



REVISED Limited Hazardous Building Materials Assessment

1411 Oxford Street, Halifax,
Nova Scotia

Prepared for:

**National Research Council
Canada**

1411 Oxford Street
Halifax, NS, B3H 3Z1

August 18, 2020

Pinchin File: 277168



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EXECUTIVE SUMMARY

National Research Council Canada (Client) retained Pinchin Ltd. (Pinchin) to conduct a limited hazardous building materials assessment at 1411 Oxford Street, Halifax, Nova Scotia. Pinchin performed the assessment on June 30, July 3, and August 13, 2020.

The objective of the assessment was to identify specified hazardous building materials in preparation for a roof replacement. The results of this assessment are intended for use with a properly developed scope of work and performance specification.

SUMMARY OF FINDINGS

Asbestos: Asbestos-containing materials (ACM), associated with the upcoming renovation, are present as follows:

- White caulking on metal trim present on Phase 1 – Roof 4;
- Exterior Transite panels; and,
- Plaster on walls and ceiling throughout the building.

Lead: Lead is present in various surface coatings.

Silica: Crystalline silica is present in concrete, mortar, masonry, grout, and plaster where present in the assessed area.

Mercury: Mercury was not identified in the assessed area.

Polychlorinated Biphenyls (PCBs): PCBs were not identified in the assessed area.

Ozone Depleting Substances (ODS): ODS were not identified in the assessed area.



SUMMARY OF RECOMMENDATIONS

The following is a summary of significant recommendations; refer to the body of the report for detailed recommendations.

1. Prepare specifications for the hazardous material removal required for the planned work.
2. Do not disturb suspected hazardous building materials discovered during the planned work, which have not been identified in this report and arrange for further evaluation and testing.
3. Remove and dispose of ACM if disturbed by the planned renovation work.
4. Follow appropriate safe work procedures when handling or disturbing ACM, silica, and lead.

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 AND SCOPE

National Research Council Canada (Client) retained Pinchin Ltd. (Pinchin) to conduct a limited hazardous building materials assessment at 1411 Oxford Street, Halifax, Nova Scotia.

Pinchin performed the assessment on June 30, July 3, and August 13, 2020. The assessor was accompanied by maintenance staff during the assessment. The assessed area was unoccupied at the time of the assessment.

The objective of the assessment was to identify specified hazardous building materials in preparation for a roof replacement. The results of this assessment are intended for use with a properly developed scope of work and performance specification.

The proposed renovations, as identified by the Client, include a two phased roof replacement occurring in 2020 and 2021.

1.1 Scope of Assessment

The assessment was performed to establish the location and type of specified hazardous building materials incorporated in the structure and its finishes. This assessment is intended to be used for renovation purposes only and may not provide sufficient detail for long term management of hazardous materials as required by Health and Safety regulations.

The assessed area was limited to the parts of the building scheduled for renovation including:

- Roofing system.
- Ceiling plenum associated with the roofing system.

The extent of the assessed area was defined by the Client and is shown on the appended drawing.

For the purpose of the assessment and this report, hazardous building materials are defined as follows:

- Asbestos
- Lead
- Silica
- Mercury
- Polychlorinated Biphenyls (PCBs)
- Ozone Depleting Substances (ODS)

The following hazardous materials are not typically found in building materials in a composition/state that is hazardous and were not included in this assessment:



- Arsenic
- Acrylonitrile
- Benzene
- Coke oven emissions
- Ethylene oxide
- Isocyanates
- Vinyl chloride monomer

2.0 BACKGROUND INFORMATION

2.1 Building Description

Description Item	Details
Use	Research Center Offices and Laboratories
Number of Floors	Four storeys plus one below grade
Total Area	~93,000
Year of Construction	1949 with additions in 1967 and 2004
Structure	Steel and concrete
HVAC	Roof unit
Roof	Built up roofing system
Interior Walls	Masonry, brick, plaster, drywall, concrete, wood
Ceilings	Plaster, concrete, drywall, acoustic tiles

2.2 Existing Reports

Pinchin was provided with the following reports, which have been reviewed as part of this assessment:

- “National Research Council of Canada, Asbestos Survey, 1411 Oxford Street, Halifax, NS”, dated December 2, 2008. Pinchin File: 01-02-00067.
- “Designated Substances and Hazardous Building Materials Assessment, 1411 Oxford Street, Halifax, Nova Scotia B3H 3Z1”, dated July 25, 2016. Pinchin File: 01-02-01193.01.

3.0 FINDINGS

The following section summarizes the findings of the assessment and provides a general description of the hazardous materials identified.

3.1 Asbestos

3.1.1 Pipe Insulation

Pipes are insulated with non-asbestos fibreglass or are uninsulated in the assessed areas.

Pipes insulated with asbestos insulations may be present in inaccessible spaces such as above solid ceilings, in chases, column enclosures and within shafts.

3.1.2 Duct Insulation and Mastic

Ducts are either uninsulated or insulated with non-asbestos fibreglass (foil-faced or canvas).

Grey mastic is present on seams / joints on ducts throughout the assessed area. Three samples were collected (samples S0015A-C) and analysis did not identify the presence of asbestos.

Dark grey mastic is present on seams / joints around a ceiling vent in the assessed area. Three samples were collected (samples S0017A-C) and analysis did not identify the presence of asbestos.



View of non-asbestos, grey duct mastic present throughout the assessed area.



View of non-asbestos, dark grey mastic present around a ceiling vent in Room 235.

3.1.3 Mechanical Equipment Insulation

Mechanical equipment is either uninsulated or insulated with non-asbestos fibreglass.

3.1.4 Vermiculite

Loose fill vermiculite debris was not observed in the spaces or areas inspected. Destructive testing was not performed, and vermiculite may be present within masonry block walls, above solid ceilings or other void spaces.

3.1.5 Acoustic Ceiling Tiles

Acoustic ceiling tiles are present in the assessed area, as follows:

Size, Type, Pattern	Locations	Sample Number or Date Code	Asbestos Type (Tile)	Asbestos Type (Mastic)
12" x 12", glue-on wood fibre tiles	Ceiling plenum, second floor	S0018A-C	--	None detected
12" x 12", glue-on wood fibre tiles	Ceiling plenum, second floor	S0019A-C	None detected	--
12" x 12", fissure pinhole	Ceiling plenum, second floor	02/16/07	None presumed	NA

Asbestos was not identified in the ceiling tile sampled or associated mastic (samples S0018A-C and S0019A-C). The ceiling tile not sampled is presumed to be non-asbestos based on the date of manufacture determined from the date stamp applied to the top of the tiles. The tiles were manufactured after asbestos was no longer being used in acoustic ceiling tiles.



View of the non-asbestos, 12" x 12", glue-on, wood fibre tiles and 12" x 12", fissure pinhole tiles.



View of non-asbestos, brown mastic associated with the wood fibre tiles.

3.1.6 Plaster

Plaster is present as a wall and ceiling finish throughout the building. Seventeen samples of plaster were previously collected (samples 01-02-00067-S003, 01-02-00067-S009, 01-02-00067-S025, 01-02-00067-S026, 01-02-00067-S027, 01-02-00067-S032, 01-02-0067-S0033, 01-02-00067-S041, 01-02-00067-S043, 01-02-00067-S046, 01-02-00067-S047, 01-02-00067-S048, 01-02-1193.01-S025B-C, 01-02-1193.01-S073A-C). Analysis identified chrysotile asbestos in at least one sample. Assume all plaster to contain chrysotile asbestos unless further sampling proves otherwise. Plaster is a non-friable material while in place but may become friable upon demolition.



View of plaster debris present in the North West Corner Offices above the acoustic ceiling tile.



View of plaster present throughout the assessed area.

3.1.7 Asbestos Cement Products (Transite)

Non-friable, Transite panels are present on the exterior of the building. Three samples were collected (samples S0020A-C) and analysis identified chrysotile asbestos. The quantity of Transite panels anticipated to be impacted by the roof replacement is approximately sixty feet.

3.1.8 Sealants, Caulking, and Putty

The following table presents a summary of caulking, sealants, and putties present:

Material and Colour	Location	Quantity	Sample Number	Asbestos Type
Caulking, white	Metal trim present on Phase 1 – Roof 4	10 feet	S0014A-C	Chrysotile
Caulking, black	Wiring present on Phase 1 – Roof 1	--	S0005A-C	None detected
Putty, black	Around vent piping / roof connections	--	S0002A-C	None detected
Caulking, grey	Roof / vent connection, Phase 1- Roof 3	--	S0007A-C	None detected

The white caulking is a non-friable material.



View of asbestos-containing, white caulking present on Phase 1 – Roof 4.



View of non-asbestos, black caulking on wiring present on Phase 1 - Roof 1.



View of non-asbestos, black putty present around vent/roof connections.



View of non-asbestos, grey caulking present around a roof/vent connection on Phase 1 - Roof 3.

3.1.9 Roofing Products

The built-up roofing materials associated with the two phases were sampled (samples S0001A-E, S0003A-C, S0006A-E, S0008A-C, S0009A-E, S0010A-C, S0011A-E, and S0013A-C) and analysis did not identify the presence of asbestos.

Tar associated with roofing repairs was sampled (samples S0004A-C) and analysis did not identify the presence of asbestos.

Tar present on the steam pipe on Phase 2 - Roof 4 was sampled (samples S0012A-C) and analysis did not identify the presence of asbestos.



View of one of the non-asbestos, roofing materials.



View of non-asbestos, tar associated with roofing repairs.



View of non-asbestos, tar on the Phase 2 - Roof 4 steams pipes.

3.1.10 Paper Products

A paper layer present above the plaster in the 3rd Floor hall was sampled (samples S0016A-C) and analysis did not identify the presence of asbestos.



View of non-asbestos, paper layer.



3.1.11 Presumed Asbestos Materials

The following is a list of materials which may contain asbestos, which were not observed and/or not sampled during the assessment; these materials are presumed to contain asbestos until otherwise proven by sampling and analysis:

- Electrical components
- Mechanical packing, ropes and gaskets
- Vermiculite
- Vibration dampers on HVAC equipment
- Materials outside the assessed area.

3.2 Lead

3.2.1 Paints and Surface Coatings

The following table summarizes the analytical results for paints sampled:

Sample Number	Colour, Substrate Description	Location	Lead (ppm)
L0001	Grey/blue on steam exhaust	Throughout both phases of the roof	160
L0002	Cream on steel deck	Penthouse ceiling	3,400

Airborne lead can be generated at hazardous levels from any amount of lead in a paint or surface coating, depending on the size and type of disturbance. To address this potential exposure risk to workers, Pinchin follows the recommendations of both Nova Scotia's Lead in the Workplace: A Guide to Working with Lead (Code of Practice) and the Environmental Abatement Council of Ontario (EACO) Lead Guideline for Construction, Renovation, Maintenance or Repair. Surface coatings with lead concentrations reported above the laboratory Reportable Detection Limits (RDL), but below or equal to 0.1% ($\leq 1,000$ ppm), are considered low-level lead paints. Surface coatings with lead concentrations reported above 0.1% (1,000 ppm), but below 0.5% ($< 5,000$ ppm), are considered lead-containing paints. Surface coatings with lead concentrations reported above or equal to 0.5% ($\geq 5,000$ ppm), are considered lead-based paints.

Analysis of the grey/blue paint (sample L0001) identified lead concentrations above the RDL, but below 0.1% (1,000 ppm), and is considered low-level lead paints.

Analysis of the cream paint (sample L0002) identified lead concentrations above 0.1% (1,000 ppm), but below 0.5% ($< 5,000$ ppm), and is considered lead-containing. The lead concentration also exceeded the

waste screening guideline of 1,000 mg/kg and therefore will require leachate testing should this paint be impacted by the roof replacement and require disposal.



View of low level, lead-containing, grey/blue paint on the steam exhaust pipe.



View of lead-containing, cream paint on the steel deck in the Penthouse.

3.2.2 Presumed Lead Materials

Lead may be present in a number of materials which were not assessed and/or sampled. The following materials, where found, should be considered to contain lead:

- Electrical components, including wiring connectors, grounding conductors, and solder

3.3 Silica

Crystalline silica is a presumed component of the following materials:

- Poured or pre-cast concrete
- Masonry and mortar
- Plaster
- Asphalt

3.4 Mercury

3.4.1 Mercury-Containing Devices

Mercury-containing devices were not identified in the assessed area.

3.5 Polychlorinated Biphenyls

3.5.1 Caulking

The following table presents a summary of caulking present:

Material and Colour	Location	Sample Number	PCB concentration (ppm)
Caulking, grey	Roof/vent connection	P0001	<0.5
Caulking, dark grey	Duct wiring	P0002	<0.5

Both caulking's are considered non-PCB solid based on the threshold (50 ppm).



View of non-PCB, grey caulking on roof/vent connections.



View of non-PCB, dark grey caulking on duct wiring.

3.6 Ozone Depleting Substances

Ozone depleting substances were not identified in the assessed area.

4.0 RECOMMENDATIONS

4.1 General

1. Prepare plans and performance specifications for hazardous material removal required for the planned work. The specifications should include the scope of work, safe work practices, personal protective equipment, respiratory protection, and disposal of waste materials.
2. If suspected hazardous building materials are discovered during the planned work, which are not identified in this report, do not disturb and arrange for further testing and evaluation.
3. Provide this report and the detailed plans and specifications to the Contractor prior to bidding or commencing work.
4. Retain a qualified consultant to specify, inspect and verify the successful removal of hazardous materials.



4.2 Remedial Work

The following remedial work is recommended regardless of the planned construction work due to the condition and location of the material:

Material, Quantity & Condition	Location	Recommended Procedure
Plaster, 2 SF of debris	3 rd Floor Hall	Remove in accordance with Type 2 asbestos abatement procedures
Plaster, 2 SF of debris	2 nd Floor, Room 241	Remove in accordance with Type 2 asbestos abatement procedures
Plaster, 1 SF of debris	2 nd Floor, Room 242	Remove in accordance with Type 2 asbestos abatement procedures
Plaster, 1 SF of debris	2 nd Floor, Room 244	Remove in accordance with Type 2 asbestos abatement procedures
Plaster, 3 SF of debris	2 nd Floor, North West Corner Offices	Remove in accordance with Type 2 asbestos abatement procedures

4.3 Building Renovation Work

The following recommendations are made regarding renovation involving the hazardous materials identified.

4.3.1 Asbestos

Remove asbestos-containing materials (ACM) prior to renovation, alteration, or maintenance if ACM may be disturbed by the work.

If the identified ACM will not be removed prior to commencement of the work, any potential disturbance of ACM must follow asbestos precautions appropriate for the type of work being performed.

ACM must be disposed of at a landfill approved to accept asbestos waste.

4.3.2 Lead

Construction disturbance of lead in paint and coatings (or other materials) may result in over-exposure to lead dust or fumes. The need for work procedures, engineering controls and personal protective equipment will need to be assessed on a project-by-project basis and must comply with provincial standards or guidelines.



Items painted with paints containing elevated levels of lead may be a hazardous waste. Test lead-painted materials for leachable lead and other metals prior to disposal.

Well-adhered paints containing elevated levels of lead on metal substrates do not require leachable lead analysis as the materials can be recycled with the paint intact.

4.3.3 *Silica*

Construction disturbance of silica-containing products may result in excessive exposures to airborne silica, especially if performed indoors and dry. Cutting, grinding, drilling or demolition of materials containing silica should be completed only with proper respiratory protection and other worker safety precautions that comply with provincial standards or guidelines.

5.0 TERMS AND LIMITATIONS

This work was performed subject to the Terms and Limitations presented or referenced in the proposal for this project.

Information provided by Pinchin is intended for Client use only. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law. Any use by a third party of reports or documents authored by Pinchin 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. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.

6.0 REFERENCES

The following legislation and documents were referenced in completing the assessment and this report:

1. Canada Occupational Health and Safety Regulation, SOR/86-304.
2. PCB Regulations, SOR/2008-273, Canadian Environmental Protection Act.
3. Surface Coating Materials Regulations, SOR/2005-109, Hazardous Products Act.
4. Occupational Health & Safety Act - General, N.S. Reg. 52/2013.
5. Asbestos in the Workplace: A Guide to Removal of Friable Asbestos-Containing Material.
6. Asbestos in the Workplace: A Guide to Assessment and Management of Asbestos in the Workplace.
7. Asbestos Waste Management Regulations (N.S. Reg. 53/95).
8. Lead in the Workplace: A Guide to Working with Lead (Code of Practice), September 18, 2015.

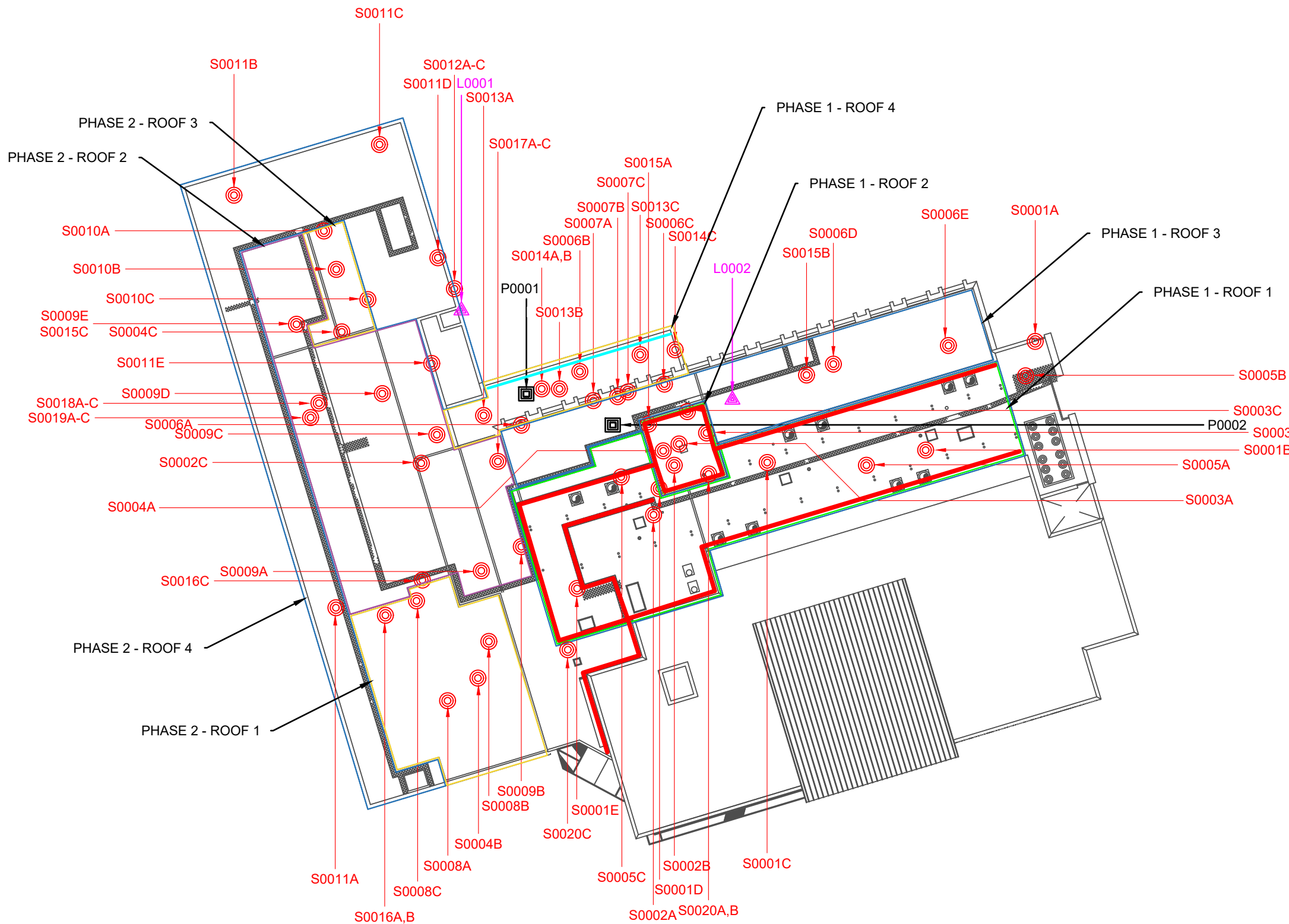


9. Working with Inorganic Lead – An Information Package.
10. Ontario Ministry of Labour, Guideline – Lead on Construction Projects, revised April 2011.
11. Environmental Abatement Council of Ontario (EACO), Lead Guideline for Construction, Renovation, Maintenance or Repair, October 2014.
12. Guidelines for Disposal of Contaminated Solids in Landfills.
13. Nova Scotia PCB Management Regulations (N.S. Reg. 163/97).
14. Ozone Layer Protection Regulations, NS Reg 54/95.
15. Hazardous Products Act and the Transportation of Dangerous Goods Act.
16. Silica on Construction Projects, Ministry of Labour Guidance Document.

277168 REVISED Pre-Con HazMat Assmt Rep 1411 Oxford St Hfx NS NRCC Aug 18 2020.docx

Template: Master Report for Hazardous Materials Assessment (Pre-Construction), HAZ, February 26, 2020

APPENDIX I
Drawing



- LEGEND**
- ⊙ ASBESTOS BULK SAMPLE
 - ▲ LEAD BULK SAMPLE
 - PCB BULK SAMPLE
 - WHITE MASTIC
 - ASBESTOS TRANSITE PANEL

NOT ALL KNOWN OR SUSPECTED HAZARDOUS BUILDING MATERIALS MAY BE DEPICTED ON THE DRAWING. REFER TO THE HAZARDOUS BUILDING MATERIALS ASSESSMENT REPORT FOR A COMPLETE LIST OF KNOWN AND SUSPECTED HAZARDOUS BUILDING MATERIALS.

LEGEND IS COLOUR DEPENDENT. NON-COLOUR COPIES MAY ALTER INTERPRETATION.



PROJECT NAME:
LIMITED HAZARDOUS MATERIALS ASSESSMENT

CLIENT NAME:
NATIONAL RESEARCH COUNCIL CANADA

PROJECT LOCATION:
1411 OXFORD STREET,
HALIFAX, NOVA SCOTIA

FIGURE NAME:
ROOFING REPLACEMENT SAMPLES

PROJECT NUMBER: 277168	SCALE: NOT TO SCALE
DRAWN BY: C. LAINE-HEBERT	REVIEWED BY: Q. CRANE
DATE: AUG. 2020	FIGURE NUMBER: 1 OF 1

APPENDIX II-A
Asbestos Analytical Certificates



Bulk Asbestos Analysis

By Polarized Light Microscopy
 EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E,
 App.E



Customer: Pinchin LeBlanc Environmental Ltd. **Attn:** Quinn Crane
 42 Dorey Avenue Julia Rose
 Dartmouth, Nova Scotia B3B 0B1

Lab Order ID: 71945796
Analysis ID: 71945796_PLM
Date Received: 7/8/2020
Date Reported: 7/10/2020

Project: 1411 Oxford St.

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0001A - A	Roofing Material Sample, Phase 1- Roof 1	None Detected	20% Cellulose 20% Fiber Glass	60% Other	Black Fibrous Homogeneous
71945796PLM_1	roofing				Dissolved
S0001A - B	Roofing Material Sample, Phase 1- Roof 1	None Detected		100% Other	Yellow Non Fibrous Homogeneous
71945796PLM_66	insulation 1				Dissolved
S0001A - C	Roofing Material Sample, Phase 1- Roof 1	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_67	insulation 2				Teased
S0001B - A	Roofing Material Sample, Phase 1- Roof 1	None Detected	20% Cellulose 10% Synthetic Fibers	70% Other	Black Fibrous Homogeneous
71945796PLM_2	roofing				Dissolved
S0001B - B	Roofing Material Sample, Phase 1- Roof 1	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_68	insulation 1				Teased
S0001B - C	Roofing Material Sample, Phase 1- Roof 1	None Detected	10% Cellulose	90% Other	Tan Non Fibrous Homogeneous
71945796PLM_69	insulation 2				Crushed
S0001C - A	Roofing Material Sample, Phase 1- Roof 1	None Detected	35% Cellulose	65% Other	Black Fibrous Homogeneous
71945796PLM_3	roofing				Dissolved
S0001C - B	Roofing Material Sample, Phase 1- Roof 1	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_70	insulation 1				Teased

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend 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. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Charmel Dozier (132)

Analyst

Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
 EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E,
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Project: 1411 Oxford St.

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0001C - C	Roofing Material Sample, Phase 1- Roof 1	None Detected	10% Cellulose	90% Other	Tan Fibrous Homogeneous
71945796PLM_71	insulation 2				Crushed
S0001D - A	Roofing Material Sample, Phase 1- Roof 1	None Detected	20% Cellulose 10% Synthetic Fibers 10% Fiber Glass	60% Other	Black Fibrous Homogeneous
71945796PLM_4	roofing				Dissolved
S0001D - B	Roofing Material Sample, Phase 1- Roof 1	None Detected	10% Cellulose	90% Other	Yellow Non Fibrous Homogeneous
71945796PLM_72	insulation 1				Crushed
S0001D - C	Roofing Material Sample, Phase 1- Roof 1	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_73	insulation 2				Teased
S0001D - D	Roofing Material Sample, Phase 1- Roof 1	None Detected	10% Cellulose	90% Other	Tan Fibrous Homogeneous
71945796PLM_74	insulation 3				Crushed
S0001E - A	Roofing Material Sample, Phase 1- Roof 1	None Detected	25% Cellulose 5% Synthetic Fibers 5% Fiber Glass	65% Other	Black Fibrous Homogeneous
71945796PLM_5	roofing				Dissolved
S0001E - B	Roofing Material Sample, Phase 1- Roof 1	None Detected		100% Other	Yellow Non Fibrous Homogeneous
71945796PLM_75	insulation 1				Crushed
S0001E - C	Roofing Material Sample, Phase 1- Roof 1	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_76	insulation 2				Teased

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Lab Sample ID	Lab Notes				Treatment
S0001E - D	Roofing Material Sample, Phase 1- Roof 1	None Detected	10% Cellulose	90% Other	Tan Fibrous Homogeneous
71945796PLM_77	insulation 3				Crushed
S0002A	Black Putty around vents, Phase 1- Roof 1	None Detected		100% Other	Black Non Fibrous Homogeneous
71945796PLM_6					Ashed
S0002B	Black Putty around vents, Phase 1- Roof 2	None Detected		100% Other	Black Non Fibrous Homogeneous
71945796PLM_7					Ashed
S0002C	Black Putty around vents, Phase 2- Roof 2	None Detected		100% Other	Black Non Fibrous Homogeneous
71945796PLM_8					Ashed
S0003A - A	Roofing Material Sample, Phase 1-Roof 2	None Detected	20% Cellulose 10% Synthetic Fibers	70% Other	Black Fibrous Homogeneous
71945796PLM_9	roofing				Dissolved
S0003A - B	Roofing Material Sample, Phase 1-Roof 2	None Detected		100% Other	Yellow Non Fibrous Homogeneous
71945796PLM_78	insulation 1				Crushed
S0003A - C	Roofing Material Sample, Phase 1-Roof 2	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_79	insulation 2				Teased
S0003B - A	Roofing Material Sample, Phase 1- Roof 2	None Detected	20% Cellulose 10% Synthetic Fibers	70% Other	Black Fibrous Homogeneous
71945796PLM_10	roofing				Dissolved

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Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E,
App.E



Customer: Pinchin LeBlanc Environmental Ltd. Attn: Quinn Crane
42 Dorey Avenue Julia Rose
Dartmouth, Nova Scotia B3B 0B1

Lab Order ID: 71945796
Analysis ID: 71945796_PLM
Date Received: 7/8/2020
Date Reported: 7/10/2020

Project: 1411 Oxford St.

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0003B - B	Roofing Material Sample, Phase 1- Roof 2	None Detected		100% Other	Yellow Non Fibrous Homogeneous
71945796PLM_80	insulation 1				Crushed
S0003B - C	Roofing Material Sample, Phase 1- Roof 2	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_81	insulation 2				Teased
S0003C - A	Roofing Material Sample, Phase 1- Roof 2	None Detected	20% Cellulose 10% Synthetic Fibers	70% Other	Black Fibrous Homogeneous
71945796PLM_11	roofing				Dissolved
S0003C - B	Roofing Material Sample, Phase 1- Roof 2	None Detected	10% Cellulose	90% Other	Yellow Non Fibrous Homogeneous
71945796PLM_82	insulation 1				Crushed
S0003C - C	Roofing Material Sample, Phase 1- Roof 2	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_83	insulation 2				Teased
S0004A	Old Roofing Repair Tar, Phase 1- Roof 2	None Detected		100% Other	Black Non Fibrous Homogeneous
71945796PLM_12					Dissolved
S0004B	Old Roofing Repair Tar, Phase 2- Roof 1	None Detected		100% Other	Black Non Fibrous Homogeneous
71945796PLM_13					Dissolved
S0004C	Old Roofing Repair Tar, Phase 2- Roof 3	None Detected		100% Other	Black Non Fibrous Homogeneous
71945796PLM_14					Dissolved

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Charmel Dozier (132)

Analyst

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NVLAP LAB CODE 200644-0

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42 Dorey Avenue
Dartmouth, Nova Scotia B3B 0B1
Julia Rose

Lab Order ID: 71945796
Analysis ID: 71945796_PLM
Date Received: 7/8/2020
Date Reported: 7/10/2020

Project: 1411 Oxford St.

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0005A	Black Caulking on wiring, Phase 1- Roof 1	None Detected	5% Cellulose	95% Other	Gray Non Fibrous Homogeneous
71945796PLM_15					Dissolved
S0005B	Black Caulking on wiring, Phase 1- Roof 1	None Detected		100% Other	Black Non Fibrous Homogeneous
71945796PLM_16					Dissolved
S0005C	Black Caulking on wiring, Phase 1- Roof 1	None Detected	5% Cellulose	95% Other	Gray Non Fibrous Homogeneous
71945796PLM_17					Dissolved
S0006A - A	Roofing Material Sample, Phase 1- Roof 3	None Detected	20% Cellulose 10% Synthetic Fibers	70% Other	Black Fibrous Homogeneous
71945796PLM_18	roofing				Dissolved
S0006A - B	Roofing Material Sample, Phase 1- Roof 3	None Detected		100% Other	Gray Non Fibrous Homogeneous
71945796PLM_84	insulation 1				Crushed
S0006A - C	Roofing Material Sample, Phase 1- Roof 3	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_85	insulation 2				Teased
S0006B - A	Roofing Material Sample, Phase 1- Roof 3	None Detected	20% Cellulose 10% Synthetic Fibers	70% Other	Black Fibrous Homogeneous
71945796PLM_19	roofing				Dissolved
S0006B - B	Roofing Material Sample, Phase 1- Roof 3	None Detected		100% Other	Gray Non Fibrous Homogeneous
71945796PLM_86	insulation 1				Crushed

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Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0006B - C	Roofing Material Sample, Phase 1- Roof 3	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_87	insulation 2				Teased
S0006C - A	Roofing Material Sample, Phase 1- Roof 3	None Detected	20% Cellulose 10% Synthetic Fibers	70% Other	Black Fibrous Homogeneous
71945796PLM_20	roofing				Dissolved
S0006C - B	Roofing Material Sample, Phase 1- Roof 3	None Detected		100% Other	Yellow Non Fibrous Homogeneous
71945796PLM_88	insulation 1				Crushed
S0006C - C	Roofing Material Sample, Phase 1- Roof 3	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_89	insulation 2				Teased
S0006D - A	Roofing Material Sample, Phase 1- Roof 3	None Detected	20% Cellulose 10% Synthetic Fibers	70% Other	Black Fibrous Homogeneous
71945796PLM_21	roofing				Dissolved
S0006D - B	Roofing Material Sample, Phase 1- Roof 3	None Detected		100% Other	Yellow Non Fibrous Homogeneous
71945796PLM_90	insulation 1				Crushed
S0006D - C	Roofing Material Sample, Phase 1- Roof 3	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_91	insulation 2				Teased
S0006E - A	Roofing Material Sample, Phase 1- Roof 3	None Detected	20% Cellulose 10% Synthetic Fibers	70% Other	Black Fibrous Homogeneous
71945796PLM_22	roofing				Dissolved

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Lab Sample ID	Lab Notes				Treatment
S0006E - B	Roofing Material Sample, Phase 1- Roof 3	None Detected		100% Other	Yellow Non Fibrous Homogeneous
71945796PLM_92	insulation 1				Crushed
S0006E - C	Roofing Material Sample, Phase 1- Roof 3	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_93	insulation 2				Teased
S0007A	Grey Caulking on roof/vent connection, Phase 1- Roof 3	None Detected	5% Cellulose	95% Other	Silver Non Fibrous Homogeneous
71945796PLM_23					Dissolved
S0007B	Grey Caulking on roof/vent connection, Phase 1- Roof 3	None Detected	5% Cellulose	95% Other	Silver Non Fibrous Homogeneous
71945796PLM_24					Dissolved
S0007C	Grey Caulking on roof/vent connection, Phase 1- Roof 3	None Detected	5% Cellulose	95% Other	Silver Non Fibrous Homogeneous
71945796PLM_25					Dissolved
S0008A - A	Roofing Material Sample, Phase 2- Roof 1	None Detected	20% Cellulose 10% Synthetic Fibers	70% Other	Black Fibrous Homogeneous
71945796PLM_26	roofing				Dissolved
S0008A - B	Roofing Material Sample, Phase 2- Roof 1	None Detected		100% Other	Yellow Non Fibrous Homogeneous
71945796PLM_94	insulation 1				Ashed
S0008A - C	Roofing Material Sample, Phase 2- Roof 1	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_95	insulation 2				Teased

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Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0008A - D	Roofing Material Sample, Phase 2- Roof 1	None Detected	15% Cellulose	85% Other	Tan Fibrous Homogeneous
71945796PLM_96	insulation 3				Crushed
S0008B - A	Roofing Material Sample, Phase 2- Roof 1	None Detected	20% Cellulose 10% Synthetic Fibers	70% Other	Black Fibrous Homogeneous
71945796PLM_27	roofing				Dissolved
S0008B - B	Roofing Material Sample, Phase 2- Roof 1	None Detected		100% Other	Yellow Non Fibrous Homogeneous
71945796PLM_97	insulation 1				Crushed
S0008B - C	Roofing Material Sample, Phase 2- Roof 1	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_98	insulation 2				Teased
S0008C - A	Roofing Material Sample, Phase 2- Roof 1	None Detected	20% Cellulose 10% Synthetic Fibers	70% Other	Black Fibrous Homogeneous
71945796PLM_28	roofing				Dissolved
S0008C - B	Roofing Material Sample, Phase 2- Roof 1	None Detected		100% Other	Yellow Non Fibrous Homogeneous
71945796PLM_99	insulation 1				Crushed
S0008C - C	Roofing Material Sample, Phase 2- Roof 1	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_100	insulation 2				Teased
S0009A - A	Roofing Material Sample, Phase 2- Roof 2	None Detected	20% Cellulose 10% Synthetic Fibers	70% Other	Black Fibrous Homogeneous
71945796PLM_29	roofing				Dissolved

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Lab Sample ID	Lab Notes				Treatment
S0009A - B	Roofing Material Sample, Phase 2- Roof 2	None Detected		100% Other	Yellow Non Fibrous Homogeneous
71945796PLM_101	insulation 1				Crushed
S0009A - C	Roofing Material Sample, Phase 2- Roof 2	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_102	insulation 2				Teased
S0009B - A	Roofing Material Sample, Phase 2- Roof 2	None Detected	20% Cellulose 10% Synthetic Fibers	70% Other	Black Fibrous Homogeneous
71945796PLM_30	roofing				Dissolved
S0009B - B	Roofing Material Sample, Phase 2- Roof 2	None Detected		100% Other	Yellow Non Fibrous Homogeneous
71945796PLM_103	insulation 1				Crushed
S0009B - C	Roofing Material Sample, Phase 2- Roof 2	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_104	insulation 2				Teased
S0009B - D	Roofing Material Sample, Phase 2- Roof 2	None Detected	15% Cellulose	85% Other	Brown Fibrous Homogeneous
71945796PLM_105	insulation 3				Teased
S0009C - A	Roofing Material Sample, Phase 2- Roof 2	None Detected	20% Cellulose 10% Synthetic Fibers	70% Other	Black Fibrous Homogeneous
71945796PLM_31	roofing				Dissolved
S0009C - B	Roofing Material Sample, Phase 2- Roof 2	None Detected		100% Other	Yellow Non Fibrous Homogeneous
71945796PLM_106	insulation 1				Crushed

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Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0009C - C	Roofing Material Sample, Phase 2- Roof 2	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_107	insulation 2				Teased
S0009D - A	Roofing Material Sample, Phase 2- Roof 2	None Detected	20% Cellulose 5% Fiber Glass 5% Synthetic Fibers	70% Other	Black Fibrous Homogeneous
71945796PLM_32	roofing				Dissolved
S0009D - B	Roofing Material Sample, Phase 2- Roof 2	None Detected		100% Other	Yellow Non Fibrous Homogeneous
71945796PLM_108	insulation 1				Crushed
S0009D - C	Roofing Material Sample, Phase 2- Roof 2	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_109	insulation 2				Teased
S0009D - D	Roofing Material Sample, Phase 2- Roof 2	None Detected	15% Cellulose	85% Other	Tan Fibrous Homogeneous
71945796PLM_110	insulation 3				Crushed
S0009E - A	Roofing Material Sample, Phase 2- Roof 2	None Detected	20% Cellulose 5% Fiber Glass 5% Synthetic Fibers	70% Other	Black Fibrous Homogeneous
71945796PLM_33	roofing				Dissolved
S0009E - B	Roofing Material Sample, Phase 2- Roof 2	None Detected		100% Other	Yellow Non Fibrous Homogeneous
71945796PLM_111	insulation 1				Crushed
S0009E - C	Roofing Material Sample, Phase 2- Roof 2	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
71945796PLM_112	insulation 2				Teased

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Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0010A - A	Roofing Material Sample, Phase 2- Roof 3	None Detected	30% Cellulose	70% Other	Black, Gray Non Fibrous Homogeneous
71945796PLM_34	rolled roofing				Crushed, Dissolved
S0010A - B	Roofing Material Sample, Phase 2- Roof 3	None Detected	65% Cellulose	35% Other	Black Non Fibrous Homogeneous
71945796PLM_113	tar/felt on foam				Teased, Dissolved
S0010A - C	Roofing Material Sample, Phase 2- Roof 3	None Detected	98% Cellulose	2% Other	Brown Fibrous Heterogeneous
71945796PLM_114	insulation				Teased, Crushed
S0010B - A	Roofing Material Sample, Phase 2- Roof 3	None Detected	30% Cellulose	70% Other	Black, Gray Non Fibrous Homogeneous
71945796PLM_35	rolled roofing				Crushed, Dissolved
S0010B - B	Roofing Material Sample, Phase 2- Roof 3	None Detected	65% Cellulose	35% Other	Black Non Fibrous Homogeneous
71945796PLM_115	tar/felt on foam				Teased, Dissolved
S0010B - C	Roofing Material Sample, Phase 2- Roof 3	None Detected	98% Cellulose	2% Other	Brown Fibrous Heterogeneous
71945796PLM_116	insulation				Teased, Crushed
S0010C - A	Roofing Material Sample, Phase 2- Roof 3	None Detected	30% Cellulose	70% Other	Black, Gray Non Fibrous Homogeneous
71945796PLM_36	rolled roofing				Crushed, Dissolved
S0010C - B	Roofing Material Sample, Phase 2- Roof 3	None Detected	65% Cellulose	35% Other	Black Non Fibrous Homogeneous
71945796PLM_117	tar/felt on foam				Teased, Dissolved

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Lab Sample ID	Lab Notes				Treatment
S0010C - C	Roofing Material Sample, Phase 2- Roof 3	None Detected	98% Cellulose	2% Other	Brown Fibrous Heterogeneous
71945796PLM_118	insulation				Teased, Crushed
S0011A - A	Roofing Material Sample, Phase 2- Roof 4	None Detected	20% Cellulose	80% Other	Black Non Fibrous Homogeneous
71945796PLM_37	built up roofing				Crushed, Dissolved
S0011A - B	Roofing Material Sample, Phase 2- Roof 4	None Detected	88% Cellulose 10% Fiber Glass	2% Other	Black Fibrous Heterogeneous
71945796PLM_119	felt on foam				Teased, Crushed
S0011A - C	Roofing Material Sample, Phase 2- Roof 4	None Detected	98% Cellulose	2% Other	Brown Fibrous Heterogeneous
71945796PLM_120	insulation				Teased, Crushed
S0011B - A	Roofing Material Sample, Phase 2- Roof 4	None Detected	20% Cellulose	80% Other	Black Non Fibrous Homogeneous
71945796PLM_38	built up roofing				Crushed, Dissolved
S0011B - B	Roofing Material Sample, Phase 2- Roof 4	None Detected	88% Cellulose 10% Fiber Glass	2% Other	Black Fibrous Heterogeneous
71945796PLM_121	felt on foam				Teased, Crushed
S0011B - C	Roofing Material Sample, Phase 2- Roof 4	None Detected	98% Cellulose	2% Other	Brown Fibrous Heterogeneous
71945796PLM_122	insulation				Teased, Crushed
S0011C - A	Roofing Material Sample, Phase 2- Roof 4	None Detected	20% Cellulose	80% Other	Black Non Fibrous Homogeneous
71945796PLM_39	built up roofing				Crushed, Dissolved

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S0011C - B	Roofing Material Sample, Phase 2- Roof 4	None Detected	88% Cellulose 10% Fiber Glass	2% Other	Black Fibrous Heterogeneous
71945796PLM_123	felt on foam				Teased, Crushed
S0011C - C	Roofing Material Sample, Phase 2- Roof 4	None Detected	98% Cellulose	2% Other	Brown Fibrous Heterogeneous
71945796PLM_124	insulation				Teased
S0011D - A	Roofing Material Sample, Phase 2- Roof 4	None Detected	20% Cellulose	80% Other	Black Non Fibrous Homogeneous
71945796PLM_40	built up roofing				Crushed, Dissolved
S0011D - B	Roofing Material Sample, Phase 2- Roof 4	None Detected	88% Cellulose 10% Fiber Glass	2% Other	Black Fibrous Heterogeneous
71945796PLM_125	felt on foam				Teased, Crushed
S0011D - C	Roofing Material Sample, Phase 2- Roof 4	None Detected	98% Cellulose	2% Other	Brown Fibrous Heterogeneous
71945796PLM_126	insulation				Teased
S0011E - A	Roofing Material Sample, Phase 2- Roof 4	None Detected	20% Cellulose	80% Other	Black Non Fibrous Homogeneous
71945796PLM_41	built up roofing				Crushed, Dissolved
S0011E - B	Roofing Material Sample, Phase 2- Roof 4	None Detected	88% Cellulose 10% Fiber Glass	2% Other	Black Fibrous Heterogeneous
71945796PLM_127	felt on foam				Teased, Crushed
S0011E - C	Roofing Material Sample, Phase 2- Roof 4	None Detected	98% Cellulose	2% Other	Brown Fibrous Heterogeneous
71945796PLM_128	insulation				Teased

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Charmel Dozier (132)

Analyst

Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
 EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E,
 App.E



Customer: Pinchin LeBlanc Environmental Ltd. **Attn:** Quinn Crane
 42 Dorey Avenue Julia Rose
 Dartmouth, Nova Scotia B3B 0B1

Project: 1411 Oxford St.

Lab Order ID: 71945796
Analysis ID: 71945796_PLM
Date Received: 7/8/2020
Date Reported: 7/10/2020

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0012A	Tar on steam pipe, Phas 2-Roof 4	None Detected		100% Other	Black, Gray Non Fibrous Homogeneous
71945796PLM_42					Crushed, Dissolved
S0012B	Tar on steam pipe, Phas 2-Roof 4	None Detected		100% Other	Black, Gray Non Fibrous Homogeneous
71945796PLM_43					Crushed, Dissolved
S0012C	Tar on steam pipe, Phas 2-Roof 4	None Detected		100% Other	Black, Gray Non Fibrous Homogeneous
71945796PLM_44					Crushed, Dissolved
S0013A - A	Roofing Material Sample, Phase 1- Roof 4	None Detected	20% Cellulose	80% Other	Black, Gray Non Fibrous Homogeneous
71945796PLM_45	built up roofing				Crushed, Dissolved
S0013A - B	Roofing Material Sample, Phase 1- Roof 4	None Detected	88% Cellulose 10% Fiber Glass	2% Other	Black Fibrous Heterogeneous
71945796PLM_129	felt on foam				Teased, Crushed
S0013A - C	Roofing Material Sample, Phase 1- Roof 4	None Detected	98% Cellulose	2% Other	Brown Fibrous Heterogeneous
71945796PLM_130	insulation				Teased
S0013B - A	Roofing Material Sample, Phase 1- Roof 4	None Detected	20% Cellulose	80% Other	Black, Gray Non Fibrous Homogeneous
71945796PLM_46	built up roofing				Crushed, Dissolved
S0013B - B	Roofing Material Sample, Phase 1- Roof 4	None Detected	98% Cellulose	2% Other	Brown Fibrous Heterogeneous
71945796PLM_131	insulation				Teased

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Charmel Dozier (132)

Analyst

Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E,
App.E



Customer: Pinchin LeBlanc Environmental Ltd. Attn: Quinn Crane
42 Dorey Avenue Julia Rose
Dartmouth, Nova Scotia B3B 0B1

Lab Order ID: 71945796
Analysis ID: 71945796_PLM
Date Received: 7/8/2020
Date Reported: 7/10/2020

Project: 1411 Oxford St.

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0013C - A	Roofing Material Sample, Phase 1- Roof 4	None Detected		100% Other	Black, Gray Non Fibrous Homogeneous
71945796PLM_47	built up roofing				Crushed, Dissolved
S0013C - B	Roofing Material Sample, Phase 1- Roof 4	None Detected	98% Cellulose	2% Other	Brown Fibrous Heterogeneous
71945796PLM_132	insulation				Teased, Crushed
S0014A	White Caulking on Metal Trim, Phase 1- Roof 4	3% Chrysotile		97% Other	White, Gray Non Fibrous Homogeneous
71945796PLM_48					Crushed, Ashed
S0014B	White Caulking on Metal Trim, Phase 1- Roof 4	Not Analyzed			
71945796PLM_49					
S0014C	White Caulking on Metal Trim, Phase 1- Roof 4	Not Analyzed			
71945796PLM_50					
S0015A	Grey Duct Mastic, Ceiling Plenum - Penthouse	None Detected		100% Other	Gray Non Fibrous Homogeneous
71945796PLM_51					Crushed, Ashed
S0015B	Grey Duct Mastic, Ceiling Plenum - Penthouse	None Detected		100% Other	Gray Non Fibrous Homogeneous
71945796PLM_52					Crushed, Ashed
S0015C	Grey Duct Mastic, Ceiling Plenum - 3rd Floor Hall	None Detected		100% Other	Gray Non Fibrous Homogeneous
71945796PLM_53					Crushed, Ashed

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Charmel Dozier (132)

Analyst

Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
 EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E,
 App.E



Customer: Pinchin LeBlanc Environmental Ltd. **Attn:** Quinn Crane
 42 Dorey Avenue Julia Rose
 Dartmouth, Nova Scotia B3B 0B1

Project: 1411 Oxford St.

Lab Order ID: 71945796
Analysis ID: 71945796_PLM
Date Received: 7/8/2020
Date Reported: 7/10/2020

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0016A	Paper Layer above plaster, Ceiling Plenum- 3rd Floor Hall	None Detected	98% Cellulose	2% Other	Brown Fibrous Heterogeneous
71945796PLM_54					Teased, Crushed
S0016B	Paper Layer above plaster, Ceiling Plenum- 3rd Floor Hall	None Detected	98% Cellulose	2% Other	Brown Fibrous Heterogeneous
71945796PLM_55					Teased
S0016C	Paper Layer above plaster, Ceiling Plenum- 3rd Floor Hall	None Detected	98% Cellulose	2% Other	Brown Fibrous Heterogeneous
71945796PLM_56					Teased
S0017A	Dark Grey Mastic on ceiling vent, Ceiling Plenum, 2nd Floor, Room 235	None Detected		100% Other	Gray Non Fibrous Homogeneous
71945796PLM_57					Crushed, Ashed
S0017B	Dark Grey Mastic on ceiling vent, Ceiling Plenum, 2nd Floor, Room 235	None Detected		100% Other	Gray Non Fibrous Homogeneous
71945796PLM_58					Crushed, Ashed
S0017C	Dark Grey Mastic on ceiling vent, Ceiling Plenum, 2nd Floor, Room 235	None Detected		100% Other	Gray Non Fibrous Homogeneous
71945796PLM_59					Crushed, Ashed
S0018A	Brown Adhesive Puck on Plaster Ceiling, Ceiling Plenum, 2nd Floor, Room 246	None Detected	2% Other	98% Other	Brown Non Fibrous Homogeneous
71945796PLM_60					Crushed, Dissolved
S0018B	Brown Adhesive Puck on Plaster Ceiling, Ceiling Plenum, 2nd Floor, Room 246	None Detected	2% Other	98% Other	Brown Non Fibrous Homogeneous
71945796PLM_61					Crushed, Dissolved

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Charmel Dozier (132)

Analyst

Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E,
App.E



Customer: Pinchin LeBlanc Environmental Ltd. Attn: Quinn Crane
42 Dorey Avenue Julia Rose
Dartmouth, Nova Scotia B3B 0B1

Lab Order ID: 71945796
Analysis ID: 71945796_PLM
Date Received: 7/8/2020
Date Reported: 7/10/2020

Project: 1411 Oxford St.

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
<i>Lab Sample ID</i>	<i>Lab Notes</i>				Treatment
S0018C	Brown Adhesive Puck on Plaster Ceiling, Ceiling Plenum, 2nd Floor, Room 246	None Detected	2% Other	98% Other	Brown Non Fibrous Homogeneous
<i>71945796PLM_62</i>					Crushed, Dissolved
S0019A	1x Fiber board acoustic ceiling tile on plsater, Ceiling Plenum, 2nd Floor, Room 246	None Detected	98% Cellulose	2% Other	Brown, White Fibrous Heterogeneous
<i>71945796PLM_63</i>					Teased
S0019B	1x Fiber board acoustic ceiling tile on plsater, Ceiling Plenum, 2nd Floor, Room 246	None Detected	98% Cellulose	2% Other	Brown, White Fibrous Heterogeneous
<i>71945796PLM_64</i>					Teased
S0019C	1x Fiber board acoustic ceiling tile on plsater, Ceiling Plenum, 2nd Floor, Room 246	None Detected	98% Cellulose	2% Other	Brown, White Fibrous Heterogeneous
<i>71945796PLM_65</i>					Teased

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Charmel Dozier (132)

Analyst

Approved Signatory



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	National Research Council Canada, 1411 Oxford St., Halifax, NS		
Project No.:	0277168.000		
Prepared For:	Quinn Crane / Julia Rose		
Lab Reference No.:	b235627		
Analyst(s):	J. Stapleton		
Date Received:	August 13, 2020	# Samples submitted:	3
Date Analyzed:	August 13, 2020	# Phases analyzed:	1

Method of Analysis:

EPA 600/R-93/116 - Method for the Determination of Asbestos in Bulk Building Materials dated July, 1993

Bulk samples are checked visually and scanned under a stereomicroscope. Slides are prepared and observed under a Polarized Light Microscope (PLM) at magnifications of 40X, 100X or 400X as appropriate. Asbestos fibres are identified by a combination of morphology, colour, refractive index, extinction, sign of elongation, birefringence and dispersion staining colours. A visual estimate is made of the percentage of asbestos present. A reported concentration of less than (<) the regulatory threshold (see chart below) indicates the presence of confirmed asbestos in trace quantities, limited to only a few fibres or fibre bundles in an entire sample. This method complies with provincial regulatory requirements where applicable. Multiple phases within a sample are analyzed and reported separately.

Provincial Jurisdiction	Regulatory Threshold	Provincial Jurisdiction	Regulatory Threshold
Ontario, British Columbia, Nova Scotia	0.5%	Alberta	Undefined
Quebec	0.1%	Saskatchewan	0.5% friable 1% non-friable
PEI, NWT, Yukon, Nunavut, Newfoundland and Labrador, and New Brunswick	1%	Manitoba	0.1% friable 1% non-friable

All bulk samples submitted to this laboratory for asbestos analysis are retained for a minimum of three months. Samples may be retrieved, upon request, for re-examination at any time during that period.

The Pinchin Ltd. Dartmouth asbestos laboratory is accredited by the National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 201032-0) for the 'EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples,' and the 'EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials'; and meets all requirements of ISO/IEC 17025:2017.

This report relates only to the items tested.

NOTE: *This test report may not be reproduced, except in full, without the written approval of the laboratory. The client may not use this report to claim product endorsement by NVLAP or any agency of the U.S. Government. This report is valid only when signed in blue ink by the analyst. Vinyl asbestos floor tiles contain very fine fibres of asbestos and may be missed by some laboratories using the PLM method. Internal verification studies performed by Pinchin indicate that the chance of missing asbestos in floor tiles is no higher than about 2%. The vinyl tile study and laboratory documentation on measurement uncertainty is available upon request. The analysis of dust samples by PLM cannot be used as an indicator of past or present airborne asbestos fibre levels.*



**Pinchin Ltd. Asbestos Laboratory
Certificate of Analysis**

Project Name: National Research Council Canada, 1411 Oxford St., Halifax, NS
Project No.: 0277168.000
Prepared For: Quinn Crane / Julia Rose

Lab Reference No.: b235627
Date Analyzed: August 13, 2020

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S0020A Transite Panel- Phase 1, Roof 1	Homogeneous, grey, hard, cementitious material.	Chrysotile 10-25%	Non-Fibrous Material > 75%
S0020B Transite Panel- Phase 1, Roof 1			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
S0020C Transite Panel- Phase 2, Roof 1			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		

Reviewed by:

Reporting Analyst:



Pinchin LeBlanc Environmental Asbestos Laboratory

Certificate of Analysis

July 4, 2016

Pinchin LeBlanc Environmental Ltd.
42 Dorey Avenue
Dartmouth, NS B3B 0B1

Attention: Amanda Raymond

Lab Reference No.: Db7275-2016

Project Name: National Research Council of Canada
 1411 Oxford Street, Halifax NS B3H 3Z1

Project No.: 01-02-01193.01

Date Received: June 23, 2016

Date Analyzed: July 4, 2016

Analyst(s): Jason Stapleton

Samples submitted: 130

Phases analyzed: 168

Method of Analysis:

EPA 600/R-93/116 - Method for the Determination of Asbestos in Bulk Building Materials dated July, 1993

Bulk samples are checked visually and scanned under a stereomicroscope. Slides are prepared with representative portions of material and observed under a Polarized Light Microscope (PLM) at magnifications of 40X, 100X or 400X as appropriate. Asbestos fibres are identified by a combination of morphology, colour, refractive index, extinction, sign of elongation, birefringence, and dispersion staining colours. A visual estimate is made of the percentage of asbestos present. A reported concentration of less than (<) the regulatory threshold (see chart below) indicates the presence of confirmed asbestos in trace quantities, limited to only a few fibres or fibre bundles in an entire sample. This method complies with all provincial regulatory requirements (NIOSH 9002, I.R.S.S.T. 244-3). Multiple phases within a sample are analyzed and reported separately.

Provincial Jurisdiction	Regulatory Threshold	Provincial Jurisdiction	Regulatory Threshold
Nova Scotia	0.5%, presence/absence in vermiculite	Newfoundland and Labrador, PEI, New Brunswick, NWT, Alberta, Yukon, Nunavut	1%
Quebec	0.1%	Saskatchewan, Manitoba	0.1% friable, 1% non-friable
Ontario, British Columbia	0.5%		

All bulk samples submitted to this laboratory for asbestos analysis are retained for a minimum of three months. Samples may be retrieved, upon request, for re-examination at any time during that period.

Pinchin LeBlanc Environmental Limited is accredited by the National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 201032-0) for the 'EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples' and 'EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials'.

This report relates only to the items tested. If you have any questions, please feel free to contact me.

Yours truly,

Digital Signed by Jason Stapleton
jstapleton@pinchinleblanc.com
 Laboratory Manager, Environmental Asbestos Services
 Pinchin LeBlanc Environmental Limited

Note: This test report may not be reproduced, except in full, without the written approval of the laboratory. The client may not use this report to claim product endorsement by NVLAP or any agency of the U.S Government. Vinyl floor tiles may contain very fine fibres of asbestos and may be missed by some laboratories using the PLM method. Internal verification studies performed by Pinchin indicate that the chance of missing asbestos in floor tiles is no higher than about 2%. The analysis of dust samples by PLM cannot be used as an indicator of past or present airborne asbestos fibre levels.

Pinchin LeBlanc Environmental Asbestos Laboratory Certificate of Analysis

Project Name: National Research Council of Canada
1411 Oxford Street, Halifax NS B3H 3Z1

Project No.: 01-02-01193.01

Prepared For: Amanda Raymond

Lab Reference No.: Db7275-2016

Date Analyzed: July 4, 2016

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S001B Grey/green mastic on duct - Location 001 Storage Room	Homogeneous, green, mastic material	None detected	Cellulose 5-10% Non-fibrous material >75%
01-02-1193.01-S001C Grey/green mastic on duct - Location 001 Storage Room	Homogeneous, green, mastic material	None detected	Cellulose 5-10% Non-fibrous material >75%
01-02-1193.01-S003B Plaster board on wall - Location 001 Storage Room	Homogeneous, tan, soft, cementitious material	None detected	Vermiculite 0.5-5% Other non-fibrous material >75%
01-02-1193.01-S003C Plaster board on wall - Location 001 Storage Room	Homogeneous, tan, soft, cementitious material	None detected	Vermiculite 0.5-5% Other non-fibrous material >75%
01-02-1193.01-S008B 12"x12" White with pink flecks FT01 - Location 004	2 phases:		
	a) Homogeneous, white, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	None detected	Tar and other non- fibrous material >75%
01-02-1193.01-S008C 12"x12" White with pink flecks FT01 - Location 004	2 phases:		
	a) Homogeneous, white, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	None detected	Tar and other non- fibrous material >75%

ANALYST



Pinchin LeBlanc Environmental Asbestos Laboratory Certificate of Analysis

Project Name: National Research Council of Canada
1411 Oxford Street, Halifax NS B3H 3Z1

Project No.: 01-02-01193.01

Prepared For: Amanda Raymond

Lab Reference No.: Db7275-2016

Date Analyzed: July 4, 2016

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S011B 12"x12" Beige with tan streaks FT02 - Location 005	2 phases:		
	a) Homogeneous, white, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	Chrysotile 0.5-5%	Tar and other non-fibrous material >75%
01-02-1193.01-S011C 12"x12" Beige with tan streaks FT02 - Location 005	2 phases:		
	a) Homogeneous, white, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	Not analyzed	
Comment: Phase 'b' of the sample was not analyzed due to a previous positive result.			
01-02-1193.01-S011D Black Mastic FT02 - Location 005		Not analyzed	
Comment: Sample was not analyzed due to a previous positive result.			
01-02-1193.01-S012B 2'x2' Hole and Fleck AT01 - Location 009	Homogeneous, tan, layered, compressed fibrous material	None detected	Cellulose 25-50%
			Glass fibres 25-50%
			Perlite 5-10%
			Other non-fibrous material 5-10%
01-02-1193.01-S012C 2'x2' Hole and Fleck AT01 - Location 009	Homogeneous, tan, layered, compressed fibrous material	None detected	Cellulose 25-50%
			Glass fibres 25-50%
			Perlite 5-10%
			Other non-fibrous material 5-10%
01-02-1193.01-S013B Drywall joint compound wall - Location 009	Homogeneous, white, soft, cementitious material	None detected	Perlite 0.5-5%
			Other non-fibrous material >75%

ANALYST



Pinchin LeBlanc Environmental Asbestos Laboratory Certificate of Analysis

Project Name: National Research Council of Canada
1411 Oxford Street, Halifax NS B3H 3Z1

Project No.: 01-02-01193.01

Prepared For: Amanda Raymond

Lab Reference No.: Db7275-2016

Date Analyzed: July 4, 2016

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S013C Drywall joint compound wall - Location 005	Homogeneous, white, soft, cementitious material	None detected	Perlite 0.5-5% Other non-fibrous material >75%
01-02-1193.01-S013D Drywall joint compound exterior wall - Location 012	Homogeneous, white, soft, cementitious material	None detected	Perlite 0.5-5% Other non-fibrous material >75%
01-02-1193.01-S013E Drywall joint compound interior wall - Location 061	Homogeneous, white, soft, cementitious material	None detected	Perlite 0.5-5% Other non-fibrous material >75%
01-02-1193.01-S013F Drywall joint compound bulkhead - Location 069	Homogeneous, white, soft, cementitious material	None detected	Perlite 0.5-5% Other non-fibrous material >75%
01-02-1193.01-S014B 12"x12" Beige with brown streaks FT-03 - Location 015	2 phases:		
	a) Homogeneous, beige, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	None detected	Tar and other non-fibrous material >75%
01-02-1193.01-S014C 12"x12" Beige with brown streaks FT03 - Location 015	2 phases:		
	a) Homogeneous, beige, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	None detected	Tar and other non-fibrous material >75%

ANALYST



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1411 Oxford Street, Halifax NS B3H 3Z1

Project No.: 01-02-01193.01

Prepared For: Amanda Raymond

Lab Reference No.: Db7275-2016

Date Analyzed: July 4, 2016

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S015B 12"x12" Solid blue FT04 - Location 016	2 phases:		
	a) Homogeneous, light blue, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, brown adhesive	None detected	Non-fibrous material >75%
01-02-1193.01-S015C 12"x12" Solid blue FT04 - Location 016	2 phases:		
	a) Homogeneous, light blue, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, brown adhesive	None detected	Non-fibrous material >75%
01-02-1193.01-S015D Brown mastic FT04 - Location 016	Homogeneous, brown adhesive	None detected	Non-fibrous material >75%
01-02-1193.01-S016B Parging cement - Domestic hot water tank - Location 017	Homogeneous, tan, soft, cementitious material	None detected	Glass fibres 25-50% Non-fibrous material 50-75%
01-02-1193.01-S016C Parging cement - Domestic hot water tank - Location 017	Homogeneous, tan, soft, cementitious material	None detected	Glass fibres 25-50% Non-fibrous material 50-75%
01-02-1193.01-S019B Drywall joint compound wal - Location 022	Homogeneous, white, soft, cementitious material	None detected	Perlite 0.5-5% Other non-fibrous material >75%

ANALYST



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Project Name: National Research Council of Canada
1411 Oxford Street, Halifax NS B3H 3Z1

Project No.: 01-02-01193.01

Prepared For: Amanda Raymond

Lab Reference No.: Db7275-2016

Date Analyzed: July 4, 2016

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S019C Drywall joint compound wall - Women's Changeroom - Location 048	Homogeneous, white, soft, cementitious material	None detected	Perlite 0.5-5% Other non-fibrous material >75%
01-02-1193.01-S019D Drywall joint compound wall - Location 038	Homogeneous, white, soft, cementitious material	None detected	Perlite 0.5-5% Other non-fibrous material >75%
01-02-1193.01-S019E Drywall joint compound wall - Location 191	Homogeneous, tan, soft, cementitious material	None detected	Non-fibrous material >75%
01-02-1193.01-S021B 12"x12" White with tank flecks FT06 - Location 030	2 phases:		
	a) Homogeneous, white, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	None detected	Tar and other non-fibrous material >75%
01-02-1193.01-S021C 12"x12" White with tank flecks FT06 - Location 030	2 phases:		
	a) Homogeneous, white, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	None detected	Tar and other non-fibrous material >75%
01-02-1193.01-S023B 2'x2' Bumpy Pattern AT02 - Location 032	Homogeneous, tan, layered, compressed fibrous material	None detected	Cellulose 25-50% Glass fibres 25-50% Perlite 5-10% Other non-fibrous material 5-10%

ANALYST



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Project Name: National Research Council of Canada
1411 Oxford Street, Halifax NS B3H 3Z1

Project No.: 01-02-01193.01

Prepared For: Amanda Raymond

Lab Reference No.: Db7275-2016

Date Analyzed: July 4, 2016

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S023C 2'x2' Bumpy Pattern AT02 - Location 032	Homogeneous, tan, layered, compressed fibrous material	None detected	Cellulose 25-50% Glass fibres 25-50% Perlite 5-10% Other non-fibrous material 5-10%
01-02-1193.01-S024B Beige with blue and grey pattern VSF - Location 034	Homogeneous, brown, consolidated material	None detected	Cellulose 10-25% Non-fibrous material >75%
Comments: Cotton fabric reinforcement is present on the surface of the sample.			
01-02-1193.01-S024C Beige with blue and grey pattern VSF - Location 034	Homogeneous, brown, consolidated material	None detected	Cellulose 10-25% Non-fibrous material >75%
Comments: Cotton fabric reinforcement is present on the surface of the sample.			
01-02-1193.01-S025B Plaster board over drywall - Location 038	3 phases: a) Homogeneous, tan, soft, cementitious material b) Homogeneous, white, hard, cementitious material c) Homogeneous, tan, soft, cementitious material	None detected None detected None detected	Non-fibrous material >75% Non-fibrous material >75% Vermiculite 0.5-5% Other non-fibrous material >75%

ANALYST



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Project No.: 01-02-01193.01

Prepared For: Amanda Raymond

Lab Reference No.: Db7275-2016

Date Analyzed: July 4, 2016

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S025C Plaster board over drywall - Location 038	3 phases:		
	a) Homogeneous, tan, soft, cementitious material	None detected	Non-fibrous material >75%
	b) Homogeneous, white, hard, cementitious material	None detected	Non-fibrous material >75%
	c) Homogeneous, tan, soft, cementitious material	None detected	Vermiculite 0.5-5% Other non-fibrous material >75%
01-02-1193.01-S028B 12"x12" Light grey with dark grey flecks FT07 - Locaiton 055	2 phases:		
	a) Homogeneous, light green, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	None detected	Tar and other non-fibrous material >75%
01-02-1193.01-S028C 12"x12" Light grey with dark grey flecks FT07 - Locaiton 055	2 phases:		
	a) Homogeneous, light green, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	None detected	Tar and other non-fibrous material >75%
01-02-1193.01-S029B 2'x2' Pinhole and hole AT04 - Location 058	Homogeneous, tan, layered, compressed fibrous material	None detected	Cellulose 25-50% Glass fibres 25-50% Perlite 5-10% Other non-fibrous material 5-10%

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BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S029C 2'x2' Pinhole and hole AT04 - Location 058	Homogeneous, tan, layered, compressed fibrous material	None detected	Cellulose 25-50% Glass fibres 25-50% Perlite 5-10% Other non-fibrous material 5-10%
01-02-1193.01-S030B Levelling compound at conduit penetration - Location 058	Homogeneous, grey, soft, cementitious material	None detected	Non-fibrous material >75%
01-02-1193.01-S030C Levelling compound at conduit penetration - Location 058	Homogeneous, grey, soft, cementitious material	None detected	Non-fibrous material >75%
01-02-1193.01-S031B 2'x2' Hole and Bumpy Pattern AT03 - Location 049	Homogeneous, light grey, compressed fibrous material	None detected	Glass fibres >75% Non-fibrous material 10-25%
01-02-1193.01-S031C 2'x2' Hole and Bumpy Pattern AT03 - Location 049	Homogeneous, light grey, compressed fibrous material	None detected	Glass fibres >75% Non-fibrous material 10-25%
01-02-1193.01-S035B 12"x12" White with yellow fleck FT08 - Location 086	2 phases:		
	a) Homogeneous, cream, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	None detected	Tar and other non- fibrous material >75%

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BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S035C 12"x12" White with yellow fleck FT08 - Location 086	2 phases:		
	a) Homogeneous, cream, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	None detected	Tar and other non-fibrous material >75%
01-02-1193.01-S035D Black Mastic FT08 - Location 086	Homogeneous, black tar	None detected	Tar and other non-fibrous material >75%
01-02-1193.01-S036B 12"x12" Black with white streaks FT09 - Location 070	2 phases:		
	a) Homogeneous, black, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	None detected	Tar and other non-fibrous material >75%
01-02-1193.01-S036C 12"x12" Black with white streaks FT09 - Location 070	2 phases:		
	a) Homogeneous, black, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	None detected	Tar and other non-fibrous material >75%
01-02-1193.01-S036D Black Mastic FT09 - Location 070	Homogeneous, black tar	None detected	Tar and other non-fibrous material >75%
01-02-1193.01-S038B 1'x1' Glue on fissure and bumpy tile AT05 - Location 108	Homogeneous, light grey, compressed fibrous material	None detected	Glass fibres >75% Non-fibrous material 10-25%

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BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S038C 1'x1' Glue on fissure and bumpy tile AT05 - Location 108	Homogeneous, light grey, compressed fibrous material	None detected	Glass fibres >75% Non-fibrous material 10-25%
01-02-1193.01-S039B Black tar paper on vent - Location 121	Homogeneous, black, tar impregnated paper	None detected	Tar and other non-fibrous material >75%
Comments: Paper and fibreglass are present on the surface of the sample.			
01-02-1193.01-S039C Black tar paper on vent - Location 121	Homogeneous, black, tar impregnated paper	None detected	Tar and other non-fibrous material >75%
Comments: Paper and fibreglass are present on the surface of the sample.			
01-02-1193.01-S040B 12"x12" Green and white speckled FT10 - Location 110	2 phases: a) Homogeneous, grey, consolidated material (tile) b) Homogeneous, brown adhesive	None detected None detected	Non-fibrous material >75% Non-fibrous material >75%
01-02-1193.01-S040C 12"x12" Green and white speckled FT10 - Location 110	2 phases: a) Homogeneous, grey, consolidated material (tile) b) Homogeneous, brown adhesive	None detected None detected	Non-fibrous material >75% Non-fibrous material >75%
01-02-1193.01-S040D Brown mastic FT10 - Location 110	Homogeneous, brown, adhesive	None detected	Non-fibrous material >75%

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BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S042B 12"x12" White with blue flecks FT11 - Location 135	2 phases:		
	a) Homogeneous, white, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, brown adhesive	None detected	Non-fibrous material >75%
01-02-1193.01-S042C 12"x12" White with blue flecks FT11 - Location 135	2 phases:		
	a) Homogeneous, white, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, brown adhesive	None detected	Non-fibrous material >75%
01-02-1193.01-S044B Blue/green/red speckled pattern VSF - Location 145	Homogeneous, light brown, fibrous material on the back of vinyl sheet flooring	None detected	Cellulose 50-75% Glass fibres 0.5-5% Non-fibrous material 25-50%
01-02-1193.01-S044C Blue/green/red speckled pattern VSF - Location 145	Homogeneous, light brown, fibrous material on the back of vinyl sheet flooring	None detected	Cellulose 50-75% Glass fibres 0.5-5% Non-fibrous material 25-50%
01-02-1193.01-S049B Texture coat on roof drain - Location 255		Not analyzed	
Comments: Material in sample bag is rusted metal only.			
01-02-1193.01-S049C Texture coat on roof drain - Location 255		Not analyzed	
Comments: Material in sample bag is rusted metal only.			

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BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S051A Gold sink tar - Location 009	Homogeneous, gold tar	Chrysotile 0.5-5%	Tar and other non-fibrous material >75%
01-02-1193.01-S051B Gold sink tar - Location 009		Not analyzed	
Comments: Sample was not analyzed due to a previous positive result.			
01-02-1193.01-S051C Gold sink tar - Location 009		Not analyzed	
Comments: Sample was not analyzed due to a previous positive result.			
01-02-1193.01-S052A White window caulking - Location 051	Homogeneous, white, mastic material	None detected	Non-fibrous material >75%
01-02-1193.01-S052B White window caulking - Location 051	Homogeneous, white, mastic material	None detected	Non-fibrous material >75%
01-02-1193.01-S052C White window caulking - Location 051	Homogeneous, white, mastic material	None detected	Non-fibrous material >75%
01-02-1193.01-S053A White floor levelling compound - Location 019	Homogeneous, white, soft, cementitious material	Chrysotile 0.5-5%	Non-fibrous material >75%
01-02-1193.01-S053B White floor levelling compound - Location 019		Not analyzed	
Comments: Sample was not analyzed due to a previous positive result.			
01-02-1193.01-S053C White floor levelling compound - Location 019		Not analyzed	
Comments: Sample was not analyzed due to a previous positive result.			

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BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S054A Blue fire stop in pipe chase - Location 028	Homogeneous, blue, mastic material	None detected	Non-fibrous material >75%
01-02-1193.01-S054B Blue fire stop in pipe chase - Location 028	Homogeneous, blue, mastic material	None detected	Non-fibrous material >75%
01-02-1193.01-S054C Blue fire stop in pipe chase - Location 028	Homogeneous, blue, mastic material	None detected	Non-fibrous material >75%
01-02-1193.01-S055A Black interior window caulking - Location 049	Homogeneous, black, mastic material	Chrysotile 5-10%	Non-fibrous material >75%
01-02-1193.01-S055B Black interior window caulking - Location 049		Not analyzed	
Comments: Sample was not analyzed due to a previous positive result.			
01-02-1193.01-S055C Black interior window caulking - Location 049		Not analyzed	
Comments: Sample was not analyzed due to a previous positive result.			
01-02-1193.01-S056A White sink tar - Location 035	Homogeneous, white, mastic material	None detected	Non-fibrous material >75%
01-02-1193.01-S056B White sink tar - Location 035	Homogeneous, white, mastic material	None detected	Non-fibrous material >75%
01-02-1193.01-S056C White sink tar - Location 035	Homogeneous, white, mastic material	None detected	Non-fibrous material >75%
01-02-1193.01-S057A Light grey vent mastic - Location 034	Homogeneous, grey, mastic material	None detected	Non-fibrous material >75%

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BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S057B Light grey vent mastic - Location 034	Homogeneous, grey, mastic material	None detected	Non-fibrous material >75%
01-02-1193.01-S057C Light grey vent mastic - Location 034	Homogeneous, grey, mastic material	None detected	Non-fibrous material >75%
01-02-1193.01-S058A Roofing materials from former roof - Location 253	3 phases: a) Homogeneous, black, tar impregnated shingle b) Homogeneous, black tar c) Homogeneous, black, tar impregnated paper	None detected None detected None detected	Synthetic fibres 5-10% Tar and other non- fibrous material >75% Tar and other non- fibrous material >75% Glass fibres 10-25% Tar and other non- fibrous material >75%
01-02-1193.01-S058B Roofing materials from former roof - Location 253	3 phases: a) Homogeneous, black, tar impregnated shingle b) Homogeneous, black, tar impregnated paper c) Homogeneous, black tar	None detected None detected None detected	Synthetic fibres 5-10% Tar and other non- fibrous material >75% Cellulose 50-75% Tar and other non- fibrous material 25-50% Tar and other non- fibrous material >75%

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BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S058C Roofing materials from former roof - Location 253	3 phases:		
	a) Homogeneous, black, tar impregnated shingle	None detected	Synthetic fibres 5-10% Tar and other non-fibrous material >75%
	b) Homogeneous, black, tar impregnated paper	None detected	Cellulose 50-75% Tar and other non-fibrous material 25-50%
	c) Homogeneous, black tar	None detected	Tar and other non-fibrous material >75%
01-02-1193.01-S059A Refractory Brick from oven Location 003	Homogeneous, white, granular, cementitious material	None detected	Non-fibrous material >75%
01-02-1193.01-S059B Refractory Brick from oven Location 003	Homogeneous, white, granular, cementitious material	None detected	Non-fibrous material >75%
01-02-1193.01-S059C Refractory Brick from oven Location 003	Homogeneous, white, granular, cementitious material	None detected	Non-fibrous material >75%
01-02-1193.01-S060A Tar paper from concrete deck - Location 010	Homogeneous, black, tar impregnated paper	None detected	Cellulose >75% Tar and other non-fibrous material 10-25%
01-02-1193.01-S060B Tar paper from concrete deck - Location 010	Homogeneous, black, tar impregnated paper	None detected	Cellulose >75% Tar and other non-fibrous material 10-25%
01-02-1193.01-S060C Tar paper from concrete deck - Location 010	Homogeneous, black, tar impregnated paper	None detected	Cellulose >75% Tar and other non-fibrous material 10-25%

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BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S061A Spray fireproofing - Location 073	Homogeneous, brown, soft, cementitious material	None detected	Cellulose 0.5-5% Vermiculite 5-10% Other non-fibrous material >75%
01-02-1193.01-S061B Spray fireproofing - Location 073	Homogeneous, brown, soft, cementitious material	None detected	Cellulose 0.5-5% Vermiculite 5-10% Other non-fibrous material >75%
01-02-1193.01-S061C Spray fireproofing - Location 073	Homogeneous, brown, soft, cementitious material	None detected	Cellulose 0.5-5% Vermiculite 5-10% Other non-fibrous material >75%
01-02-1193.01-S062A Plaster skim and base coat ceiling - Oxford St. Entrance - Location 052	2 phases: a) Homogeneous, white, soft, cementitious material b) Homogeneous, light tan, granular, cementitious material	None detected Chrysotile 0.5-5%	Perlite 0.5-5% Other non-fibrous material >75% Non-fibrous material >75%
01-02-1193.01-S062B Plaster skim and base coat ceiling - Oxford St. Entrance - Location 052		Not analyzed	
Comments: Sample was not analyzed due to a previous positive result.			
01-02-1193.01-S062C Plaster skim and base coat ceiling - Oxford St. Entrance - Location 052		Not analyzed	
Comments: Sample was not analyzed due to a previous positive result.			

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BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S063A 12"x12" Green with white fleck FT13 - Location 069	2 phases:		
	a) Homogeneous, green, consolidated material (tile)	None detected	Non-fibrous material >75%
01-02-1193.01-S063B 12"x12" Green with white fleck FT13 - Location 069	2 phases:		
	a) Homogeneous, green, consolidated material (tile)	None detected	Non-fibrous material >75%
01-02-1193.01-S063C 12"x12" Green with white fleck FT13 - Location 069	2 phases:		
	a) Homogeneous, green, consolidated material (tile)	None detected	Non-fibrous material >75%
01-02-1193.01-S064A 12"x12" White speckle FT14 - Location 110	2 phases:		
	a) Homogeneous, grey, consolidated material (tile)	None detected	Non-fibrous material >75%
01-02-1193.01-S064A 12"x12" White speckle FT14 - Location 110	b) Homogeneous, brown adhesive	None detected	Non-fibrous material >75%

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BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S064B 12"x12" White speckle FT14 - Location 110	2 phases:		
	a) Homogeneous, grey, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, brown adhesive	None detected	Non-fibrous material >75%
01-02-1193.01-S064C 12"x12" White speckle FT14 - Location 110	2 phases:		
	a) Homogeneous, grey, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, brown adhesive	None detected	Non-fibrous material >75%
01-02-1193.01-S065A 12"x12" Peach fleck FT15 - Location 239	2 phases:		
	a) Homogeneous, peach, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	None detected	Tar and other non-fibrous material >75%
01-02-1193.01-S065B 12"x12" Peach fleck FT15 - Location 239	2 phases:		
	a) Homogeneous, peach, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	None detected	Tar and other non-fibrous material >75%

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BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S065C 12"x12" Peach fleck FT15 - Location 239	2 phases:		
	a) Homogeneous, peach, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	None detected	Tar and other non-fibrous material >75%
01-02-1193.01-S066A Drywall joint compound wall - Location 258	Homogeneous, white, soft, cementitious material	None detected	Perlite 0.5-5% Other non-fibrous material >75%
01-02-1193.01-S066B Drywall joint compound wall - Location 258	Homogeneous, white, soft, cementitious material	None detected	Perlite 0.5-5% Other non-fibrous material >75%
01-02-1193.01-S066C Drywall joint compound wall - Location 152	Homogeneous, white, soft, cementitious material	None detected	Perlite 0.5-5% Other non-fibrous material >75%
01-02-1193.01-S066D Drywall joint compound wall - Location 164	Homogeneous, off-white, soft, cementitious material	None detected	Perlite 0.5-5% Other non-fibrous material >75%
01-02-1193.01-S066E Drywall joint compound wall - Location 166	Homogeneous, white, soft, cementitious material	None detected	Perlite 0.5-5% Other non-fibrous material >75%
01-02-1193.01-S067A 12"x12" Green fleck FT16 - Location 238	2 phases:		
	a) Homogeneous, green, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	None detected	Tar and other non-fibrous material >75%

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SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S067B 12"x12" Green fleck FT16 - Location 238	2 phases:		
	a) Homogeneous, green, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	None detected	Tar and other non-fibrous material >75%
01-02-1193.01-S067C 12"x12" Green fleck FT16 - Location 238	2 phases:		
	a) Homogeneous, green, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, black tar	None detected	Tar and other non-fibrous material >75%
01-02-1193.01-S068A Painted grey vinyl sheet flooring - Location 054	Homogeneous, dark brown, hard, consolidated material	None detected	Antigorite 0.5-5% Non-fibrous material >75%
01-02-1193.01-S068B Painted grey vinyl sheet flooring - Location 054	Homogeneous, dark brown, hard, consolidated material	None detected	Antigorite 0.5-5% Cellulose 0.5-5% Non-fibrous material >75%
01-02-1193.01-S068C Painted grey vinyl sheet flooring - Location 054	Homogeneous, dark brown, hard, consolidated material	None detected	Cellulose 0.5-5% Non-fibrous material >75%
Comments: Cotton fabric reinforcement is present on the surface of the sample.			
01-02-1193.01-S069A 12"x12" Green with black and white speckle FT17 - Location 038	2 phases:		
	a) Homogeneous, green, consolidated material (tile)	None detected	Synthetic fibres 5-10% Non-fibrous material >75%
	b) Homogeneous, green, rubbery, mastic material	None detected	Non-fibrous material >75%

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SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S069B 12"x12" Green with black and white speckle FT17 - Location 038	2 phases:		
	a) Homogeneous, green, consolidated material (tile)	None detected	Synthetic fibres 5-10% Non-fibrous material >75%
	b) Homogeneous, brown adhesive	None detected	Non-fibrous material >75%
	01-02-1193.01-S069C 12"x12" Green with black and white speckle FT17 - Location 038	2 phases:	
	a) Homogeneous, green, consolidated material (tile)	None detected	Synthetic fibres 5-10% Non-fibrous material >75%
	b) Homogeneous, brown adhesive	None detected	Non-fibrous material >75%
01-02-1193.01-S070A 12"x12" Beige fleck FT18 - Location 035	2 phases:		
	a) Homogeneous, beige, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, brown adhesive	None detected	Non-fibrous material >75%
	01-02-1193.01-S070B 12"x12" Beige fleck FT18 - Location 035	2 phases:	
	a) Homogeneous, beige, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, brown adhesive	None detected	Non-fibrous material >75%

ANALYST



Pinchin LeBlanc Environmental Asbestos Laboratory Certificate of Analysis

Project Name: National Research Council of Canada
1411 Oxford Street, Halifax NS B3H 3Z1

Project No.: 01-02-01193.01

Prepared For: Amanda Raymond

Lab Reference No.: Db7275-2016

Date Analyzed: July 4, 2016

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S070C 12"x12" Beige fleck FT18 - Location 035	2 phases:		
	a) Homogeneous, beige, consolidated material (tile)	None detected	Non-fibrous material >75%
	b) Homogeneous, brown adhesive	None detected	Non-fibrous material >75%
01-02-1193.01-S071A Tar paper and heavy canvas - high pressure steam - Location 008	Homogeneous, black, tar impregnated paper	None detected	Cellulose 50-75% Tar and other non- fibrous material 25-50%
Comments: Cotton fabric reinforcement is present on the surface of the sample.			
01-02-1193.01-S071B Tar paper and heavy canvas - high pressure steam - Location 008	Homogeneous, black, tar impregnated paper	None detected	Cellulose 50-75% Tar and other non- fibrous material 25-50%
01-02-1193.01-S071C Tar paper and heavy canvas - high pressure steam - Location 012	Homogeneous, black, tar impregnated paper	None detected	Cellulose 50-75% Tar and other non- fibrous material 25-50%
Comments: Cotton fabric reinforcement is present on the surface of the sample.			
01-02-1193.01-S072A Tar paper - Domestic hot water - Location 004	Homogeneous, black, tar impregnated paper	None detected	Cellulose 50-75% Tar and other non- fibrous material 25-50%
01-02-1193.01-S072B Tar paper - Domestic hot water - Location 004	Homogeneous, black, tar impregnated paper	None detected	Cellulose 50-75% Tar and other non- fibrous material 25-50%

ANALYST



Pinchin LeBlanc Environmental Asbestos Laboratory *Certificate of Analysis*

Project Name: National Research Council of Canada
1411 Oxford Street, Halifax NS B3H 3Z1

Project No.: 01-02-01193.01

Prepared For: Amanda Raymond

Lab Reference No.: Db7275-2016

Date Analyzed: July 4, 2016

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S072C Tar paper - Domestic cold water - Location 004	2 phases:		
	a) Homogeneous, black, tar impregnated paper	None detected	Cellulose 50-75% Tar and other non-fibrous material 25-50%
	b) Homogeneous, yellow, fibrous material	None detected	Glass fibres >75%
Comments: Cotton fabric reinforcement is present on the surface of the sample.			

ANALYST





Pinchin LeBlanc Environmental Asbestos Laboratory

Certificate of Analysis

July 11, 2016

Pinchin LeBlanc Environmental Ltd.
42 Dorey Avenue
Dartmouth NS B3B 0B1

Attention: Amanda Raymond

Lab Reference No.: Db7285-2016

Project Name: National Research Council of Canada
 1411 Oxford Street, Halifax NS B3H 3Z1

Project No.: 01-02-01193.01

Date Received: July 8, 2016

Date Analyzed: July 11, 2016

Analyst(s): Jason Stapleton

Samples submitted: 6

Phases analyzed: 4

Method of Analysis:

EPA 600/R-93/116 - Method for the Determination of Asbestos in Bulk Building Materials dated July, 1993

Bulk samples are checked visually and scanned under a stereomicroscope. Slides are prepared with representative portions of material and observed under a Polarized Light Microscope (PLM) at magnifications of 40X, 100X or 400X as appropriate. Asbestos fibres are identified by a combination of morphology, colour, refractive index, extinction, sign of elongation, birefringence, and dispersion staining colours. A visual estimate is made of the percentage of asbestos present. A reported concentration of less than (<) the regulatory threshold (see chart below) indicates the presence of confirmed asbestos in trace quantities, limited to only a few fibres or fibre bundles in an entire sample. This method complies with all provincial regulatory requirements (NIOSH 9002, I.R.S.S.T. 244-3). Multiple phases within a sample are analyzed and reported separately.

Provincial Jurisdiction	Regulatory Threshold	Provincial Jurisdiction	Regulatory Threshold
Nova Scotia	0.5%, presence/absence in vermiculite	Newfoundland and Labrador, PEI, New Brunswick, NWT, Alberta, Yukon, Nunavut	1%
Quebec	0.1%	Saskatchewan, Manitoba	0.1% friable, 1% non-friable
Ontario, British Columbia	0.5%		

All bulk samples submitted to this laboratory for asbestos analysis are retained for a minimum of three months. Samples may be retrieved, upon request, for re-examination at any time during that period.

Pinchin LeBlanc Environmental Limited is accredited by the National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 201032-0) for the 'EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples' and 'EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials'.

This report relates only to the items tested. If you have any questions, please feel free to contact me.

Yours truly,

Digital Signed by Jason Stapleton
jstapleton@pinchinleblanc.com
 Laboratory Manager, Environmental Asbestos Services
 Pinchin LeBlanc Environmental Limited

Note: This test report may not be reproduced, except in full, without the written approval of the laboratory. The client may not use this report to claim product endorsement by NVLAP or any agency of the U.S Government. Vinyl floor tiles may contain very fine fibres of asbestos and may be missed by some laboratories using the PLM method. Internal verification studies performed by Pinchin indicate that the chance of missing asbestos in floor tiles is no higher than about 2%. The analysis of dust samples by PLM cannot be used as an indicator of past or present airborne asbestos fibre levels.



Pinchin LeBlanc Environmental Asbestos Laboratory Certificate of Analysis

Project Name: National Research Council of Canada
 1411 Oxford Street, Halifax NS B3H 3Z1
Project No.: 01-02-01193.01
Prepared For: Amanda Raymond

Lab Reference No.: Db7285-2016
Date Analyzed: July 11, 2016

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
01-02-1193.01-S003D Plaster Coat on walls - Location 001 Storage	Homogeneous, tan, soft, cementitious material with flakes	None detected	Vermiculite 5-10% Other non-fibrous material >75%
01-02-1193.01-S003E Plaster Coat on walls - Location 001 Storage	Homogeneous, tan, soft, cementitious material with flakes	None detected	Vermiculite 5-10% Other non-fibrous material >75%
01-02-1193.01-S003F Plaster Coat on walls - Location 001 Storage	Homogeneous, tan, soft, cementitious material with flakes	None detected	Vermiculite 5-10% Other non-fibrous material >75%
01-02-1193.01-S073A Skim coat around window - between 1st and 2nd Floor - Location 026 Stairwell	Homogeneous, off-white, soft, cementitious material	Chrysotile 0.5-5%	Non-fibrous material >75%
01-02-1193.01-S073B Skim coat wall - between 1st and 2nd floor - Location 051 Stairwell		Not analyzed	
Comments: Sample was not analyzed due to a previous positive result.			
01-02-1193.01-S073C Skim coat wall - between 1st and 2nd floor - Location 051 Stairwell		Not analyzed	
Comments: Sample was not analyzed due to a previous positive result.			

ANALYST

J. S. P. L. T.



**ANALYSIS OF BULK SAMPLES FOR ASBESTOS CONTENT
BY POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING**

PROJECT NAME: National Research Council
ACM Survey

PROJECT NO.: 01-02-00067

LAB REFERENCE NO.: Db5268 - 2008

DATE: November 20, 2008

Fifty samples were received for determination of its asbestos content by Polarized Light Microscopy and Dispersion Staining.

Sample preparation and analytical procedures are in compliance with the Code for the Determination of Asbestos from Bulk Insulation Samples, dated the 23rd of August, 1985 and issued by the Occupational Health and Safety Division of the Ontario Ministry of Labour, and U.S. EPA Method 600/R-93/116 dated July, 1993. Asbestos fibres are identified by a combination of morphology, colour, refractive index, extinction, sign of elongation, birefringence and dispersion staining colours. A visual estimate is made of the volume percentage of asbestos present. The lower limit of reliable quantitation is estimated to be 0.1%. A reported concentration of <0.1% indicates the presence of confirmed asbestos in trace quantities limited to only a few fibres or fibre bundles in an entire sample. Multiple phases within a sample are analyzed separately. A total of sixty-eight analyses were performed.

All bulk samples submitted to this laboratory for asbestos analysis are retained for a minimum of three months. Samples may be retrieved, upon request, for re-examination at any time during that period.

This test relates only to the items tested. The results are presented in the attached table.



BURNSIDE INDUSTRIAL PARK
42 DOREY AVENUE
DARTMOUTH, N.S.
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BULK SAMPLE ANALYSIS

PROJECT NAME: National Research Council
ACM Survey
01-02-00067

PREPARED FOR: Steven Moore
Pinchin LeBlanc Environmental Ltd.

LAB REFERENCE No: Db5268 – 2008

DATE: November 20, 2008

PAGE: 1 of 13

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)		COMMENTS
		ASBESTOS	OTHER	
01-02-00067-S001 Loc. 001 – Basement storage room, gray mastic on duct	Homogenous, dark grey/green mastic material	None detected	Non-fibrous material >75%	
01-02-00067-S002 Loc. 001 – Basement storage room, black thermal insulation on sinks	Homogenous, black tar	Chrysotile 1-5%	Non-fibrous material >75%	
01-02-00067-S003 Loc. 003 – Basement machine shop, plasterboard on walls	Homogenous, light tan, hard, cementitious material	None detected	Non-fibrous material >75%	
01-02-00067-S004 Loc. 003 – Basement machine shop, transite panels on wall	Homogenous, grey, hard, cementitious material	Chrysotile 10-25%	Non-fibrous material >75%	
01-02-00067-S005 Loc. 003 – Basement machine shop, aircell on steam supply pipe	Homogenous, off-white, layered, corrugated paper	Chrysotile >75%	Cellulose 10-25% Non-fibrous material 1-5%	
01-02-00067-S006 Loc. 003 - Basement machine shop, parging cement on steam supply elbow	Homogenous, grey, soft, cementitious material	Chrysotile >75%	Non-fibrous material 5-10%	Cotton fabric reinforcement is present on the surface of this sample.

ANALYST: 



BURNSIDE INDUSTRIAL PARK
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BULK SAMPLE ANALYSIS

PROJECT NAME: National Research Council
ACM Survey
01-02-00067

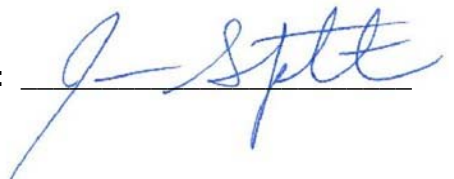
LAB REFERENCE No: Db5268 – 2008

PREPARED FOR: Steven Moore
Pinchin LeBlanc Environmental Ltd.

DATE: November 20, 2008

PAGE: 2 of 13

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)		COMMENTS
		ASBESTOS	OTHER	
01-02-00067-S007 Loc. 003 - Basement machine shop, sweat wrap on domestic cold water	Homogenous, brown, layered, corrugated paper	None detected	Cellulose >75%	
01-02-00067-S008 Loc. 004 – Hallway to central steps, FT01, 12"x12" floor tile, white with pink flecks	2 phases:			Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. For confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.
	a) Homogenous, white, consolidated material	None detected	Non-fibrous material >75%	
	b) Homogenous, black tar	None detected	Tar and other non-fibrous material >75%	
01-02-00067-S009 Loc. 004 – Hallway to central steps, plaster on ceiling (base coat)	Homogenous, tan, granular, cementitious material	Chrysotile 1-5%	Non-fibrous material >75%	Paint is present of the surface of this sample.
01-02-00067-S010 Loc. 004 – Hallway to central steps, paper on condensate return pipe	2 phases:			
	a) Homogenous, brown, layered paper	None detected	Cellulose >75%	
	b) Homogenous, black tar	Chrysotile 1-5%	Tar and other non-fibrous material >75%	

ANALYST: 



BURNSIDE INDUSTRIAL PARK
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BULK SAMPLE ANALYSIS

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ACM Survey
01-02-00067

PREPARED FOR: Steven Moore
Pinchin LeBlanc Environmental Ltd.

LAB REFERENCE No: Db5268 – 2008

DATE: November 20, 2008

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SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)		COMMENTS
		ASBESTOS	OTHER	
01-02-00067-S011 Loc. 005 – Men's washroom, FT02, 12"x12" floor tile, beige with tan streaks	Homogenous, beige, consolidated material	None detected	Non-fibrous material >75%	Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. For confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.
01-02-00067-S012 Loc. 009 – Room 12, GLP storage, AT01, 2'x2', hole and fleck pattern	Homogenous, tan, layered, compressed fibrous material	None detected	Cellulose 25-50% Mineral wool 25-50% Perlite 5-10% Other non-fibrous material 5-10%	
01-02-00067-S013 Loc. 009 – Room 12, GLP storage, drywall joint compound on wall	Homogenous, white, soft, cementitious material	None detected	Non-fibrous material >75%	
01-02-00067-S014 Loc. 15 – Room 09, FT02, 12"x12", beige with brown streaks	2 phases: a) Homogenous, tan, consolidated material b) Homogenous, black tar	None detected None detected	Non-fibrous material >75% Tar and other non-fibrous material >75%	Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. For confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.

ANALYST: 



BURNSIDE INDUSTRIAL PARK
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BULK SAMPLE ANALYSIS

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PREPARED FOR: Steven Moore
Pinchin LeBlanc Environmental Ltd.

LAB REFERENCE No: Db5268 – 2008

DATE: November 20, 2008

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SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)		COMMENTS
		ASBESTOS	OTHER	
01-02-00067-S015 Loc. 016 – Server room, FT04, 12"x12", solid blue	Homogenous, blue, consolidated material	None detected	Non-fibrous material >75%	Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. For confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.
01-02-00067-S016 Loc. 017 – Tank room, parging cement on domestic hot water tank	Homogenous, tan, soft, cementitious material	None detected	Mineral wool 10-25% Non-fibrous material >75%	Cotton fabric reinforcement is present on the surface of this sample.
01-02-00067-S017 Loc. 017 – Tank room, parging cement on identified tank	Homogenous, grey, soft, cementitious material	Chrysotile 50-75%	Non-fibrous material 25-50%	Cotton fabric reinforcement is present on the surface of this sample.
01-02-00067-S018 Loc. 022 – Storage archives, FT05, 12"x12", tan with brown and white flecks	2 phases: a) Homogenous, tan, consolidated material b) Homogenous, black tar	None detected Chrysotile 1-5%	Non-fibrous material >75% Tar and other non-fibrous material >75%	Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. For confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.

ANALYST: 



BURNSIDE INDUSTRIAL PARK
42 DOREY AVENUE
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BULK SAMPLE ANALYSIS

PROJECT NAME: National Research Council
ACM Survey
01-02-00067

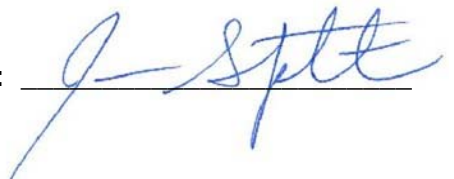
PREPARED FOR: Steven Moore
Pinchin LeBlanc Environmental Ltd.

LAB REFERENCE No: Db5268 – 2008

DATE: November 20, 2008

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SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)		COMMENTS
		ASBESTOS	OTHER	
01-02-00067-S019 Loc. 022 – Storage archives, drywall joint compound on wall	Homogenous, white, soft, cementitious material	None detected	Non-fibrous material >75%	
01-02-00067-S020 Loc. 024 – Hallway after central steps, parging cement on drain elbow	Homogenous, light grey, soft, cementitious material	Chrysotile 50-75%	Non-fibrous material 25-50%	Cotton fabric reinforcement is present on the surface of this sample.
01-02-00067-S021 Loc. 030 – Room 104, FT06, 12"x12", white with tan flecks	2 phases: a) Homogenous, white, consolidated material b) Homogenous, black tar	None detected None detected	Non-fibrous material >75% Tar and other non-fibrous material >75%	Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. For confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.
01-02-00067-S022 Loc. 030 – Room 104, drywall joint compound on wall	Homogenous, white, soft, cementitious material	None detected	Non-fibrous material >75%	
01-02-00067-S023 Loc. 032 – Room 105, AT02 2'x2', bumpy pattern	Homogenous, tan, layered, compressed fibrous material	None detected	Cellulose 25-50% Mineral wool 25-50% Perlite 1-5% Other non-fibrous material 10-25%	

ANALYST: 



BURNSIDE INDUSTRIAL PARK
42 DOREY AVENUE
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BULK SAMPLE ANALYSIS

PROJECT NAME: National Research Council
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01-02-00067

LAB REFERENCE No: Db5268 – 2008

PREPARED FOR: Steven Moore
Pinchin LeBlanc Environmental Ltd.

DATE: November 20, 2008

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SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)		COMMENTS
		ASBESTOS	OTHER	
01-02-00067-S024 Loc. 034 – Room 112, freezers, vinyl sheet flooring, beige with blue and grey pattern	Homogenous, beige, consolidated material	None detected	Cellulose 10-25% Non-fibrous material >75%	
01-02-00067-S025 Loc. 038, Room 119, stores, plasterboard over drywall	2 phases: a) Homogenous, white, hard, cementitious material	None detected	Non-fibrous material >75%	
	b) Homogenous, light brown, soft, cementitious material with flakes	None detected	Vermiculite 5-10% Other non-fibrous material >75%	
01-02-00067-S026 Loc. 052 – Corridor, plaster on wall	2 phases: a) Homogenous, white, hard, cementitious material	None detected	Non-fibrous material >75%	
	b) Homogenous, light brown, soft, cementitious material with flakes	None detected	Vermiculite 5-10% Other non-fibrous material >75%	

ANALYST: 



BURNSIDE INDUSTRIAL PARK
42 DOREY AVENUE
DARTMOUTH, N.S.
B3B 0B1

BULK SAMPLE ANALYSIS

PROJECT NAME: National Research Council
ACM Survey
01-02-00067

PREPARED FOR: Steven Moore
Pinchin LeBlanc Environmental Ltd.

LAB REFERENCE No: Db5268 – 2008

DATE: November 20, 2008

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SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)		COMMENTS
		ASBESTOS	OTHER	
01-02-00067-S027 Loc. 54 – Room 156, machine shop, plaster on ceiling	2 phases:			
	a) Homogenous, white, hard, cementitious material	None detected	Non-fibrous material >75%	
	b) Homogenous, light tan, granular, cementitious material	None detected	Cellulose 0.1-1% Other non-fibrous material >75%	
01-02-00067-S028 Loc. 055 – Room 154, server room, FT07, 12"x12", light grey with dark grey flecks	2 phases:			Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. For confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.
	a) Homogenous, light grey, consolidated material	None detected	Non-fibrous material >75%	
	b) Homogenous, black tar	None detected	Tar and other non- fibrous material >75%	
01-02-00067-S029 Loc. 058 – Room 139, electrical room, AT04, 2'x2', pinhole and hole	Homogenous, tan, layered, compressed fibrous material	None detected	Cellulose 25-50% Mineral wool 25-50% Perlite 5-10% Other non-fibrous material 5-10%	
01-02-00067-S030 Loc. 058 – Room 139, electrical room, levelling compound at conduit penetration	Homogenous, grey, soft, cementitious material	None detected	Non-fibrous material >75%	

ANALYST: 



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42 DOREY AVENUE
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BULK SAMPLE ANALYSIS

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ACM Survey
01-02-00067

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Pinchin LeBlanc Environmental Ltd.

LAB REFERENCE No: Db5268 – 2008

DATE: November 20, 2008

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SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)		COMMENTS
		ASBESTOS	OTHER	
01-02-00067-S031 Loc. 049 – Lobby to new section of building, AT03, 2'x2', hole and bumpy pattern	Homogenous, off-white, compressed fibrous material	None detected	Mineral wool >75% Non-fibrous material 10-25%	
01-02-00067-S032 Loc. 083 – 2 nd floor corridor, plaster on ceiling	2 phases: a) Homogenous, white, hard, cementitious material b) Homogenous, tan, granular, cementitious material	None detected	Cellulose 0.1-1% Non-fibrous material >75%	
01-02-00067-S033 Loc. 083 – 2 nd floor corridor, plaster on wall	2 phases: a) Homogenous, white, hard, cementitious material b) Homogenous, tan, granular, cementitious material	None detected	Cellulose 0.1-1% Non-fibrous material >75%	
01-02-00067-S034 Loc. 085 – Room 256 and office, drywall joint compound on wall	Homogenous, white, soft, cementitious material	None detected	Non-fibrous material >75%	

ANALYST: 



BURNSIDE INDUSTRIAL PARK
 42 DOREY AVENUE
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 B3B 0B1

BULK SAMPLE ANALYSIS

PROJECT NAME: National Research Council
 ACM Survey
 01-02-00067

PREPARED FOR: Steven Moore
 Pinchin LeBlanc Environmental Ltd.

LAB REFERENCE No: Db5268 – 2008

DATE: November 20, 2008

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SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)		COMMENTS
		ASBESTOS	OTHER	
01-02-00067-S035 Loc. 086 – Room 254, FT08, 12"x12", white with yellow flecks	Homogenous, cream, consolidated material	None detected	Non-fibrous material >75%	
01-02-00067-S036 Loc. 086 – Room 254, FT09, 12"x12", black with white streaks	Homogenous, black, consolidated material	None detected	Non-fibrous material >75%	Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. For confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.
01-02-00067-S037 Loc 100 – Room 235, marine bioactives lab, fibrous paper debris on wall	Homogenous, off-white, layered paper	Chrysotile 50-75%	Cellulose 25-50% Non-fibrous material 5-10%	
01-02-00067-S038 Loc. 108 – Room 230, AT05, 1'x1', glue on tile, fissure and bumpy pattern	Homogenous, off-white, compressed fibrous material	None detected	Mineral wool >75% Non-fibrous material 10-25%	

ANALYST: 



BURNSIDE INDUSTRIAL PARK
42 DOREY AVENUE
DARTMOUTH, N.S.
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BULK SAMPLE ANALYSIS

PROJECT NAME: National Research Council
ACM Survey
01-02-00067

PREPARED FOR: Steven Moore
Pinchin LeBlanc Environmental Ltd.

LAB REFERENCE No: Db5268 – 2008

DATE: November 20, 2008

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SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)		COMMENTS
		ASBESTOS	OTHER	
01-02-00067-S039 Loc. 121 – Corridor and pipe chases, tar paper on duct	2 phases:			
	a) Homogenous, brown, layered paper	None detected	Cellulose >75%	
	b) Homogenous, black tar	None detected	Tar and other non-fibrous material >75%	
01-02-00067-S040 Loc. 124 – Room 204, FT10, 12"x12", green and white speckled	Homogenous, grey, consolidated material	None detected	Non-fibrous material >75%	Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. For confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.
01-02-00067-S041 Loc. 131 – Room 205A, office, plaster on wall	2 phases:			
	a) Homogenous, white, hard, cementitious material	None detected	Non-fibrous material >75%	
	b) Homogenous, brown, granular, cementitious material	None detected	Vermiculite 5-10% Other non-fibrous material >75%	

ANALYST: 



BURNSIDE INDUSTRIAL PARK
42 DOREY AVENUE
DARTMOUTH, N.S.
B3B 0B1

BULK SAMPLE ANALYSIS

PROJECT NAME: National Research Council
ACM Survey
01-02-00067

PREPARED FOR: Steven Moore
Pinchin LeBlanc Environmental Ltd.

LAB REFERENCE No: Db5268 – 2008

DATE: November 20, 2008

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SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)		COMMENTS
		ASBESTOS	OTHER	
01-02-00067-S042 Loc. 135 – Mass spec room, FT11, 12"x12" white with blue flecks	2 phases:			Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. for confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.
	a) Homogenous, white, consolidated material	None detected	Non-fibrous material >75%	
	b) Homogenous, black tar	None detected	Tar and other non-fibrous material >75%	
01-02-00067-S043 Loc. 143 – Room 218A, GLP chem. stores, plaster on ceiling	2 phases:			
	a) Homogenous, white, hard, cementitious material	None detected	Non-fibrous material >75%	
	b) Homogenous, brown, granular, cementitious material	None detected	Vermiculite 5-10% Other non-fibrous material >75%	
01-02-00067-S044 Loc 145 – Room 224, CRMP GLP lab offices, vinyl sheet flooring, blue/green/red speckled pattern	Homogenous, light grey, consolidated, fibrous material on the back of vinyl sheet flooring	None detected	Cellulose >75% Mineral wool 1-5% Non-fibrous material 10-25%	

ANALYST: 



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B3B 0B1

BULK SAMPLE ANALYSIS

PROJECT NAME: National Research Council
ACM Survey
01-02-00067

PREPARED FOR: Steven Moore
Pinchin LeBlanc Environmental Ltd.

LAB REFERENCE No: Db5268 – 2008

DATE: November 20, 2008

PAGE: 12 of 13

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)		COMMENTS
		ASBESTOS	OTHER	
01-02-00067-S045 Loc. 189 – Room 304, technology development lab, drywall joint compound on wall	Homogenous, white, soft, cementitious material	None detected	Perlite 5-10% Other non-fibrous material >75%	
01-02-00067-S046 Loc. 210 – Female washroom, plaster on wall	2 phases:			
	a) Homogenous, white, hard, cementitious material	None detected	Non-fibrous material >75%	
	b) Homogenous, brown, granular, cementitious material	None detected	Vermiculite 5-10% Other non-fibrous material >75%	
01-02-00067-S047 Loc. 219 – 3 rd floor passage, plaster board on ceiling (base coat)	Homogenous, light tan, granular, cementitious material	None detected	Cellulose 0.1-1% Non-fibrous material >75%	Paint is present on the surface of this sample.

ANALYST: 



BURNSIDE INDUSTRIAL PARK
42 DOREY AVENUE
DARTMOUTH, N.S.
B3B 0B1

BULK SAMPLE ANALYSIS

PROJECT NAME: National Research Council
ACM Survey
01-02-00067

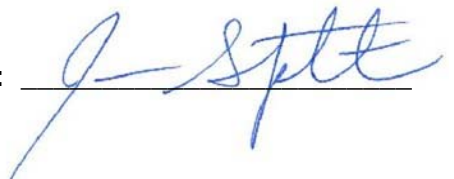
PREPARED FOR: Steven Moore
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PAGE: 13 of 13

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)		COMMENTS
		ASBESTOS	OTHER	
01-02-00067-S048 Loc. 219 – 3 rd floor passage, plaster board on wall	a) Homogenous, white, hard, cementitious material	None detected	Non-fibrous material >75%	
	b) Homogenous, tan, granular, cementitious material	Chrysotile 1-5%	Non-fibrous material >75%	
01-02-00067-S049 Loc. 230 – Room 341A, texture coat on roof drain	Homogenous, black tar, impregnated with brown, consolidated material	None detected	Tar and other non- fibrous material >75%	Paint is present on the surface of this sample.
01-02-00067-S050 Loc. 225 – 4 th floor chiller room, FT12, 9"x9", white with grey specks	a) Homogenous, tan, consolidated material	None detected	Non-fibrous material >75%	Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. for confirmation of
	b) Homogenous, black tar	None detected	Tar and other non- fibrous material >75%	

ANALYST: 

APPENDIX II-B
Lead Analytical Certificates



Analysis for Lead Concentration in Paint Chips

by Flame Atomic Absorption Spectroscopy
EPA SW-846 3050B/6010C/7000B



Customer: Pinchin LeBlanc Environmental Ltd.
42 Dorey Avenue
Dartmouth, Nova Scotia B3B 0B1

Attn: Quinn Crane
Julia Rose

Lab Order ID: 71945797

Analysis ID: 71945797_PBP

Date Received: 7/8/2020

Date Reported: 7/13/2020

Project: 1411 Oxford St., Halifax NS

Sample ID	Description	Mass (g)	Concentration (ppm)	Concentration (% by weight)
Lab Sample ID	Lab Notes			
L0001	Flaking Grey/Blue Paint on steam exhaust, Phase 2-Roof 4	0.0663	160	0.016%
71945797PBP_1				
L0002	Flaking Cream Paint on Metal Ceiling, Ceiling Plenum- Penthouse	0.0690	3400	0.34%
71945797PBP_2				

Unless otherwise noted blank sample correction was not performed on analytical results. Scientific Analytical Institute participates in the AIHA ELPAT program. ELPAT Laboratory ID: 173190. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. Analytical uncertainty available upon request. The quality control samples run with the samples in this report have passed all EPA required specifications unless otherwise noted. RL: (Report Limit for an undiluted 50ml sample is 4µg Total Pb).

Sara Shaut (2)

Analyst

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

Laboratory Director

APPENDIX II-C
PCB Analytical Certificates



CLIENT NAME: PINCHIN LTD.
42 Dorey Avenue
Dartmouth, NS B3B0B1
(902) 461-9999

ATTENTION TO: Julia Rose

PROJECT: 277168.000

AGAT WORK ORDER: 20X621412

TRACE ORGANICS REVIEWED BY: Amy Hunter, Trace Organics Supervisor, B.Sc.

DATE REPORTED: Jul 08, 2020

PAGES (INCLUDING COVER): 5

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (902) 468-8718

***Notes**

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days following analysis, unless expressly agreed otherwise in writing. Please contact your Client Project Manager if you require additional sample storage time.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.



Certificate of Analysis

AGAT WORK ORDER: 20X621412

PROJECT: 277168.000

11 Morris Drive, Unit 122
 Dartmouth, Nova Scotia
 CANADA B3B 1M2
 TEL (902)468-8718
 FAX (902)468-8924
<http://www.agatlabs.com>

CLIENT NAME: PINCHIN LTD.

ATTENTION TO: Julia Rose

SAMPLING SITE:

SAMPLED BY:

Total Polychlorinated Biphenyls in Paint

DATE RECEIVED: 2020-07-06

DATE REPORTED: 2020-07-08

		P0001-Grey Caulking on roof/vent connection,		P0002-Dark Grey Caulking on duct wiring, Phase 1 - Roof 1	
SAMPLE DESCRIPTION:		Phase 1		Phase 1 - Roof 1	
SAMPLE TYPE:		Paint		Paint	
DATE SAMPLED:		2020-07-06 16:06		2020-07-06 16:06	
Parameter	Unit	G / S	RDL	1248262	1248265
Total PCBs	mg/kg		0.5	<0.5	<0.5
Surrogate	Unit	Acceptable Limits			
Decachlorobiphenyl	%	50-130		25	30

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
1248262-1248265 Surrogate not within acceptance limits due to matrix interference.
 Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Quality Assurance

CLIENT NAME: PINCHIN LTD.
PROJECT: 277168.000
SAMPLING SITE:

AGAT WORK ORDER: 20X621412
ATTENTION TO: Julia Rose
SAMPLED BY:

Trace Organics Analysis																
RPT Date: Jul 08, 2020			DUPLICATE				Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Measured Value		Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits		
								Lower	Upper		Lower	Upper		Lower	Upper	

Total Polychlorinated Biphenyls in Paint

Total PCBs	1	BS DUP	<0.5	<0.5	NA	< 0.5	97%	60%	140%	85%	60%	140%	82%	60%	140%
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Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
 If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By:





Method Summary

CLIENT NAME: PINCHIN LTD.

AGAT WORK ORDER: 20X621412

PROJECT: 277168.000

ATTENTION TO: Julia Rose

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Total PCBs	ORG-120-5107	EPA SW-846 8082	GC/ECD
Decachlorobiphenyl	ORG-120-5106	EAP SW846 3510C/8080/8010	GC/ECD

APPENDIX III
Methodology



1.0 GENERAL

Pinchin conducts the assessment to identify the hazardous building materials as defined by the scope of work. All work is conducted in accordance with our own internal Standard Operating Procedures.

Information regarding the location and condition of hazardous building materials encountered and visually estimated quantities are recorded. The locations of any samples collected are recorded on small-scale plans.

As-built drawings and previous reports are referenced where provided.

1.1 Limitations on Scope

The assessment excludes the following:

- Articles belonging to the owner, tenant or occupant (e.g. stored items, furniture, appliances, etc.);
- Underground materials or equipment (e.g. vessels, drums, underground storage tanks, pipes, etc.);
- Building envelope, structural components, inaccessible or concealed materials or other items where sampling may cause consequential damage to the property;
- Energized systems (e.g. internal boiler components, elevators, mechanical or electrical components);
- Controlled products (e.g. stored chemicals, operational or process-related substances); and
- Materials not typically associated with construction (e.g. settled dust, spills, residual contamination from prior spills, etc.).

The assessment includes limited demolition of roofing finishes to view concealed conditions at representative areas as permitted by the current building use. Demolition of exterior building finishes, masonry walls (chases, shafts etc.), and structural items is not conducted.

1.2 Asbestos

An inspection is conducted for the presence of friable and non-friable asbestos-containing materials (ACM). A friable material is a material that when dry can be crumbled, pulverized or powdered by hand pressure.

A separate set of samples is collected of each type of homogenous material suspected to contain asbestos. A homogenous material is defined by the US EPA as material that is uniform in texture and



appearance, was installed at one time, and is unlikely to consist of more than one type or formulation of material. The homogeneous materials are determined by visual examination and available information on the phases of construction and prior renovations.

Samples are collected at a rate that is in compliance with the requirements of local regulations and guidelines.

In some cases, manufactured products such as asbestos labelled cement pipe are visually identified without sample confirmation.

Sampling of roofing felts was conducted at the client's request using a qualified roofer retained by Pinchin to assist in collection of the samples and to properly patch the roof in the sample locations.

The following materials (if present) are not sampled and will be presumed to contain asbestos.

- Elevator and lift brakes
- Electrical components or wiring within control centers, breakers, motors or lights, insulation on wiring
- Refractory materials and insulations in boilers, incinerators and stacks
- Mechanical packing, ropes and gaskets
- Fibre-reinforced paints and coatings
- Paper products
- Metal clad finishes
- Vibration dampers on HVAC equipment

The bulk samples are submitted to a NVLAP accredited laboratory for analysis. The analysis is performed in accordance with Test Method EPA/600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials, July 1993.

Analytical results are compared to the following criteria.

Jurisdiction	Friable	Non-Friable
Nova Scotia	0.5% ¹	0.5%
Federal	1%	1%

The asbestos analysis is completed using a stop positive approach. Only one result meeting the above regulated criteria is required to determine that a material is asbestos-containing, but all samples must be analyzed to conclusively determine that a material is non-asbestos. The laboratory stops analyzing

¹ Or any amount if vermiculite

samples from a homogeneous material once a result equal to or greater than the regulated criteria is detected in any of the samples of that material. All samples of a homogeneous material are analyzed if no asbestos is detected. In some cases, all samples are analyzed in the sample set regardless of result.

Where building materials are described in the report as “non-asbestos” or “does not contain asbestos”, this means that either no asbestos was detected by the analytical method utilized in any of the multiple samples or, if detected, it is below the lower limit of an asbestos-containing material in the applicable regulation.

Asbestos materials are evaluated in order to make recommendations regarding remedial work. The priority for remedial action is based on several factors:

- Friability (friable or non-friable);
- Condition (good, fair, poor, debris);
- Accessibility (ranking from accessible to all building users to inaccessible);
- Efficiency of the work (for example, if damaged ACM is being removed in an area, it may be most practical to remove all ACM in the area even if it is in good condition).

1.3 Lead

Samples of distinctive paint finishes, and surface coatings present in more than a limited application, where removal of the paint is possible is collected. The samples are collected by scraping the painted finish to include base and covering applications. Drawings included show sample locations.

Analysis for lead in paints or surface coatings is performed at an accredited laboratory in accordance with EPA Method No. 3050B/Method No. 7420; flame atomic absorption.

For this report, all paints containing lead at a concentration greater than the Reportable Detection Limit are discussed.

Pinchin follows the recommendations of the Environmental Abatement Council of Ontario (EACO) Lead Guideline for Construction, Renovation, Maintenance or Repair. The Guideline suggests that 0.1% (1,000 ppm) lead in paint represents a de minimis concentration of lead in paint for construction hygiene purposes, that is a concentration below which the lead content is not the limiting hazard in any disturbance of leaded paint for non-aggressive disturbance of painted finishes, (hand powered demolition, chipping, scraping, light sanding, etc.). The use of aggressive methods such as power grinding, torching, welding, etc. may result in significant lead exposures even with low concentrations of lead in paints (below 0.1%). Exposure from construction disturbance of paints containing lead less than 0.009% is assumed to be insignificant.

Other lead building products (e.g. batteries, lead sheeting, flashing) are identified by visual observation only.

1.4 Silica

Building materials known to contain crystalline silica (e.g. concrete, cement, tile, brick, masonry, mortar) is identified by visual inspection only. Pinchin does not perform sampling of these materials for laboratory analysis of crystalline silica content.

1.5 Polychlorinated Biphenyls

Caulking or sealants are sampled for PCBs based on the date of construction or installation. Caulking installed after 1985 (1980 ban date plus a reasonable non-compliance period based on our experience) is presumed to be free of PCBs and hence not sampled. If sampled, analysis for PCBs is performed using an ASTM test method appropriate to the sample matrix at an accredited laboratory. Sample results are compared to the criteria of 50 ppm for solids as stated in the PCB Regulation, SOR/2008-273.

1.6 Mercury

Building materials/products/equipment (e.g. thermostats, barometers, pressure gauges, light tubes), suspected to contain mercury are identified by visually inspection only. Dismantling of equipment suspected of containing mercury is not performed. Sampling of these materials for laboratory analysis of mercury content is not performed.

1.7 Ozone Depleting Substances (ODS)

Pinchin determines the potential presence of ODS (chlorofluorocarbon, hydrochlorofluorocarbon, hydrofluorocarbon, halon, etc.) in air conditioning units, chillers, commercial coolers and fire suppression systems by visual inspection of manufactures' labels or plates, maintenance records, or log books, etc.

Domestic type equipment such as window mounted and small central air conditioners, refrigerators and freezers are not evaluated for the presence of ODS.