



October 8, 2013

**Coulson Group  
4890 Cherry Creek Rd  
Port Alberni, BC V9Y 8E9**

**Attention: Mr. Britt Coulson**

**Re: Lead Air Monitoring Results  
Zellers Building, Port Alberni, BC  
PHH ARC Project: 12921A**

PHH ARC Environmental Ltd. (PHH ARC) conducted air monitoring for lead during the removal of lead paint undertaken at the above referenced location.

A test area of approximately 1,000 sq ft in size was removed using “Ice Blasting” technology. The paint being removed contained 2.5% lead and was applied to exterior concrete on the West side of the building. The purpose of the testing was to determine the effectiveness of this technology.

The lead work was performed in accordance with High Risk work procedures. This included a full polyethylene enclosure, negative air and worker decontamination unit. Workers were protected with full-face powered air purifying respirator (PAPR), wearing disposal coveralls.

The work area and containment was installed by Saywell Contracting Limited under direction by the Coulson Group.

Air samples were collected by Zoe Campbell, Technologist of PHH ARC on October 3 and 4, 2013. The samples were submitted to Scientific Analytical Institute Inc. in Greensboro, NC for analysis following NIOSH Method 7082.

**RESULTS**

Sample No.	Date Collected (yyyy/mm/dd)	Description / Location	Concentration (mg/m <sup>3</sup> )
1	2013/10/03	Field Blank	<0.0008
2	2013/10/03	Field Blank	<0.0008
3	2013/10/03	OCC Iceblast Pb Paint from concrete stucco-PAPR-Chance	<0.011
4	2013/10/03	OCC Iceblast Pb Paint from concrete	<0.0042



Sample No.	Date Collected (yyyy/mm/dd)	Description / Location	Concentration (mg/m <sup>3</sup> )
		stucco-PAPR-Taylor	
5	2013/10/03	AMB Inside garage adjacent to enclosure	<0.0017
6	2013/10/03	OCC Iceblast Pb Paint from concrete stucco-PAPR-Chance	<0.0033
7	2013/10/04	AMB Inside garage adjacent to clean room	<0.0039
8	2013/10/04	OCC Iceblast Pb Paint from concrete stucco-PAPR-Norm	<0.0052
9	2013/10/04	OCC Iceblast Pb Paint from concrete stucco-PAPR-Sean	<0.0091
10	2013/10/04	Field Blank	<0.0008
11	2013/10/04	OCC Iceblast Pb Paint from concrete stucco-PAPR-Norm	0.005
12	2013/10/04	Inside Containment	0.0033

## DISCUSSION

The occupational exposure limit (OEL) for airborne lead is 0.05 mg/m<sup>3</sup>. This is the maximum concentration an unprotected worker can be exposed to in an 8-hour period. An action level of 50% of the OEL is considered appropriate for unprotected workers in areas outside the containment or 0.025 mg/m<sup>3</sup>. The highest reading outside the enclosure was <0.0039 mg/m<sup>3</sup> (sample 7); well below the criteria.

The workers conducting the work were wearing a full-face powered air purifying respirator (PAPR) equipped with P100 filters. This provides a protection factor of 1000 and a maximum use concentration of 50 mg/m<sup>3</sup>. The highest reading inside the containment was <0.011 mg/m<sup>3</sup> (sample 3); well below the criteria.

## CONCLUSIONS

All results were well below the respective criteria. The methodology of removing the paint is effective in keeping the airborne lead dust to a minimum.

## LIMITATIONS

The work performed by PHH ARC was conducted in accordance with generally accepted engineering or scientific practices current in this geographical area at the time the work was performed. No warranty is either expressed or implied by furnishing written reports or findings.

PHH ARC makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including, but not limited to, ownership of any property, or the application of any law to the facts set forth herein.

The liability of PHH ARC or its staff will be limited to the lesser of the fees paid or actual damages incurred by the Client. PHH ARC will not be responsible for any consequential or indirect damages. PHH ARC is only liable for damages resulting from negligence of PHH ARC. All claims by the Client shall be deemed relinquished if not made within two years after last date of services provided. Information provided by PHH ARC is intended for Client use only. PHH ARC will not provide results or information to any party unless disclosure by PHH ARC is required by law. Any use by a third party of reports or documents authored by PHH ARC or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. PHH ARC accepts no responsibility for damages suffered by any third party.

If you have any questions regarding the contents of this letter, please contact the undersigned at 604-238-2934.

Authored by:  
**PHH ARC Environmental Ltd.**

Reviewed by:  
**PHH ARC Environmental Ltd.**

Per:



Per:



Zoe Campbell, M. Sc.  
*Technologist*  
zcampbell@phharcenv.com

Sean Douglas, ASCT  
*Senior Project Manager*  
sdouglas@phharcenv.com

Enclosure: Laboratory Certificate

File: 12921Ar01



# Analysis for Airborne Lead Concentration

by Flame Atomic Absorption Spectroscopy  
NIOSH 7082



**Customer:** PHH ARC Environmental  
Suite 200, 13775 Commerce Parkway  
Richmond BC V6V 2V4

**Attn:** Zoe Campbell  
Sean Douglas  
Caitlin Robinson

**Lab Order ID:** 1318255

**Analysis ID:** 1318255\_PBA

**Date Received:** 10/8/2013

**Date Reported:** 10/8/2013

**Project:** 12921A; Zellers Port Alberni

Sample ID	Description	Volume (L)	Analytical Sensitivity ( $\mu\text{g}/\text{m}^3$ )	Concentration ( $\mu\text{g}/\text{m}^3$ )
Lab Sample ID	Lab Notes			
Field Blank	Field Blank	0	0.23 ( $\mu\text{g}/\text{filter}$ )	< 0.80 ( $\mu\text{g}/\text{filter}$ )
1318255PBA_1				
Field Blank	Field Blank	0	0.23 ( $\mu\text{g}/\text{filter}$ )	< 0.80 ( $\mu\text{g}/\text{filter}$ )
1318255PBA_2				
L003	Iceblast Pb Paint Off Concrete Stucco Chance PAPR	70	3.3*	< 11
1318255PBA_3	*Analytical sensitivity exceeds report limit.			
L004	Iceblast Pb Paint Off Concrete Stucco Taylor PAPR	190	1.2	< 4.2
1318255PBA_4				
L005	AMB Inside Garage adjacent to enclosure	472	0.50	< 1.7
1318255PBA_5				
L006	Iceblast Pb Paint Off Concrete Stucco Chance PAPR	240	0.98	< 3.3
1318255PBA_6				
L007	AMB Inside Garage adjacent to clean room	204	1.2	< 3.9
1318255PBA_7				
L008	Iceblast Pb Paint Off Concrete Stucco Norm PAPR	154	1.5	< 5.2
1318255PBA_8				
L009	Iceblast Pb Paint Off Concrete Stucco Sean PAPR	88	2.7*	< 9.1
1318255PBA_9	*Analytical sensitivity exceeds report limit.			
Field Blank	Field Blank	0	0.23 ( $\mu\text{g}/\text{filter}$ )	< 0.80 ( $\mu\text{g}/\text{filter}$ )
1318255PBA_10				

The quality control samples run with the samples in this report have passed all AIHA required specifications unless otherwise noted. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by AIHA or any other agency of the U.S. government. (R.L. = 2  $\mu\text{g}/\text{m}^3$ )

Kristin Cooke (12)

**Analyst**

**Laboratory Director**



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Sample ID	Description	Volume (L)	Analytical Sensitivity ( $\mu\text{g}/\text{m}^3$ )	Concentration ( $\mu\text{g}/\text{m}^3$ )
Lab Sample ID	Lab Notes			
L011	Iceblast Pb Paint Off Concrete Stucco Norm PAPR	200	1.2	5
1318255PBA_11				
Inside Containment	Inside Containment	1281	0.18	3.3
1318255PBA_12				

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