



Hazardous Building Materials Assessment (Pre-construction)

Roof Replacement Project
3185 Mavis Road,
Mississauga, Ontario

Prepared for:

City of Mississauga
300 City Centre Drive
Mississauga, Ontario, L5B 3C1

June 4, 2024

Pinchin File: 342395.000



Issued to: City of Mississauga
Issued on: June 4, 2024
Pinchin File: 342395.000
Issuing Office: Mississauga, ON

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EXECUTIVE SUMMARY

City of Mississauga (Client) retained Pinchin Ltd. (Pinchin) to conduct a hazardous building materials assessment at the Mavis Works Yard South Building located at 3185 Mavis Road, Mississauga, Ontario. Pinchin performed the assessment on May 16, 2024.

The objective of the assessment was to identify specified hazardous building materials in preparation for an upcoming roof replacement project. The scope of work will be limited to the replacement of south section of the roof system (including flashings), as indicated on the drawing provided by the Client via email on May 2, 2024.

SUMMARY OF FINDINGS

The following is a summary of significant findings; refer to the body of the report for detailed findings:

Asbestos: Asbestos-containing were not confirmed to be present at the assessed roof section.

Silica: Crystalline silica is present in concrete and other materials such as masonry.

Mercury: Mercury vapour is not present in lamp tubes.

Polychlorinated Biphenyls (PCBs): PCBs are not present.

Mould and Water Damage: Visible mould and water damage was not observed.

SUMMARY OF RECOMMENDATIONS

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

1. 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.
2. Follow appropriate safe work procedures when handling or disturbing asbestos, lead, silica, and mould.

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

City of Mississauga (Client) retained Pinchin Ltd. (Pinchin) to conduct a hazardous building materials assessment at Mavis Works Yard South Building located at 3185 Mavis Road, Mississauga, Ontario.

Pinchin performed the assessment on May 16, 2024. The surveyor was unaccompanied during the assessment. The assessed area was vacant at the time of the assessment.

The objective of the assessment was to identify specified hazardous building materials in preparation for an upcoming roof replacement project. The scope of work will be limited to the replacement of south section of the roof system (including flashings), as indicated on the drawing provided by the Client via email on May 2, 2024.

1.1 Scope of Assessment

The **assessed area** is limited to the portion of the building to be renovated, as described by the Client, and identified in the drawings in Appendix I.

The assessment was performed to establish the type of specified hazardous building materials, locations and approximate quantities incorporated in the structure and its finishes.

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

- Asbestos
- Lead
- Silica
- Mercury
- Polychlorinated Biphenyls (PCBs)
- Mould

The following Designated Substances 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 METHODOLOGY

Pinchin conducted a room-by-room assessment to identify the hazardous building materials as defined in the scope.

The assessment included limited demolition roofing materials 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 surrounds was not conducted.

Limited demolition of masonry block walls (core holes) was not conducted to investigate for loose fill vermiculite insulation.

For further details on the methodology including test methods, refer to Appendix III.

3.0 BACKGROUND INFORMATION

3.1 Building Description

Description Item	Details
Use	Office and Work Yard
Number of Floors	The building is 2 storeys.
Total Area	The total area of the building is 57,000 square feet. The assessed area is approx. 10,000 square feet.
Year of Construction	The building was constructed in 1956 with major renovations in 1989.
Structure	Structure Steel, Concrete
Exterior Cladding	Pre-cast concrete
HVAC	Rooftop AC
Roof	Built-up Roofing
Flooring	NA
Interior Walls	NA
Ceilings	NA

3.2 Existing Reports

Pinchin previously prepared the following reports, which have been reviewed as part of this assessment:

- “Hazardous Building Materials Assessment (Management), Mavis Works Yard South – Office – MW1, 3185 Mavis Road, Mississauga, Ontario” dated August 2, 2023, Pinchin File Number 325772

4.0 FINDINGS

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

Any quantities listed in this report are estimated based on visual approximations only and are subject to variation.

4.1 Asbestos

4.1.1 Pipe Insulation

Pipes in the assessed area are either uninsulated or insulated with non-asbestos fiberglass or other non-asbestos insulation such as mineral fibre or elastomeric foam insulation.



Pipe uninsulated, South roof section.

4.1.2 Duct Insulation and Mastic

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

4.1.3 Mechanical Equipment Insulation

Mechanical equipment (Rooftop AC) is either uninsulated or insulated with non-asbestos fiberglass.



Roof top AC uninsulated, South roof section.

4.1.4 Roofing Products

The materials associated with the built-up roof do not contain asbestos (samples S0001A-C).

Tar and caulking are present on flashings and vent shafts on the roof does not contain asbestos (samples S0002A-C and S0003A-C).



Built-up roof materials, south roof section.



Caulking, south roof section.



Tar, south roof section.

4.1.5 Excluded Materials

The following is a list of materials which may contain asbestos and was excluded from the assessment.

These materials are presumed to contain asbestos until otherwise proven by sampling and analysis:

- Electrical components
- Mechanical packing, ropes, and gaskets
- Duct mastics
- Vibration dampers on HVAC equipment

4.2 Lead

4.2.1 Lead Products and Applications

Lead products were not found during the assessment.

4.2.2 *Excluded Lead Materials*

Lead is known to be present in several materials which were not assessed or sampled. The following materials, where found, should be presumed to contain lead.

- Electrical components, including wiring connectors, grounding conductors, and solder
- Solder on pipe connections

4.3 **Silica**

Crystalline silica is assumed to be a component of the following materials where present in the building.

- Concrete
- Masonry and mortar

4.4 **Mercury**

4.4.1 *Lamps*

Mercury vapour is not present in fluorescent lamp tubes.

4.4.2 *Mercury-Containing Devices*

Mercury-containing devices were not found during the assessment.

4.5 **Polychlorinated Biphenyls**

4.5.1 *Caulking and Sealants*

Caulking is present at base of the roof vent (samples P0001) and contains <0.1 mg/kg PCBs. The material is a non-PCB solid based on the threshold (50 mg/kg).



Caulking, South roof section.

4.5.2 *Transformers*

Transformers were not found during the assessment.



4.6 Mould and Water Damage

Visible mould growth and water damage was not found during the assessment.

5.0 RECOMMENDATIONS

5.1 General

1. 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.
2. Provide this report to the contractor prior to bidding or commencing work.

5.2 Assessed Area Renovation Work

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

5.2.1 Lead

Lead-containing items should be recycled when taken out of service.

5.2.2 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 applicable regulations and guidelines.

5.2.3 Mercury

Do not break lamps or separate liquid mercury from components. Recycle and reclaim mercury from fluorescent lamps when taken out of service. Mercury is classified as a hazardous waste and must be disposed of in accordance with applicable regulations.

6.0 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.

7.0 REFERENCES

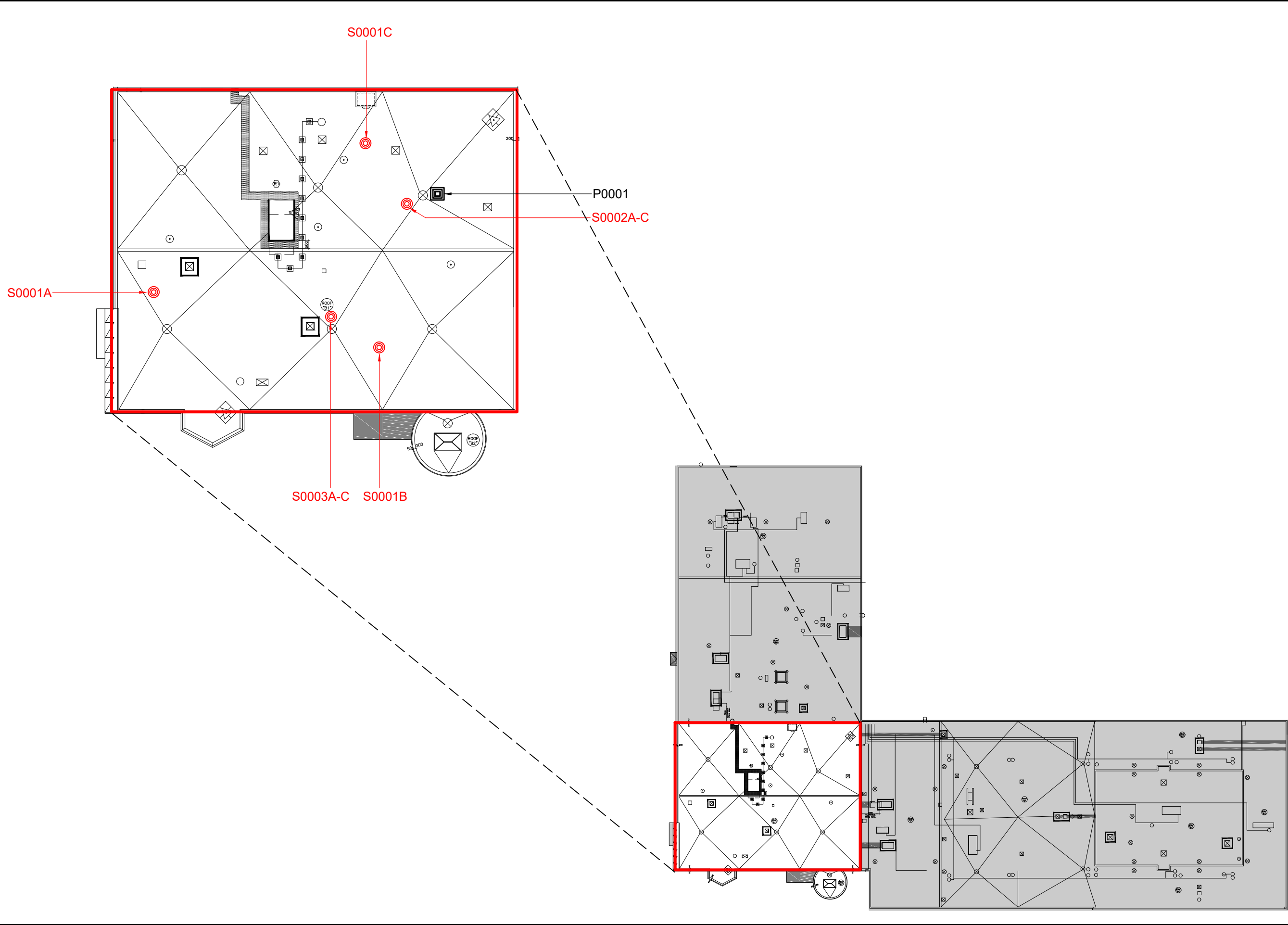
The following legislation and documents were referenced in completing the assessment and this report:

1. Asbestos on Construction Projects and in Buildings and Repair Operations, Ontario Regulation 278/05.
2. Designated Substances, Ontario Regulation 490/09.
3. Lead on Construction Projects, Ministry of Labour Guidance Document.
4. The Environmental Abatement Council of Canada (EACC) Lead Guideline for Construction, Renovation, Maintenance or Repair.
5. Ministry of the Environment Regulation, R.R.O. 1990 Reg. 347 as amended.
6. Ministry of the Environment Regulation, R.R.O. 1990 Reg. 362 as amended.
7. Silica on Construction Projects, Ministry of Labour Guidance Document.
8. Alert – Mould in Workplace Buildings, Ontario Ministry of Labour.
9. PCB Regulations, SOR/2008-273, Canadian Environmental Protection Act.
10. Surface Coating Materials Regulations, SOR/2016-193, Canada Consumer Product Safety Act.
11. Consolidated Transportation of Dangerous Goods Regulations, including Amendment SOR/2019-101, Transportation of Dangerous Goods Act.
12. Mould Guidelines for the Canadian Construction Industry, Standard Construction Document CCA 82 – 2004 (Revised 2018), Canadian Construction Association.
13. Canada Occupational Health and Safety Regulation, SOR/86-304
14. Technical Guideline to Asbestos Exposure Management Programs.

\\pinchin.com\Miss\Job\342000s\0342395.000 CofMiss,3185MavisRd,Roof,Miss,HAZ,ASSMT\Deliverables\342395.000 HBMA Report, 3185 Mavis Mississauga ON, City of Mississauga, Jun 4 2024.docx

Template: Master Report for Hazardous Materials Assessment (Pre-Construction), HAZ, April 3, 2024

APPENDIX I
Drawings



- LEGEND**
- SURVEY BOUNDARY/ASSESSED AREA
 - OUTSIDE ASSESSMENT SCOPE
 - ASBESTOS BULK SAMPLE
 - PCB BULK SAMPLE

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.
 BASE PLAN PROVIDED BY CLIENT.



PROJECT NAME:
HAZARDOUS BUILDING MATERIALS ASSESSMENT (PRE-CONSTRUCTION)

CLIENT NAME:
CITY OF MISSISSAUGA

PROJECT LOCATION:
**3185 MAVIS ROAD
 MISSISSAUGA, ONTARIO**

FIGURE NAME:
GROUND FLOOR

PROJECT NUMBER: 342395.000	SCALE: NOT TO SCALE
DRAWN BY: DP	REVIEWED BY: AK
DATE: MAY 2024	FIGURE NUMBER: 1 OF 1

APPENDIX II-A
Asbestos Analytical Certificates



Pinchin Ltd. Asbestos Laboratory *Certificate of Analysis*

Project No.: 0342395.000
Prepared For: A. Khan

Lab Reference No.: b314106
Analyst(s): T. Ly

Date Received: May 17, 2024
Date Analyzed: May 28, 2024
Samples Submitted: 3
Phases Analyzed: 34

The Pinchin Ltd. Mississauga asbestos laboratory is accredited by the National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101270-0) 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. The Pinchin asbestos laboratory uses the aforementioned methods of analysis for all bulk materials. Please be advised that bulk materials do not include debris, dust, and tape-lift samples, and the analysis and reporting of these materials does not conform with Pinchin Ltd.'s NVLAP accreditation.

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 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.

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 report relates only to the items tested.

This report relates only to the items tested and is valid only when signed with a protected, authorized, electronic signature. This report may not be reproduced, except in full, without the written approval of Pinchin Ltd. The client may not use this report to claim product endorsement by NVLAP or any agency of the U.S. Government. Internal verification studies, quality assurance / control data and laboratory documentation on measurement uncertainty are available upon request.



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project No.: 0342395.000
Prepared For: A. Khan

Lab Reference No.: b314106
Date Analyzed: May 28, 2024

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S0001A Roof, Roofing material, Mavis South Roof	12 Phases:		
	a) Homogeneous, black, tar on brown paper.	None Detected	Tar and other Non-Fibrous Material > 75%
	b) Homogeneous, brown, paper with tar and reinforcement.	None Detected	Cellulose 50-75% Man-Made Vitreous Fibres 10-25% Tar and other Non-Fibrous Material 10-25%
	c) Homogeneous, grey, paper.	None Detected	Cellulose > 75% Man-Made Vitreous Fibres 5-10% Non-Fibrous Material 5-10%
	d) Homogeneous, black, tar on foam.	None Detected	Tar and other Non-Fibrous Material > 75%
	e) Non-homogeneous, black and grey, paper.	None Detected	Cellulose > 75% Man-Made Vitreous Fibres 0.5-5% Tar and other Non-Fibrous Material 10-25%
	f) Homogeneous, black, tar between foam and cellulose block.	None Detected	Tar and other Non-Fibrous Material > 75%
	g) Non-homogeneous, black, tar on cellulose blocks.	None Detected	Tar and other Non-Fibrous Material > 75%
	h) Homogeneous, black, tar-impregnated, fibrous material.	None Detected	Cellulose 25-50% Tar and other Non-Fibrous Material 50-75%
	i) Homogeneous, black, shiny, crumbly, tar material.	None Detected	Tar and other Non-Fibrous Material > 75%
	j) Homogeneous, black, soft, tar material with fibres.	None Detected	Man-Made Vitreous Fibres 5-10% Tar and other Non-Fibrous Material > 75%
	k) Homogeneous, tar-impregnated, compressed, fibrous material.	None Detected	Synthetic Fibres 25-50% Tar and other Non-Fibrous Material 50-75%
l) Homogeneous, black, tar with stones.	None Detected	Tar and other Non-Fibrous Material > 75%	
Comments:	Due to the condition of the sample, the order of phases reported may not reflect the actual order in situ. Cellulose and foam are present on the surface of this sample.		



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project No.: 0342395.000
Prepared For: A. Khan

Lab Reference No.: b314106
Date Analyzed: May 28, 2024

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S0001B Roof, Roofing material, Mavis South Roof	9 Phases:		
	a) Homogeneous, grey, paper.	None Detected	Cellulose > 75% Man-Made Vitreous Fibres 5-10% Non-Fibrous Material 5-10%
	b) Homogeneous, black, tar between foam and cellulose block.	None Detected	Tar and other Non-Fibrous Material > 75%
	c) Homogeneous, black, tar in between cellulose block.	None Detected	Tar and other Non-Fibrous Material > 75%
	d) Homogeneous, black, tar-impregnated, fibrous material.	None Detected	Cellulose 25-50% Tar and other Non-Fibrous Material 50-75%
	e) Homogeneous, black, shiny, crumbly, tar material.	None Detected	Tar and other Non-Fibrous Material > 75%
	f) Homogeneous, black, soft, tar material with fibres.	None Detected	Man-Made Vitreous Fibres 5-10% Tar and other Non-Fibrous Material > 75%
	g) Homogeneous, tar-impregnated, compressed, fibrous material.	None Detected	Synthetic Fibres 25-50% Tar and other Non-Fibrous Material 50-75%
	h) Homogeneous, black, tar with stones.	None Detected	Tar and other Non-Fibrous Material > 75%
	i) Homogeneous, black, tar on loose cellulose block.	None Detected	Tar and other Non-Fibrous Material > 75%
Comments:	Due to the condition of the sample, the order of phases reported may not reflect the actual order in situ. Cellulose and foam are present on the surface of this sample.		



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project No.: 0342395.000
Prepared For: A. Khan

Lab Reference No.: b314106
Date Analyzed: May 28, 2024

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S0001C Roof, Roofing material, Mavis South Roof	13 Phases: a) Homogeneous, black, tar on brown paper.	None Detected	Tar and other Non-Fibrous Material > 75%
	b) Homogeneous, brown, layered, paper with tar and reinforcement.	None Detected	Cellulose 50-75% Man-Made Vitreous Fibres 5-10% Tar and other Non-Fibrous 25-50%
	c) Homogeneous, black, tar on foam.	None Detected	Tar and other Non-Fibrous Material > 75%
	d) Homogeneous, grey, paper.	None Detected	Cellulose > 75% Man-Made Vitreous Fibres 5-10% Non-Fibrous Material 5-10%
	e) Non-homogeneous, black and grey, paper.	None Detected	Cellulose > 75% Man-Made Vitreous Fibres 0.5-5% Tar and other Non-Fibrous 10-25%
	f) Homogeneous, black, tar between foam and cellulose block.	None Detected	Tar and other Non-Fibrous Material > 75%
	g) Homogeneous, black, tar-impregnated, fibrous material between foam and cellulose block.	None Detected	Cellulose 25-50% Tar and other Non-Fibrous Material 50-75%
	h) Homogeneous, black, tar-impregnated, fibrous material in between cellulose block.	None Detected	Cellulose 25-50% Tar and other Non-Fibrous Material 50-75%
	i) Homogeneous, black, tar-impregnated, fibrous material.	None Detected	Cellulose 25-50% Tar and other Non-Fibrous 50-75%
	j) Homogeneous, black, shiny, crumbly, tar material.	None Detected	Tar and other Non-Fibrous Material > 75%
	k) Homogeneous, black, soft, tar material with fibres.	None Detected	Man-Made Vitreous Fibres 5-10% Tar and other Non-Fibrous > 75%
	l) Homogeneous, tar-impregnated, compressed, fibrous material.	None Detected	Synthetic Fibres 25-50% Tar and other Non-Fibrous 50-75%
	m) Homogeneous, black, tar with stones.	None Detected	Material Tar and other Non-Fibrous > 75%
Comments:	Due to the condition of the sample, the order of phases reported may not reflect the actual order in situ. Cellulose and foam are present on the surface of this sample.		

Reviewed by:

Digitally signed by
Pinchin Ltd.
Date: 2024.05.28
09:54:44-04'00'

Reporting Analyst:

Digitally signed by
Pinchin Ltd.
Date: 2024.05.28
09:54:36-04'00'

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)

Pinchin Stan, save COC to project file and include hard copy with samples.
PWL, PLEL, LGGPP; Include a hard copy with samples and email to **asbestossamples@pinchin.com** (Asbestos Samples Submissions in Global Address Book)



Pinchin Ltd. Asbestos Laboratory *Certificate of Analysis*

Project No.: 0342395.000
Prepared For: A. Khan

Lab Reference No.: b314107
Analyst(s): J. Dacquel

Date Received: May 17, 2024 **Samples Submitted:** 6
Date Analyzed: May 27, 2024 **Phases Analyzed:** 9

The Pinchin Ltd. Mississauga asbestos laboratory is accredited by the National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101270-0) 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. The Pinchin asbestos laboratory uses the aforementioned methods of analysis for all bulk materials. Please be advised that bulk materials do not include debris, dust, and tape-lift samples, and the analysis and reporting of these materials does not conform with Pinchin Ltd.'s NVLAP accreditation.

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 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.

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 report relates only to the items tested.

This report relates only to the items tested and is valid only when signed with a protected, authorized, electronic signature. This report may not be reproduced, except in full, without the written approval of Pinchin Ltd. The client may not use this report to claim product endorsement by NVLAP or any agency of the U.S. Government. Internal verification studies, quality assurance / control data and laboratory documentation on measurement uncertainty are available upon request.



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project No.: 0342395.000
Prepared For: A. Khan

Lab Reference No.: b314107
Date Analyzed: May 27, 2024

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S0002A Roof, Caulking, Mavis South Roof	2 Phases: a) Homogeneous, brown, caulking material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, black, tar material.	None Detected	Tar and other non-fibrous > 75%
S0002B Roof, Caulking, Mavis South Roof	2 Phases: a) Homogeneous, brown, caulking material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, black, tar material.	None Detected	Tar and other non-fibrous > 75%
S0002C Roof, Caulking, Mavis South Roof	2 Phases: a) Homogeneous, brown, caulking material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, black, tar material.	None Detected	Tar and other non-fibrous > 75%
S0003A Roof, Tar, Mavis South Roof	Homogeneous, black, tar material.	None Detected	Tar and other non-fibrous > 75%
S0003B Roof, Tar, Mavis South Roof	Homogeneous, black, tar material.	None Detected	Tar and other non-fibrous > 75%
S0003C Roof, Tar, Mavis South Roof	Homogeneous, black, tar material.	None Detected	Tar and other non-fibrous > 75%

Reviewed by:

Digitally signed by
Pinchin Ltd.
Date: 2024.05.27
17:57:41-04'00'

Reporting Analyst:

Digitally signed by
Pinchin Ltd.
Date: 2024.05.27
17:57:59-04'00'

Analyzed by: *[Signature]*
 Reviewed by: *[Signature]*
 Report Sent by: *[Signature]* (9)

**Pinchin Ltd. - Asbestos Laboratory
 Internal Asbestos Bulk Sample Chain of Custody**

Client Name:		Project Address:	ON
Portfolio/Building No:		Pinchin File:	342087 <i>342895 per email</i>
Submitted by:	Ahmed Khan	Email:	akhan@pinchin
CC Results to:		CC Email:	gmackay@pinchin <i>aratic (per email)</i>
Date Submitted:	May 16 2024	Required by:	Month Day 2020
# of Samples:	<i>6 split 2/2</i>	Priority:	Select
Year of Building Construction (Mandatory, Years ONLY):			
Do NOT Stop on Positive (Sample Numbers):			
Pinchin Group Company (Mandatory Field):			Pinchin
HMIS2 Building Reference #:			134050/202441663903247

To be Completed by Lab Personnel Only:

Lab Reference #:	b314107 CH	Time:	24 hour clock
Received by:	5.17.2024 KB	Date:	Month Day Year
Name(s) of Analyst(s):	<i>[Signature]</i>		<i>MAY 27, 2024</i>

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
S	0002	A	Roof,Caulking,Mavis South Roof <i>a)ND b)ND</i>
S	0002	B	Roof,Caulking,Mavis South Roof <i>a)ND b)ND</i>
S	0002	C	Roof,Caulking,Mavis South Roof <i>a)ND b)ND</i>
S	0003	A	Roof,Tar,Mavis South Roof <i>ND</i>
S	0003	B	Roof,Tar,Mavis South Roof <i>ND</i>
S	0003	C	Roof,Tar,Mavis South Roof <i>ND</i>

APPENDIX II-B
PCB Analytical Certificates



Your Project #: 342395
Your C.O.C. #: N/A

Attention: Ahmed Khan

Pinchin Ltd
2360 Meadowpine Blvd
Unit # 2
Mississauga, ON
CANADA L5N 6S2

Report Date: 2024/05/27
Report #: R8165192
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4F0882

Received: 2024/05/21, 09:51

Sample Matrix: Solid
#Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Polychlorinated Biphenyl in Solids (1)	1	2024/05/24	2024/05/25	CAM SOP-00309	EPA 8082A m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Analysis was conducted according to Bureau Veritas method CAM SOP-00309 and modified where applicable based on the sample matrix. This test is not Standards Council of Canada accredited for this matrix.



Your Project #: 342395
Your C.O.C. #: N/A

Attention: Ahmed Khan

Pinchin Ltd
2360 Meadowpine Blvd
Unit # 2
Mississauga, ON
CANADA L5N 6S2

Report Date: 2024/05/27
Report #: R8165192
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4F0882

Received: 2024/05/21, 09:51

Encryption Key

Nilushi Mahathantila
Project Manager
27 May 2024 13:47:28

Please direct all questions regarding this Certificate of Analysis to:

Nilushi Mahathantila, Project Manager
Email: Nilushi.Mahathantila@bureauveritas.com
Phone# (905) 817-5700

=====
This report has been generated and distributed using a secure automated process.

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POLYCHLORINATED BIPHENYLS BY GC-ECD (SOLID)

Bureau Veritas ID		ZFH837		
Sampling Date				
COC Number		N/A		
	UNITS	P0001, CAULKING, MAVIS SOUTH ROOF	RDL	QC Batch
PCBs				
Aroclor 1262	ug/g	<0.1	0.1	9410972
Aroclor 1016	ug/g	<0.1	0.1	9410972
Aroclor 1221	ug/g	<0.1	0.1	9410972
Aroclor 1232	ug/g	<0.1	0.1	9410972
Aroclor 1242	ug/g	<0.1	0.1	9410972
Aroclor 1248	ug/g	<0.1	0.1	9410972
Aroclor 1254	ug/g	<0.1	0.1	9410972
Aroclor 1260	ug/g	<0.1	0.1	9410972
Aroclor 1268	ug/g	<0.1	0.1	9410972
Total PCB	ug/g	<0.1	0.1	9410972
Surrogate Recovery (%)				
Decachlorobiphenyl	%	85		9410972
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



Bureau Veritas Job #: C4F0882
Report Date: 2024/05/27

Pinchin Ltd
Client Project #: 342395
Sampler Initials: AK

TEST SUMMARY

Bureau Veritas ID: ZFH837
Sample ID: P0001, CAULKING,MAVIS SOUTH ROOF
Matrix: Solid

Collected:
Shipped:
Received: 2024/05/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Polychlorinated Biphenyl in Solids	GC/ECD	9410972	2024/05/24	2024/05/25	Farag Mansour



Bureau Veritas Job #: C4F0882
Report Date: 2024/05/27

Pinchin Ltd
Client Project #: 342395
Sampler Initials: AK

GENERAL COMMENTS

Sample ZFH837 [P0001, CAULKING, MAVIS SOUTH ROOF] : PCB analysis: Values were calculated on a wet weight basis.

Results relate only to the items tested.



QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9410972	Decachlorobiphenyl	2024/05/25	95	30 - 130	96	30 - 130	104	%		
9410972	Aroclor 1016	2024/05/25					<0.1	ug/g		
9410972	Aroclor 1221	2024/05/25					<0.1	ug/g		
9410972	Aroclor 1232	2024/05/25					<0.1	ug/g		
9410972	Aroclor 1242	2024/05/25					<0.1	ug/g		
9410972	Aroclor 1248	2024/05/25					<0.1	ug/g		
9410972	Aroclor 1254	2024/05/25					<0.1	ug/g		
9410972	Aroclor 1260	2024/05/25	87	30 - 130	92	30 - 130	<0.1	ug/g	11	50
9410972	Aroclor 1262	2024/05/25					<0.1	ug/g		
9410972	Aroclor 1268	2024/05/25					<0.1	ug/g		
9410972	Total PCB	2024/05/25	87	30 - 130	92	30 - 130	<0.1	ug/g	11	50

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.



Bureau Veritas Job #: C4F0882
Report Date: 2024/05/27

Pinchin Ltd
Client Project #: 342395
Sampler Initials: AK

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Anastasia Hamanov, Scientific Specialist

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 CAN FCD-01191/6

CHAIN OF CUSTODY RECORD

Page ____ of ____

Invoice Information		Report Information (if differs from invoice)		Project Information (where applicable)		Turnaround Time (TAT) Applied			
Company Name: Pinehon Ltd.		Company Name:		Quotation #:		<input checked="" type="checkbox"/> Regular TAT (5-7 days) Most analyses			
Contact Name: Ahmed Khan		Contact Name:		P.O. #/ A/E/R:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS			
Address:		Address:		Project #: 342935		Rush TAT (Surcharges will be applied)			
Phone: _____ Fax: _____		Phone: _____ Fax: _____		Site Location:		<input type="checkbox"/> 1 Day <input type="checkbox"/> 2 Days <input type="checkbox"/> 3-4 Days			
Email: akhan@pinchon.com		Email:		Site #:		Date Required:			
<small>USE INDICATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION ONLY. CL, THAMPT, CO3 OR USE SUPPLY WATER. DO NOT ANALYZE CLORINATED WATER.</small>				Site Location Province: ON		Date Required:			
Regulation 153 <input type="checkbox"/> Table 1 <input type="checkbox"/> Res/Park <input type="checkbox"/> Med/Plze <input type="checkbox"/> Table 2 <input type="checkbox"/> Ind/Comm <input type="checkbox"/> Course <input type="checkbox"/> Table 3 <input type="checkbox"/> Agri/Other <input type="checkbox"/> Table 4 FOR RSC (PLEASE CIRCLE) Y / N				Other Regulations <input type="checkbox"/> CCME <input type="checkbox"/> Sanitary Sewer Bylaw <input type="checkbox"/> MISA <input type="checkbox"/> Storm Sewer Bylaw <input type="checkbox"/> FWGO Region _____ <input type="checkbox"/> Other (Specify) _____ <input type="checkbox"/> REG 558 (MIN. 3 DAY TAT REQUIRED) <input type="checkbox"/> REG 406 Table _____		Analysis Requested # OF CONTAINERS SUBMITTED FIELD INTENDED (SOLIDS) Metals / Ag / Crn BOD/PHOS P-CO2 P-AM P-CO2 P-CO3 USE 222 METALS & INORGANICS USE 153 OTHER METALS USE 153 METALS P-6, D-15, 127/105 Vertical, 1045-105 Lead (Pb) in PVC PCBs HOLD-DO NOT ANALYZE		LABORATORY USE ONLY CUSTODY SEAL Y / N Present Intact COOLING MEDIA PRESENT: Y / N COMMENTS	
Include Criteria on Certificate of Analysis: Y / N SAMPLES MUST BE KEPT COOL (<10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS									
SAMPLE IDENTIFICATION		DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX					
PODOL, Caulking, Minis South roof				BULK					
RELEASED BY: (Signature/Print)		DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	BY JOB #		
				<i>[Signature]</i>		0657			

Unless otherwise agreed to in writing, work submitted on this Chain of Custody is subject to Bureau Veritas' standard Terms and Conditions. Signing of this Chain of Custody document is acknowledgment and acceptance of our terms available at <https://www.bvna.com/coc-terms-and-conditions>



NONT-2024-05-2118

APPENDIX III
Methodology



1.0 GENERAL

An investigation was conducted to identify the type of Hazardous Building Materials incorporated in the structure and its finishes.

Information regarding the location and condition of hazardous building materials encountered and visually estimated quantities were recorded. The locations of any samples collected were recorded on small-scale plans. As-built drawings and previous reports were referenced where provided.

Sample collection was conducted in accordance with our Standard Operating Procedures.

1.1 Asbestos

The investigation for asbestos included 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, or a material that has already become crushed, pulverized, or powdered.

A separate set of samples was 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 were determined by visual examination and available information on the phases of construction and prior renovations.

Samples were collected at a rate that is in compliance with the requirements of local regulations and guidelines. The sampling strategy was also based on known ban dates and phase out dates of the use of asbestos; sampling of certain building materials is not conducted after specific construction dates. In addition, to be conservative, several years past these dates are added to account for some uncertainty in the exact start / finish date of construction and associated usage of ACM. In some cases, manufactured products such as asbestos cement pipe were visually identified without sample confirmation.

The asbestos analysis of select materials was completed using a stop-positive approach. Only one result meeting the regulated criteria was 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 stopped analyzing 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 were analyzed if no asbestos is detected. In some cases, all samples were analyzed in the sample set regardless of result.

The analysis was 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 were compared to the following criteria:

Jurisdiction*	Friable	Non-Friable
Ontario	0.5%	0.5%
Federal	1%	1%

* If there is a conflict between federal and provincial criteria, the more stringent will apply.

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. Additionally, these terms are used for materials which historically are known to not include asbestos in their manufacturing.

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

- Friability (friable or non-friable)
- Condition (good, fair, poor, debris)
- Accessibility (ranking from accessible to all building users to inaccessible)
- Visibility (whether the material is obscured by other building components)
- 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)

1.2 Lead

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

Analysis for lead in paints or surface coatings was performed in accordance with EPA Method No. 3050B/Method No. 7420; flame atomic absorption.

Analytical results were compared to the following criteria.

Jurisdiction*	Units (%)	Units (ppm) / (mg/kg)
Ontario	0.1	1,000
Federal	0.009	90

* If there is a conflict between federal and provincial criteria, the more stringent will apply.

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

1.3 Silica

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

1.4 Mercury

Building materials, products, or equipment (e.g. thermostats, barometers, pressure gauges, lamp tubes), suspected to contain mercury were identified by visual inspection only. Dismantling of equipment suspected of containing mercury was not performed. Sampling of these materials for laboratory analysis of mercury content was not performed.

1.5 Polychlorinated Biphenyls

The potential for light ballast and oil filled transformers to contain PCBs was based on the age of the building, a review of maintenance records, and examination of labels or nameplates on equipment, where present and accessible. The information was compared to known ban dates of PCBs and Environment Canada publications.

Dry type transformers were presumed to be free of dielectric fluids and hence non-PCB.

Fluids (mineral oil, hydraulic, Aroclor or Askarel) in transformers or other equipment were not sampled for PCB content.

Caulking, sealants, or paints were sampled and submitted for PCB analysis following EPA 3550C/8082A.

Sample results are compared to the criteria of 50 mg/kg for solids as stated in the PCB Regulation, SOR/2008-273.

1.6 Visible Mould

The presence of mould or water damage was determined by visual inspection of exposed building surfaces. If any mould growth or water damage was concealed within building cavities it was not addressed in this assessment.