10.9 U	10.9 U	10.9 U	10.9 U
GP26	GP26-S-11.0	03/04/2010	11	10.5 U	10.5 U	10.5 U	10.5 U	10.5 U	10.5 U
GP27	GP27-S-12.5	03/04/2010	12.5	10.3 U	10.3 U	10.3 U	10.3 U	10.3 U	10.3 U
GP28	GP28-S-14.0	03/04/2010	14	8.23 U	8.23 U	8.23 U	8.23 U	8.23 U	8.23 U
GP29	GP29-S-12.0	03/08/2010	12	10.9 U	10.9 U	10.9 U	10.9 U	10.9 U	10.9 U
GP30	GP30-S-0.5	03/04/2010	0.5	8.8 U	8.8 U	37.5	8.8 U	8.8 U	8.8 U
	GP30-S-5.0	03/04/2010	5	9.77 U	9.77 U	9.77 U	9.77 U	9.77 U	9.77 U
	GP30-S-12.0	03/04/2010	12	9.55 U	9.55 U	9.55 U	9.55 U	9.55 U	9.55 U
GP32	GP32-S-0.5	03/05/2010	0.5	9.69 U	9.69 U	11.3	9.69 U	9.69 U	9.69 U
	GP32-S-5.0	03/05/2010	5	9.57 U	9.57 U	9.57 U	9.57 U	9.57 U	9.57 U
	GP32-S-12.0	03/05/2010	12	12.1 U	12.1 U	12.1 U	12.1 U	12.1 U	12.1 U
GP33	GP33-S-0.5	03/05/2010	0.5	12.2 U	12.2 U	12.2 U	12.2 U	12.2 U	12.2 U
	GP33-S-5.0	03/05/2010	5	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
	GP33-S-12.0	03/05/2010	12	11.4 U	11.4 U	11.4 U	11.4 U	11.4 U	11.4 U
GP35	GP35-S-14.0	03/04/2010	14	7.98 U	7.98 U	7.98 U	7.98 U	7.98 U	7.98 U
GP36	GP36-S-12.5	03/08/2010	12.5	11 U	11 U	11 U	11 U	11 U	11 U
GP37	GP37-S-0.5	03/05/2010	0.5	10.1 U	10.1 U	10.1 U	10.1 U	10.1 U	10.1 U
	GP37-S-5.0	03/05/2010	5	9.82 U	9.82 U	9.82 U	9.82 U	9.82 U	9.82 U
	GP37-S-12.5	03/05/2010	12.5	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U
GP38	GP38-S-0.5	03/05/2010	0.5	13.6 U	13.6 U	62.5	13.6 U	13.6 U	13.6 U
	GP38-S-12.0	03/05/2010	12	11.8 U	11.8 U	11.8 U	11.8 U	11.8 U	11.8 U
GP39	GP39-S-0.5	03/05/2010	0.5	8.66 U	8.66 U	9.74	8.66 U	8.66 U	8.66 U
	GP39-S-5.0	03/05/2010	5	9.81 U	9.81 U	9.81 U	9.81 U	9.81 U	9.81 U
	GP39-S-12.0	03/05/2010	12	9.35 U	9.35 U	9.35 U	9.35 U	9.35 U	9.35 U

Location	Sample ID	Date	Depth (feet bgs)	1,1-Dichloro- ethene	cis-1,2- Dichloroethene	Tetra- chloroethene	trans-1,2- Dichloroethene	Trichloro- ethene	Vinyl chloride
MTCA Metho	od A			NV	NV	50	NV	30	NV
MTCA Metho	od B			4,000,000	800,000	1,900	1,600,000	11,000	670
GP40	GP40-S-0.5	03/01/2010	0.5	7.77 U	7.77 U	13.3	7.77 U	7.77 U	7.77 U
	GP40-S-5.0	03/01/2010	5	7.74 U	7.74 U	7.74 U	7.74 U	7.74 U	7.74 U
	GP40-S-11.5	03/01/2010	11.5	7.41 U	7.41 U	7.41 U	7.41 U	7.41 U	7.41 U
GP41	GP41-S-0.5	03/01/2010	0.5	7.03 U	7.03 U	7.94	7.03 U	7.03 U	7.03 U
	GP41-S-5.0	03/01/2010	5	8.25 U	8.25 U	8.25 U	8.25 U	8.25 U	8.25 U
	GP41-S-12.5	03/01/2010	12.5	6.97 U	6.97 U	6.97 U	6.97 U	6.97 U	6.97 U
GP42	GP42-S-0.5	03/01/2010	0.5	6.67 U	6.67 U	16.1	6.67 U	6.67 U	6.67 U
	GP42-S-5.0	03/01/2010	5	6.96 U	6.96 U	26.2	6.96 U	6.96 U	6.96 U
	GP42-S-12.5	03/01/2010	12.5	7.95 U	7.95 U	10.7	7.95 U	7.95 U	7.95 U
GP43	GP43-S-0.5	03/02/2010	0.5	11.6 U	11.6 U	11.6 U	11.6 U	11.6 U	11.6 U
	GP43-S-5.0	03/02/2010	5	13.4 U	13.4 U	58.1	13.4 U	13.4 U	13.4 U
	GP43-S-12.5	03/02/2010	12.5	10.6 U	10.6 U	115	10.6 U	10.6 U	10.6 U
GP44	GP44-S-0.5	03/01/2010	0.5	6.89 U	6.89 U	54.0	6.89 U	6.89 U	6.89 U
	GP44-S-5.0	03/01/2010	5	8.11 U	8.11 U	8.11 U	8.11 U	8.11 U	8.11 U
	GP44-S-13.0	03/01/2010	13	7.86 U	7.86 U	7.86 U	7.86 U	7.86 U	7.86 U
GP45	GP45-S-0.5	03/01/2010	0.5	8.22 U	8.22 U	109	8.22 U	8.22 U	8.22 U
	GP45-S-5.0	03/01/2010	5	6.91 U	6.91 U	8.58	6.91 U	6.91 U	6.91 U
	GP45-S-12.5	03/01/2010	12.5	7.65 U	7.65 U	12.9	7.65 U	7.65 U	7.65 U
GP46	GP46-S-0.5	03/01/2010	0.5	6.8 U	6.8 U	98.7	6.8 U	6.8 U	6.8 U
	GP46-S-5.0	03/01/2010	5	6.61 U	6.61 U	6.61 U	6.61 U	6.61 U	6.61 U
	GP46-S-12.0	03/01/2010	12	7.96 U	7.96 U	74.3	7.96 U	7.96 U	7.96 U
GP47	GP47-S-0.5	03/02/2010	0.5	18.6 U	18.6 U	19.8	18.6 U	18.6 U	18.6 U
	GP47-S-5.0	03/02/2010	5	12.5 U	12.5 U	31.1	12.5 U	12.5 U	12.5 U
	GP47-S-12.0	03/02/2010	12	12 U	12 U	6,820	12 U	12 U	12 U

Location	Sample ID	Date	Depth (feet bgs)	1,1-Dichloro- ethene	cis-1,2- Dichloroethene	Tetra- chloroethene	trans-1,2- Dichloroethene	Trichloro- ethene	Vinyl chloride
MTCA Meth	od A			NV	NV	50	NV	30	NV
MTCA Meth	od B			4,000,000	800,000	1,900	1,600,000	11,000	670
GP48	GP48-S-0.5	03/03/2010	0.5	7.93 U	7.93 U	24.3	7.93 U	7.93 U	7.93 U
	GP48-S-5.0	03/03/2010	5	7.17 U	7.17 U	7.17 U	7.17 U	7.17 U	7.17 U
	GP48-S-12.5	03/03/2010	12.5	7.71 U	7.71 U	349	7.71 U	7.71 U	7.71 U
GP49	GP49-S-12.5	03/03/2010	12.5	8.06 U	8.06 U	8.06 U	8.06 U	8.06 U	8.06 U
GP50	GP50-S-0.5	03/01/2010	0.5	8.69 U	8.69 U	49.3	8.69 U	8.69 U	8.69 U
	GP50-S-5.0	03/01/2010	5	6.62 U	6.62 U	6.62 U	6.62 U	6.62 U	6.62 U
	GP50-S-12.5	03/01/2010	12.5	7.69 U	7.69 U	7.69 U	7.69 U	7.69 U	7.69 U
GP51	GP51-S-0.5	03/02/2010	0.5	9.14 U	9.14 U	147	9.14 U	9.14 U	9.14 U
	GP51-S-5.0	03/02/2010	5	6.26 U	6.26 U	23.4	6.26 U	6.26 U	6.26 U
	GP51-S-12.5	03/02/2010	12.5	8.18 U	8.18 U	117	8.18 U	8.18 U	8.18 U
GP52	GP52-S-0.5	03/03/2010	0.5	7.44 U	7.44 U	33.7	7.44 U	7.44 U	7.44 U
	GP52-S-5.0	03/03/2010	5	7.33 U	7.33 U	11.9	7.33 U	7.33 U	7.33 U
	GP52-S-12.5	03/03/2010	12.5	7.82 U	7.82 U	316,000	7.82 U	7.82 U	7.82 U
GP53	GP53-S-12.5	03/02/2010	12.5	7.88 U	7.88 U	7.88 U	7.88 U	7.88 U	7.88 U
GP54	GP54-S-0.5	03/02/2010	0.5	12.4 UH	12.4 UH	26.0 H	12.4 UH	12.4 UH	12.4 UH
	GP54-S-5.0	03/02/2010	5	13 UH	13 UH	13 U	13 UH	13 UH	13 UH
	GP54-S-12.5	03/02/2010	12.5	8.8 U	8.8 U	37.7	8.8 U	8.8 U	8.8 U
GP55	GP55-S-0.5	03/03/2010	0.5	6.94 U	6.94 U	6.94 U	6.94 U	6.94 U	6.94 U
	GP55-S-5.0	03/03/2010	5	7.61 U	7.61 U	7.61 U	7.61 U	7.61 U	7.61 U
	GP55-S-12.5	03/03/2010	12.5	9.81 U	9.81 U	862	9.81 U	9.81 U	9.81 U
GP56	GP56-S-0.5	03/03/2010	0.5	12.5 UH	12.5 UH	12.5 UH	12.5 UH	12.5 UH	12.5 UH
	GP56-S-5.0	03/03/2010	5	13.1 UH	13.1 UH	13.1 UH	13.1 UH	13.1 UH	13.1 UH
	GP56-S-13.5	03/03/2010	13.5	7.8 U	7.8 U	49.1	7.8 U	7.8 U	7.8 U
GP57	GP57-S-14.0	03/03/2010	14	6.75 U	6.75 U	17.9	6.75 U	6.75 U	6.75 U

Location	Sample ID	Date	Depth (feet bgs)	1,1-Dichloro- ethene	cis-1,2- Dichloroethene	Tetra- chloroethene	trans-1,2- Dichloroethene	Trichloro- ethene	Vinyl chloride
MTCA Metho	od A			NV	NV	50	NV	30	NV
MTCA Metho	od B			4,000,000	800,000	1,900	1,600,000	11,000	670
GP58	GP58-S-15.0	03/08/2010	15	10.5 U	10.5 U	10.5 U	10.5 U	10.5 U	10.5 U
GP59	GP59-S-15.0	03/08/2010	15	10.7 U	10.7 U	10.7 U	10.7 U	10.7 U	10.7 U
GP60	GP60-S-14.5	03/08/2010	14.5	52.1 U	7.08 Q	53.8	52.1 U	52.1 U	52.1 U
GP61	GP61-S-14.5	03/09/2010	14.5	10 U	10 U	10 U	10 U	10 U	10 U

### NOTES:

bgs = below ground surface.

Bold = value exceeds MTCA Method B screening levels.

H = sample was analyzed outside recommended hold time.

MTCA = Model Toxics Control Act.

μg/kg = milligrams per kilogram.

NV = no value.

PCE = tetrachloroethene.

Q = detedtion levels elevated due to sample matrix.

Shading = value exceeds MTCA Method A screening levels.

U = not detected at or above method reporting limits.

Table 3
PCE and Breakdown Products in Reconnaissance Groundwater (µg/L)
Former Park Laundry
Union Ridge Investment Company
Ridgefield, Washington

Location	Sample ID	Date	Depth (feet bgs)	1,1-Dichloro- ethene	cis-1,2- Dichloro- ethene	Tetra- chloroethene	trans-1,2- Dichloroethene	Trichloro- ethene	Vinyl chloride
MTCA Meth	od A			NV	NV	5	NV	5	0.2
MTCA Meth	od B			400	80	0.081	160	0.49	0.029
B5	B5-W-12.5	03/03/2010	12.5	1 U	1 U	6510	1 U	4.71	1 U
В6	B6-W-12.0	03/05/2010	12	1 U	1 U	1.00	1 U	1 U	1 U
В7	B7-W-14.0	03/03/2010	14	1 U	1 U	5.87	1 U	1 U	1 U
B8	B8-W-14.5	03/08/2010	14.5	1 U	1 U	2600	1 U	2.54	1 U
В9	B9-W-19.0	03/09/2010	19	1 U	1 U	60.0	1 U	2.87	1 U
	B9-W-75.0	03/22/2010	75	1 U	1 U	5.29	1 U	1.32	1 U
	B9-W-75.0-Dup	03/22/2010	75	1 U	1 U	5.16	1 U	1.47	1 U
	B9-W-89.0	03/22/2010	89	1 U	1 U	5.46	1 U	1 U	1 U
B10	B10-W-33.0	03/23/2010	33	1 U	1 U	3.69	1 U	1.36	1 U
	B10-W-57.0	03/24/2010	57	1 U	1 U	4.69	1 U	1 U	1 U
B11	B11-W-88.0	03/26/2010	88	1 U	1 U	1.81	1 U	1 U	1 U
GP24	GP24-W-11.0	03/08/2010	11	1 U	1 U	1 U	1 U	1 U	1 U
GP25	GP25-W-11.5	03/04/2010	11.5	1 U	1 U	1 U	1 U	1 U	1 U
GP26	GP26-W-11.0	03/04/2010	11	1 U	1 U	1 U	1 U	1 U	1 U
GP27	GP27-W-12.5	03/04/2010	12.5	1 U	1 U	1.03	1 U	1 U	1 U
GP28	GP28-W-14.0	03/04/2010	14	1 U	1 U	1.17	1 U	1 U	1 U
	GP28-W-14.0-Dup	03/04/2010	14	1 U	1 U	1.21	1 U	1 U	1 U
GP29	GP29-W-12.0	03/08/2010	12	1 U	1 U	1 U	1 U	1 U	1 U
GP32	GP32-W-12.0	03/05/2010	12	1 U	1 U	1 U	1 U	1 U	1 U

# Table 3 PCE and Breakdown Products in Reconnaissance Groundwater (µg/L) Former Park Laundry Union Ridge Investment Company Ridgefield, Washington

Location	Sample ID	Date	Depth (feet bgs)	1,1-Dichloro- ethene	cis-1,2- Dichloro- ethene	Tetra- chloroethene	trans-1,2- Dichloroethene	Trichloro- ethene	Vinyl chloride
MTCA Meth	od A			NV	NV	5	NV	5	0.2
MTCA Meth	od B			400	80	0.081	160	0.49	0.029
GP33	GP33-W-12.0	03/05/2010	12	1 U	1 U	1 U	1 U	1 U	1 U
GP35	GP35-W-14.0	03/04/2010	14	1 U	1 U	1.66	1 U	1 U	1 U
GP36	GP36-W-12.5	03/08/2010	12.5	1 U	1 U	1 U	1 U	1 U	1 U
GP38	GP38-W-12.0	03/05/2010	12	1 U	1 U	3.78	1 U	1 U	1 U
GP39	GP39-W-12.0	03/05/2010	12	1 U	1 U	1.97	1 U	1 U	1 U
GP40	GP40-W-11.5	03/01/2010	11.5	1 U	1 U	1 U	1 U	1 U	1 U
GP41	GP41-W-12.5	03/01/2010	12.5	1 U	1 U	7.49	1 U	1 U	1 U
GP42	GP42-W-12.5	03/01/2010	12.5	1 U	1 U	111	1 U	1 U	1 U
GP43	GP43-W-12.5	03/02/2010	12.5	1 U	1 U	3670	1 U	7.46	1 U
GP44	GP44-W-13.0	03/01/2010	13	1 U	1 U	11.9	1 U	1 U	1 U
GP45	GP45-W-12.5	03/01/2010	12.5	1 U	1 U	21.8	1 U	1 U	1 U
GP46	GP46-W-12.0	03/01/2010	12	1 U	1 U	1710	1 U	1.01	1 U
GP47	GP47-W-12.0	03/02/2010	12	1 U	1 U	5090	1 U	12.1	1 U
GP48	GP48-W-12.5	03/03/2010	12.5	1 U	1 U	915	1 U	1.31	1 U
GP49	GP49-W-12.5	03/03/2010	12.5	1 U	1 U	24.5	1 U	1 U	1 U
GP50	GP50-W-12.5	03/01/2010	12.5	1 U	1 U	6.14	1 U	1 U	1 U
GP51	GP51-W-12.5	03/02/2010	12.5	1 U	1 U	660	1 U	1 U	1 U
GP52	GP52-W-12.5	03/03/2010	12.5	1 U	1 U	37,700	1 U	20.4	1 U
GP53	GP53-W-12.5	03/02/2010	12.5	1 U	1 U	3.38	1 U	1 U	1 U
GP54	GP54-W-12.5	03/02/2010	12.5	1 U	1 U	148	1 U	1 U	1 U
GP55	GP55-W-12.5	03/03/2010	12.5	1 U	1 U	1970	1 U	1 U	1 U

# Table 3 PCE and Breakdown Products in Reconnaissance Groundwater (µg/L) Former Park Laundry Union Ridge Investment Company Ridgefield, Washington

Location	Sample ID	Date	Depth (feet bgs)	1,1-Dichloro- ethene	cis-1,2- Dichloro- ethene	Tetra- chloroethene	trans-1,2- Dichloroethene	Trichloro- ethene	Vinyl chloride
MTCA Meth	od A			NV	NV	5	NV	5	0.2
MTCA Meth	od B			400	80	0.081	160	0.49	0.029
GP56	GP56-W-13.5	03/03/2010	13.5	1 U	1 U	37.4	1 U	1 U	1 U
GP57	GP57-W-14.0	03/03/2010	14	1 U	1 U	2.44	1 U	1 U	1 U
GP58	GP58-W-15.0	03/08/2010	15	1 U	1 U	3.46	1 U	1.64	1 U
GP59	GP59-W-15.0	03/08/2010	15	1 U	1 U	5.39	1 U	1.96	1 U
GP60	GP60-W-14.5	03/08/2010	14.5	1 U	1 U	27.8	1 U	4.87	1 U
GP61	GP61-W-14.5	03/09/2010	14.5	1 U	1 U	18.6	1 U	1 U	1 U
GP62	GP62-W-15.0	10/19/2010	15	1 U	1 U	16.0	1 U	4.92	1 U
GP63	GP63-W-21.0	10/19/2010	21	1 U	1 U	4.25	1 U	1 U	1 U
GP64	GP64-W-15.0	10/18/2010	15	1 U	1 U	1 U	1 U	1 U	1 U
GP65	GP65-W-21.0	10/18/2010	21	1 U	1.52	1630	1 U	436	2.23
GP66	GP66-W-15.0	10/18/2010	15	1 U	1 U	2.12	1 U	1 U	1 U
GP67	GP67-W-17.0	10/18/2010	17	1 U	1 U	175	1 U	6.41	1 U
GP68	GP68-W-15.5	6/21/2011	15.5	1 U	1 U	1 U	1 U	1 U	1 U
GP69	GP69-W-17.0	6/21/2011	17	1 U	1 U	1 U	1 U	1 U	1 U
GP70	GP70-W-17.0	6/21/2011	17	1 U	1 U	1 U	1 U	1 U	1 U
GP71	GP71-W-22.1	6/21/2011	22.1	1 U	1 U	1 U	1 U	1 U	1 U
GP72	GP72-W-20.0	6/20/2011	20	1 U	1 U	1 U	1 U	1 U	1 U
GP73	GP73-W-19.0	6/17/2011	19	1 U	1 U	63.2	1 U	4.83	1 U
GP74	GP74-W-17.0	6/17/2011	17	1 U	6.24	150	1 U	6.44	1 U
GP75	GP75-W-18.5	6/16/2011	18.5	1 U	23.1	268	4.54	18.3	1 U
GP76	GP76-W-18.8	6/16/2011	18.8	1 U	7.12	119	1 U	6.39	1 U
GP77	GP77-W-19.0	6/16/2011	19	1 U	5.88	316	4.59	16.3	1 U

# Table 3 PCE and Breakdown Products in Reconnaissance Groundwater (µg/L) Former Park Laundry Union Ridge Investment Company Ridgefield, Washington

Location	Sample ID	Date	Depth (feet bgs)	1,1-Dichloro- ethene	cis-1,2- Dichloro- ethene	Tetra- chloroethene	trans-1,2- Dichloroethene	Trichloro- ethene	Vinyl chloride
MTCA Meth	od A			NV	NV	5	NV	5	0.2
MTCA Meth	od B			400	80	0.081	160	0.49	0.029
GP78	GP78-W-31.0	6/20/2011	31	1 U	1 U	1 U	1 U	1 U	1 U
GP79	GP79-W-21.0	6/17/2011	21	1 U	1 U	4.47	1 U	1 U	1 U
GP79	GP79-W-21.0-DUP	6/17/2011	21	1 U	1 U	4.51	1 U	1 U	1 U
GP80	GP80-W-30.0	6/17/2011	30	1 U	1 U	5.76	1 U	5.85	1 U
GP81	GP81-W-19.0	6/23/2011	19	1 U	1 U	1 U	1 U	1 U	1 U

### NOTES:

bgs = below ground surface.

Bold = value exceeds MTCA Method B screening levels.

MTCA = Model Toxics Control Act.

μg/L = micrograms per liter.

NV = no value.

Shading = value exceeds MTCA Method A screening levels.

TCE = trichloroethene.

U = not detected at or above the method reporting limit.

Location	Sample ID	Date	Depth (feet bgs)	1,1- Dichloro- ethene	cis-1,2- Dichloro- ethene	Tetra- chloroethene	trans-1,2- Dichloroet hene	Trichloro- ethene	Vinyl chloride
MTCA Me	thod A			NV	NV	5	NV	5	0.2
MTCA Me	thod B			400	80	0.081	160	0.49	0.029
MW1	MW1-12.5	6/24/2011	12.5	1 U	1 U	19.5	1 U	1 U	1 U
MW2	MW2-14.0	6/24/2011	14	1 U	1 U	8.84	1 U	1 U	1 U
MW3	MW3-15.0	6/24/2011	15	1 U	1 U	12500	1 U	3.47	1 U
MW4	MW4-16.0	6/24/2011	16	1 U	1 U	226	1 U	13.9	1 U
MW4	MW4-16-DUP	6/24/2011	16	1 U	1 U	216	1 U	15.8	1 U
MW5	MW5-16.5	6/24/2011	16.5	1 U	1 U	2240	1 U	3.61	1 U
MW6	MW6-16.0	6/24/2011	16	1 U	1.31	3.77	1 U	19.1	1 U
MW7	MW7-15.0	6/24/2011	15	1 U	1 U	11.7	1 U	1 U	1 U

### NOTES:

bgs = below ground surface.

Bold = value exceeds MTCA Method B screening levels.

MTCA = Model Toxics Control Act.

μg/L = micrograms per liter.

NV = no value.

Shading = value exceeds MTCA Method A screening levels.

TCE = trichloroethene.

U = not detected at or above the method reporting limit.

Location	Sample ID	Lab Code	Date	Depth (feet bgs)	1,1-Dichloro- ethene	cis-1,2- Dichloro- ethene	Tetra- chloro- ethene	trans-1,2- Dichloro- ethene	Trichloro- ethene	Vinyl chloride
MTCA Met	hod B Subsla	b Soil Gas Screenin	g Value		910	160	4.2	320	1	2.8
SG1	SG1-4.0	1003288-01A	03/09/2010	4	0.14 U	0.27 U	200	1.4 U	0.37 U	0.087 U
SG2	SG2-3.0	1003288-02A	03/09/2010	3	12 U	12 U	3800	12 U	17 U	7.9 U
SG3	SG3-3.5	1003288-03A	03/10/2010	3.5	0.064 U	0.13 U	0.22 U	0.64 U	0.17 U	0.050
SG4	SG4-3.5	1003288-04A	03/10/2010	3.5	0.065 U	0.13 U	1.2	0.65 U	0.18 U	0.042 U
SG5	SG5-3.5	1003288-05A	03/10/2010	3.5	0.065 U	0.13 U	2.9	0.65 U	0.18 U	0.042 U
SG7	SG7-3.5	1003288-07A	03/10/2010	3.5	1.2 U	2.5 U	2800	12 U	32	0.81 U
SG8	SG8-3.5	1003288-08A	03/10/2010	3.5	0.057 U	0.11 U	35	0.57 U	0.15 U	0.037 U
SG9	SG9-3.5	1003288-09A	03/10/2010	3.5	0.060 U	0.12 U	3.5	0.60 U	0.16 U	0.094
SG10	SG10-2.5	1003288-10A	03/10/2010	2.5	1.2 U	2.4 U	1600	12 U	3.3 U	0.79 U
SG11	SG11	1106496-01A	6/20/2011	5	4 U	4 U	6.8 U	4 U	5.4 U	2.6 U
SG12	SG12	1106496-02A	6/20/2011	5	4 U	4 U	15	4 U	5.4 U	2.6 U
SG13	SG13	1106496-03A	6/20/2011	5	4 U	4 U	150	4 U	5.4 U	2.6 U
SG14	SG14	1106496-04A	6/21/2011	5	4 U	4 U	6.8 U	4 U	5.4 U	2.6 U
SG15	SG15	1106496-05A	6/20/2011	5	4 U	4 U	6.8 U	4 U	5.4 U	2.6 U

### NOTES:

bgs = below ground surface.

Bold = value exceeds the MTCA Method B screening level.

MTCA = Model Toxics Control Act.

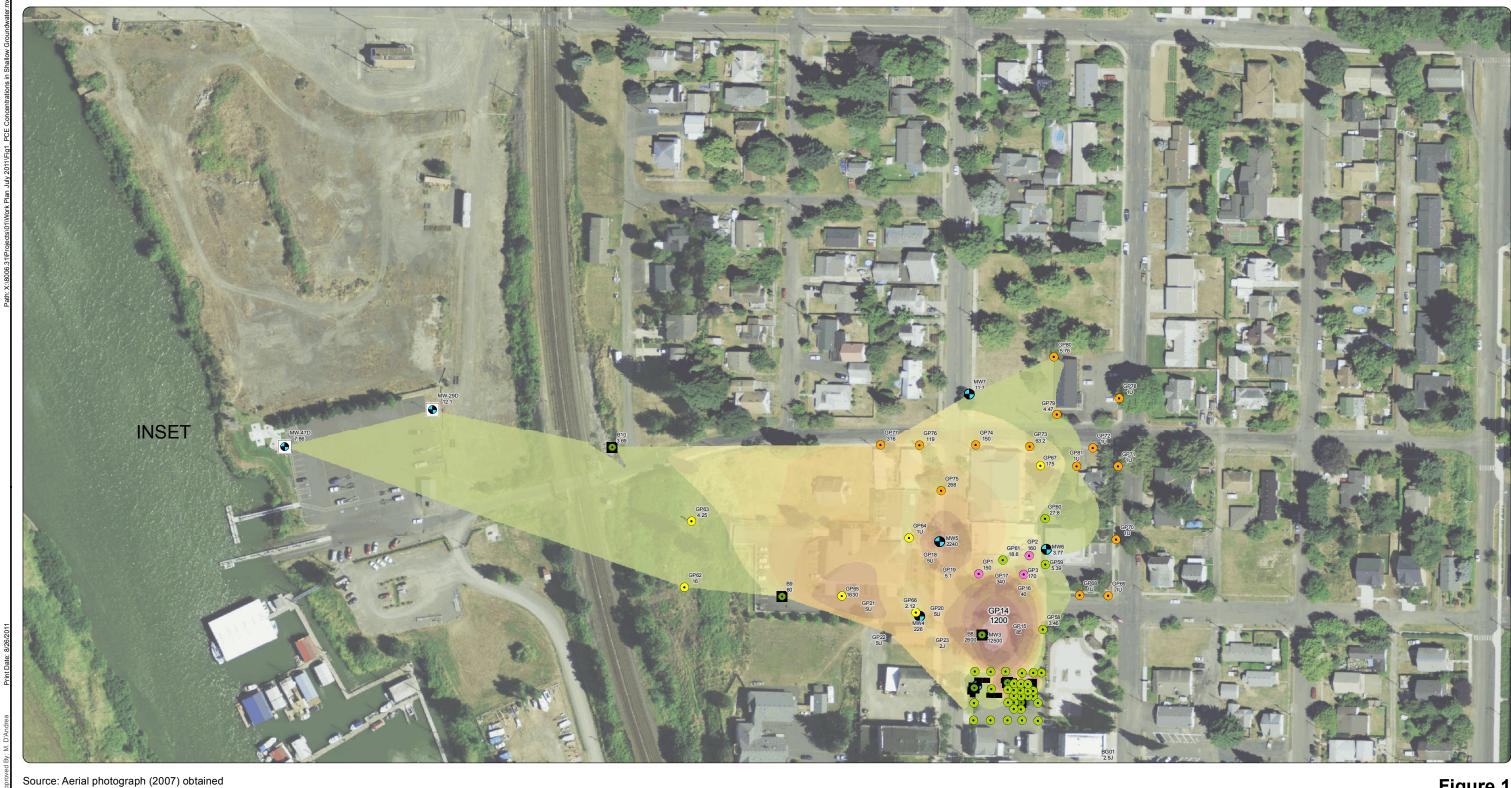
μg/m<sup>3</sup> = micrograms per cubic meter.

PCE = tetrachloroethene.

U = not detected at or above the method reporting limit.

# **FIGURES**





Source: Aerial photograph (2007) obtained from Clark County GIS Services.

Notes
1. U = Not detected at or above method reporting limit.
2. PCE concentrations interpolated using the Natural Neighbor tool within Spatial Analyst extension of ArcGis 10.0.



This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or

# PCE in Shallow Groundwater (µg/L)

# Legend

- Monitoring Well, MFA June 2011
   Shallow Boring, MFA June 2011
- Monitoring Well, Port of Ridgefield Shallow Boring, MFA October 2010
- Deep Boring, MFA March 2010
- Shallow Boring, MFA March 2010 Property Boundary

- Shallow Boring, MFA 2001

# Figure 1 **PCE Concentrations in Shallow Groundwater**

Union Ridge Investment Company Ridgefield, Washington

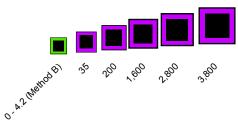
0 50 100





Note: U = Not detected at or above method reporting limit.

PCE Soil-Gas Results (μg/m³) MTCA Method B = 4.2 μg/m³

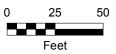




Union Ridge Investment Company Ridgefield, Washington



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# Figure 3 Estimated **Groundwater Elevation**

Union Ridge Investment Company Ridgefield, Washington

# Legend

Monitoring Well

Soil Boring

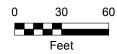
Groundwater Elevation Contour (1 ft Interval)

Property Tax Lot Boundary

- Notes:

  1. All elevations represented in the National Geodetic Vertical Datum of 1929 (NGVD 29).

  2. Groundwater contours were created using Natural Neighbor interpolation method within Spatial Analyst extension of ArcGIS10.





Source: Aerial photograph and tax lot data obtained from Clark County GIS Department.





Source: Aerial photograph (2007) obtained from Clark County GIS Services.

Note
Clay Layer was estimated using the
Topo to Raster tool (spline interpolation method)
within 3D Analyst extension of ArcGis 10.0.



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# Legend

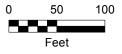


Clay Surface (2ft interval)

Property Boundary

# Figure 4 Clay Layer Elevations

Union Ridge Investment Company Ridgefield, Washington





# **ATTACHMENT**

LABORATORY REPORTS AND DATA VALIDATION MEMORANDUM



# DATA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

PROJECT NO. 8006.31.01 | JULY 8TH, 2011 | UNION RIDGE INVESTMENT COMPANY

This report reviews the analytical results for groundwater samples collected by the Maul Foster & Alongi, Inc. (MFA) project team on the Union Ridge Investment Company site located at 122 N. Main Avenue in Ridgefield, Washington. The samples were collected in June, 2011.

Specialty Analytical (SA), in Clackamas, Oregon performed the analyses. SA report number 1106146, 1106174, 1106182 and Air Toxics Ltd. (ATL) report number 1106496\_d were reviewed. The analyses performed are listed below.

Analysis	Reference
Volatile organic compounds	USEPA 8260B
Volatile organic compounds in air	USEPA TO-17

USEPA = U.S. Environmental Protection Agency.

# DATA QUALIFICATIONS

Analytical results were evaluated according to applicable sections of USEPA procedures (USEPA, 2008), and appropriate laboratory and method-specific (SA, 2010; ATL, 2011; USEPA, 1986).

The data are considered acceptable for their intended use, with the appropriate data qualifiers assigned.

# HOLDING TIMES, PRESERVATION, AND SAMPLE STORAGE

# **Holding Times**

Extractions and analyses were performed within the recommended holding time criteria.

Preservation and Sample Storage

The samples were preserved and stored appropriately.

# **BLANKS**

### Method Blanks

Laboratory method blank analyses were performed at the required frequencies. No analytes were detected above the RLs in the method blanks.

## Trip Blanks

Trip blanks were not submitted for this sampling event.

# **Equipment Rinsate Blanks**

Equipment rinsate blanks were not required for this sampling event, as all samples were collected using dedicated, single-use equipment.

### SURROGATE RECOVERY RESULTS

The samples were spiked with surrogate compounds to evaluate laboratory performance on individual samples. ATL sample 1106496-01A had a high surrogate recovery, but all of the analytes were non-detects. All other surrogate recoveries were within acceptance limits.

# MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

MS/MSD results are used to evaluate laboratory precision and accuracy. All MS/MSD samples were extracted and analyzed at the required frequency. All recoveries were within acceptance limits for percent recovery and relative percent differences (RPDs).

# LABORATORY CONTROL SAMPLE RESULTS

An LCS is spiked with target analytes to provide information on laboratory accuracy. The LCS samples were extracted and analyzed at the required frequency. All LCS analytes were within acceptance limits for percent recovery.

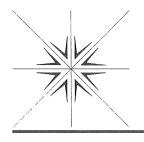
## REPORTING LIMITS

SA and ATL used routine reporting limits for non-detect results, except for samples requiring dilutions because of high analyte concentrations and/or matrix interferences.

## DATA PACKAGE

The data packages were reviewed for transcription errors, omissions, and anomalies. None were found.

- SA. 2010. Quality assurance manual. Specialty Analytical, Clackamas, Oregon.
- ATL 2011. Quality assurance manual. Air Toxics Ltd., Folsom, California
- USEPA. 1986. Test methods for evaluating solid waste: physical/chemical methods. EPA-530/SW-846. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. September (update 1, July 1992; update 2a, August 1993; update 2, September 1994; update 2b, January 1995).
- USEPA. 2008. USEPA contract laboratory program, national functional guidelines for organics data review. EPA 540/R-08/01. U.S. Environmental Protection Agency, Office of Emergency and Remedial Response. June.



# **Specialty Analytical**

11711 SE Capps Road Clackamas, OR 97015 (503) 607-1331 Fax (503) 607-1336

July 01, 2011

Merideth D'Andrea Maul, Foster & Alongi 7223 NE Hazel Dell Avenue Suite B Vancouver, WA 98665

TEL: (360) 694-2691

FAX: (360) 906-1958

RE: URIC / 8006.31.01 Dear Merideth D'Andrea:

Order No.: 1106174

Specialty Analytical received 5 samples on 6/24/2011 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Project Manager