

**ASBESTOS AND LEAD PAINT BUILDING MATERIALS SURVEY FOR:
BOTANICAL GARDENS GREENHOUSE
MEMORIAL UNIVERSITY OF NEWFOUNDLAND**



Prepared for:
Memorial University of Newfoundland
St. John's, NL

Pinchin LeBlanc Environmental Ltd
Project No. 02-02-00900

March 26, 2013

EXECUTIVE SUMMARY

Pinchin LeBlanc Environmental Limited (Pinchin) was retained by Memorial University of Newfoundland to perform asbestos and lead paint surveys in selected buildings on the Memorial University of Newfoundland's St. John's, NL campus. A total of twenty-seven (27) buildings were surveyed for asbestos containing materials (ACM) and lead based paints (LBP). This report will provide the findings for the following location:

BUILDING DESCRIPTION: BOTANICAL GARDENS GREENHOUSE

BUILDING ADDRESS: MEMORIAL UNIVERSITY OF NL, ST. JOHN'S CAMPUS, NL

A summary of the findings for the Botanical Gardens Greenhouse (hereafter referred to as "Site Building") is provided. For specific recommendations regarding any hazardous materials listed the reader will refer to Sections 3 and 4 of this report:

1. Non-friable asbestos-containing building materials were identified in the Site Building, specifically tar mastic.
2. Paints containing greater than 600 mg/kg of lead were not identified in the Site Building.

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.

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1.0 INTRODUCTION

Pinchin LeBlanc Environmental Ltd. (Pinchin) was retained by Memorial University of Newfoundland to perform asbestos and lead paint surveys in selected buildings on the Memorial University of Newfoundland's St. John's, NL campus. A total of twenty-seven (27) buildings were surveyed for asbestos containing materials (ACM) and lead based paints (LBP). This report will provide the findings for the following location:

BUILDING DESCRIPTION: BOTANICAL GARDENS GREENHOUSE

BUILDING ADDRESS: MEMORIAL UNIVERSITY OF NL, ST. JOHN'S CAMPUS, NL

The report presents a detailed investigation of condition, quantity, location, access, and type of ACM and LBP present in the building. The Overview Report, provided under separate cover, provides detailed information regarding the survey methodology, sampling procedure, evaluation criteria, suspect materials and regulatory information.

Provincial regulations and guidelines distinguish between friable¹ and non-friable² materials. The asbestos building materials survey performed by Pinchin included a search for both friable and common non-friable ACM.

For reporting purposes, the survey will be divided into sections. The report is presented in this manner to accommodate ease in reading and to allow access to report information for specific areas or materials within the building. The report also addresses specific systems and products likely present in the building. The sections of the report are as follows:

- 2.0 Survey Information
- 3.0 ACM Survey Findings
- 4.0 LBP Survey Findings
- 5.0 Recommendations

¹ The term friable is applied to a material that can be readily reduced to dust or powder by hand or moderate pressure. Friable ACM has a much greater potential to release airborne asbestos fibres when disturbed. The most common friable ACM used in the past are sprayed or trowelled materials (for fireproofing or thermal insulation), texture plaster (decorative or acoustic), and mechanical insulations.

² Common non-friable ACM include vinyl floor tiles, ceiling tiles, gasket materials, asbestos cement pipe or board (transite), and asbestos textiles. Although a product may be considered non-friable when new, if the product releases fine dust due to deterioration or during removal, the free dust is considered friable. For example, most lay-in or glued on acoustic ceiling tiles release significant dust during removal of large quantities of these tiles.

2.0 SURVEY INFORMATION

The survey was conducted on March 13th, 2013. The survey, collection of representative bulk samples, and recording of information was performed by Ms. Lori Rice of Pinchin. All accessible areas of the building were inspected for the presence of asbestos containing materials (ACM) and lead based paints (LBP).

A total of three (3) representative bulk samples were collected for analysis for asbestos content.

A total of two (2) bulk samples were collected for analysis of lead content.

3.0 ACM SURVEY FINDINGS

The ACM found during this survey are detailed in the location & data excel document provided to the client. The excel document serves as the clients active asbestos management plan. Quantities of materials identified, locations and friable or non-friable are also present in this excel file. Laboratory certificates for asbestos samples collected are presented in Appendix I and lead samples are presented in Appendix II. Sample location drawings are provided in Appendix III. A photographic record of the samples collected during the survey of the building is presented in Appendix IV. The following is summary of the findings for this building.

3.1 Sprayed or Trowelled Fireproofing and Thermal Insulation

No spray or trowelled fireproofing and thermal insulation were observed in this building.

3.2 Mechanical Insulation

No mechanical insulation was observed.

3.3 Acoustic Ceiling Tiles

No acoustic ceiling tiles were observed.

3.4 Drywall, Plaster, and Texture Finishes

No drywall, plaster or texture finishes were observed.

3.5 Vinyl Flooring Materials

No vinyl flooring materials were observed.

3.6 Asbestos Cement Products

No asbestos cement products were observed.

3.7 Vermiculite Insulation

No vermiculite containing products were observed. Visual observations were made above the ceiling and through any hatches.

3.8 Other Asbestos Containing Building Materials

Tar mastic used on the surface of interior windows was sampled from the Site Building, and contains 1-5% chrysotile asbestos (reference sample 02-02-900-S003).

One (1) sample of an exterior wall panel was sampled on the Site Building. Analysis of the sample did not identify the presence of asbestos (reference sample 02-02-900-S001).

One (1) sample of exterior caulking was sampled from the Site Building. Analysis of the sample did not identify the presence of asbestos (reference sample 02-02-900-S002).

4.0 LBP SURVEY FINDINGS

Analytical results indicate that none of the samples collected of painted surfaces would be considered a risk to worker exposure during construction or renovation activities (with lead concentrations exceeding 0.06%).

All paints observed inside the Site Building were observed in GOOD condition.

5.0 RECOMMENDATIONS

Asbestos containing materials have been identified in the Site Building. Listed below are a series of general recommendations for the Site Building. Recommendations provided in the Overview Report may also be reviewed and applied to this building.

Non-Friable Materials

Non-friable asbestos containing materials identified inside the Site Building include: tar mastic.

1. Type I (low risk) asbestos abatement procedures should be carried out for the scheduled disturbance of any non-friable materials provided the materials can be removed intact, and without the use of powered hand tools.
2. Should the use of powered hand tools or excessive breakage of the materials become necessary, Type II (moderate risk) asbestos abatement procedures should be adopted.

Should there be any questions pertaining to the contents of this report, please do not hesitate to contact the undersigned at our office.

Pinchin LeBlanc Environmental Limited

Prepared by;

Melanie Snow, M.A.Sc.

Group Manager, Assessment &
Remediation

APPENDIX I

ASBESTOS ANALYTICAL REPORT



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020



Customer: Pinchin LeBlanc Environmental
27 Austin St
2nd Flr
St Johns NL A1B 4C3
Project: 02-02-00900 Greenhouse

Attn: Dawn Benteau
Paul Staeben

Lab Order ID: 1304664
Analysis ID: 1304664_PLM
Date Received: 3/15/2013
Date Reported: 3/18/2013

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
02-02-900-S001 - A		None Detected	40% Fiber Glass	60% Other	White Fibrous Heterogeneous
1304664PLM_1	panel				Dissolved
02-02-900-S001 - B		None Detected		100% Other	Yellow Non Fibrous Heterogeneous
1304664PLM_4	mastic				Dissolved
02-02-900-S002		None Detected		100% Other	White Non Fibrous Homogeneous
1304664PLM_2					Ashed
02-02-900-S003		5% Chrysotile		95% Other	Black Non Fibrous Heterogeneous
1304664PLM_3					Dissolved

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommended that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAL. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Estimated MDL is 0.1%.

Dorlos Ammerman (4)

Analyst


Approved Signatory

APPENDIX II

LEAD PAINT ANALYTICAL REPORT



Analysis for Lead Concentration in Paint Chips

by Flame Atomic Absorption Spectroscopy
EPA SW-846 3rd Ed. Method No. 3050B/Method No. 7420



Customer: Pinchin LeBlanc Environmental
27 Austin St
2nd Flr
St Johns NL A1B 4C3

Attn: Dawn Benteau
Paul Staeben

Lab Order ID: 1304632

Analysis ID: 1304632_PBP

Date Received: 3/15/2013

Date Reported: 3/19/2013

Project: 02-02-00900

Sample ID	Description	Mass (g)	Analytical Sensitivity (% by weight)	Concentration (% by weight)
Lab Sample ID	Lab Notes			
02-02-900-L001	White	0.0852	0.002%	< 0.005%
1304632PBP_1				
02-02-900-L002	Light green	0.0438	0.003%	< 0.009%
1304632PBP_2				

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. = 0.01 wt.%)

Robert Duke (2)

Analyst

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

Laboratory Director

APPENDIX III
SITE DRAWINGS



LEGEND:



PINCHIN LOCATION NUMBER



ASBESTOS SAMPLE ID NUMBER



LEAD SAMPLE ID NUMBER



CLIENT:

MEMORIAL UNIVERSITY OF
NEWFOUNDLAND

PROJECT:

ASBESTOS AND LEAD PAINT BUILDING
MATERIALS SURVEY

SITE ADDRESS:

BOTANICAL GARDENS GREENHOUSE,
ST. JOHN'S CAMPUS,
NEWFOUNDLAND AND LABRADOR

DRAWING NAME:

SAMPLE LOCATIONS
LEVEL 1

REFERENCE:

PLEL SITE SURVEY

DATE:

MARCH 2013

PROJECT #:

02 - 02 - 00900

SCALE:

N.T.S.

FIGURE #:

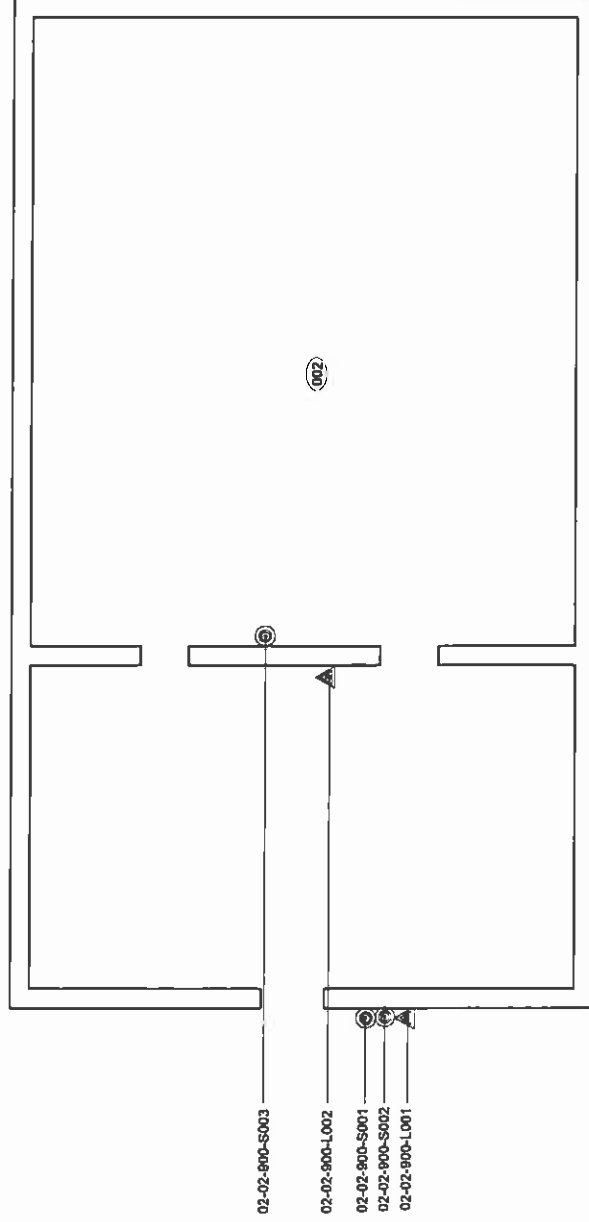
DRAWN BY:
A. ANISCIKLI

1

CHECKED BY:

P. STAEBEN

001 EXTERIOR



APPENDIX IV

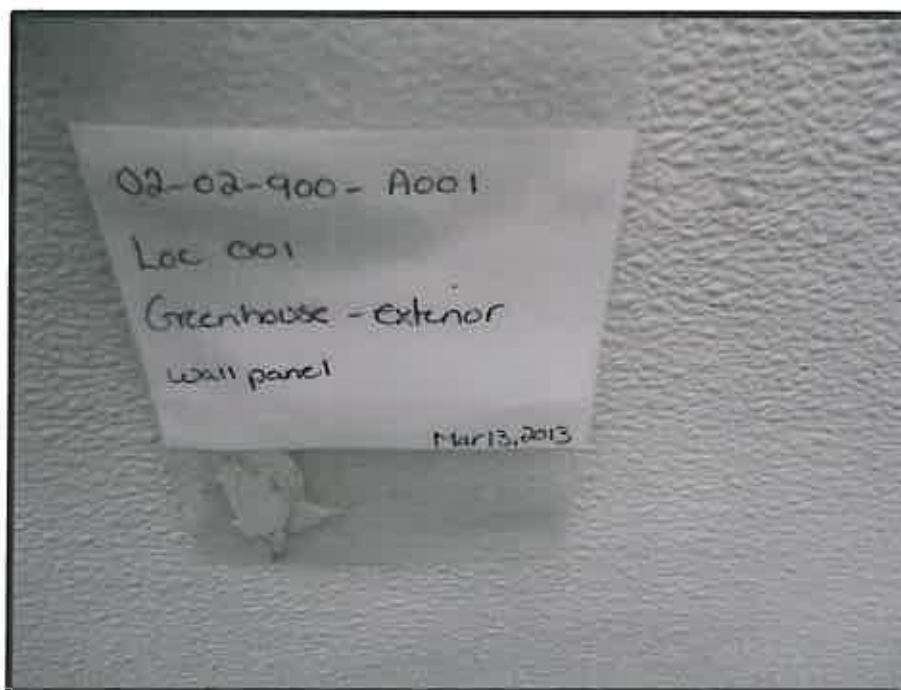
PHOTO SAMPLE LOG



ASBESTOS BULK SAMPLING FORM

Sample #:	S001	Date Sampled:	December 14, 2012
Building :	Exterior	Sampler:	Trent Hardy
Location:	003, room 1000E	Analysis:	SAI - PLM
MUN Project #:	02-02-900	Work Order #:	

Bulk Sampling Parameters				
Pipe/Tank	Flooring	Ceiling	Roofing	Location
<input type="checkbox"/> Insulation	<input type="checkbox"/> 12'x12' Tile	<input type="checkbox"/> Textured	<input type="checkbox"/> Shingle	<input type="checkbox"/> Floor
<input type="checkbox"/> Elbow	<input type="checkbox"/> 9'x9' Tile	<input type="checkbox"/> Stucco	<input type="checkbox"/> Rolled	<input checked="" type="checkbox"/> X Wall Orientation
<input type="checkbox"/> Fitting	<input type="checkbox"/> Vinyl Sheet	<input type="checkbox"/> Popcorn	<input type="checkbox"/> Felt	<input type="checkbox"/> Ceiling
<input type="checkbox"/> Transite Pipe	<input type="checkbox"/> Mastic	<input type="checkbox"/> DWJC	<input type="checkbox"/> Tar	<input type="checkbox"/> Above Ceiling
<input type="checkbox"/> Gasket	Wall	<input type="checkbox"/> Plaster		<input type="checkbox"/> Other
<input type="checkbox"/> Tank Insulation	<input type="checkbox"/> Transite Panel	<input type="checkbox"/> Acoustic Tile (Dropped)		
<input type="checkbox"/> Pipe Wrap	<input type="checkbox"/> Textured Wall	<input type="checkbox"/> Acoustic Tile (Glued-on)		
HVAC	<input type="checkbox"/> Plaster	<input type="checkbox"/> Mastic		
<input type="checkbox"/> Insulation	<input type="checkbox"/> DWJC	Structural	Miscellaneous: Panel	
<input type="checkbox"/> Tape		<input type="checkbox"/> Steel F. P. ing	No. of Phases: _____	
<input type="checkbox"/> Paper Wrap		<input type="checkbox"/> Deck F. P. ing	Colour: _____	





ASBESTOS BULK SAMPLING FORM

Sample #:	S002	Date Sampled:	December 14, 2012
Building :	Mechanical Greenhouse	Sampler:	Trent Hardy
Location:	Exterior	Analysis:	SAI - PLM
MUN Project #:	02-02-900	Work Order #:	

Bulk Sampling Parameters				
Pipe/Tank	Flooring	Ceiling	Roofing	Location
<input type="checkbox"/> Insulation	<input type="checkbox"/> 12'x12' Tile	<input type="checkbox"/> Textured	<input type="checkbox"/> Shingle	<input type="checkbox"/> Floor
<input type="checkbox"/> Elbow	<input type="checkbox"/> 9'x9'Tile	<input type="checkbox"/> Stucco	<input type="checkbox"/> Rolled	<input type="checkbox"/> Wall Orientation
<input type="checkbox"/> Fitting	<input type="checkbox"/> Vinyl Sheet	<input type="checkbox"/> Popcorn	<input type="checkbox"/> Felt	<input type="checkbox"/> Ceiling
<input type="checkbox"/> Transite Pipe	<input type="checkbox"/> Mastic	<input type="checkbox"/> DWJC	<input type="checkbox"/> Tar	<input type="checkbox"/> Above Ceiling
<input type="checkbox"/> Gasket	Wall	<input type="checkbox"/> Plaster		<input type="checkbox"/> Other
<input type="checkbox"/> Tank Insulation	<input type="checkbox"/> Transite Panel	<input type="checkbox"/> Acoustic Tile (Dropped)		
<input type="checkbox"/> Pipe Wrap	<input type="checkbox"/> Textured Wall	<input type="checkbox"/> Acoustic Tile (Glued-on)		
HVAC	<input type="checkbox"/> Plaster	<input type="checkbox"/> Mastic		
<input type="checkbox"/> Insulation	<input type="checkbox"/> DWJC	Structural	Miscellaneous: Window Caulking	
<input type="checkbox"/> Tape		<input type="checkbox"/> Steel F. P. ing	No. of Phases: _____	
<input type="checkbox"/> Paper Wrap		<input type="checkbox"/> Deck F. P. ing	Colour: _____	





ASBESTOS BULK SAMPLING FORM

Sample #:	S003	Date Sampled:	December 14, 2012
Building :	Mechanical Greenhouse	Sampler:	Trent Hardy
Location:	002, interior	Analysis:	SAI - PLM
MUN Project #:	02-02-900	Work Order #:	

Bulk Sampling Parameters				
Pipe/Tank	Flooring	Ceiling	Roofing	Location
<input type="checkbox"/> Insulation	<input type="checkbox"/> 12'x12' Tile	<input type="checkbox"/> Textured	<input type="checkbox"/> Shingle	<input type="checkbox"/> Floor
<input type="checkbox"/> Elbow	<input type="checkbox"/> 9'x9'Tile	<input type="checkbox"/> Stucco	<input type="checkbox"/> Rolled	<input type="checkbox"/> X Wall Orientation
<input type="checkbox"/> Fitting	<input type="checkbox"/> Vinyl Sheet	<input type="checkbox"/> Popcorn	<input type="checkbox"/> Felt	<input type="checkbox"/> Ceiling
<input type="checkbox"/> Transite Pipe	<input type="checkbox"/> Mastic	<input type="checkbox"/> DWJC	<input type="checkbox"/> Tar	<input type="checkbox"/> Above Ceiling
<input type="checkbox"/> Gasket	Wall	<input type="checkbox"/> Plaster		<input type="checkbox"/> Other
<input type="checkbox"/> Tank Insulation	<input type="checkbox"/> Transite Panel	<input type="checkbox"/> Acoustic Tile (Dropped)		
<input type="checkbox"/> Pipe Wrap	<input type="checkbox"/> Textured Wall	<input type="checkbox"/> Acoustic Tile (Glued-on)		
HVAC	<input type="checkbox"/> Plaster	<input type="checkbox"/> Mastic	Miscellaneous: Tar Mastic	
<input type="checkbox"/> Insulation	<input type="checkbox"/> DWJC	Structural	No. of Phases: _____	
<input type="checkbox"/> Tape		<input type="checkbox"/> Steel F. P. ing	Colour: _____	
<input type="checkbox"/> Paper Wrap		<input type="checkbox"/> Deck F. P. ing		

