

Hazardous Building Materials Assessment

Lindsay OC (HYD01327)
40 Denniston Street, Lindsay, Ontario

Prepared for:

Hydro One c/o BGIS

400 – 300 Sparks Street
Ottawa, Ontario, K1R 7S3

Attention: Cristina Jimenez
Project Manager

July 29, 2019

Pinchin File: 242815.011

© 2019 Pinchin Ltd.

Issued to:	**Hydro One c/o BGIS**
Contact:	**Cristina Jimenez** **Project Manager**
Issued on:	**July 29, 2019**
Pinchin File:	**242815.011**
Issuing Office:	**Kanata, ON**
Pinchin Contact:	**Sarah Young, C. Tech.,** **Operations Manager**

Author: Bennett Colgan, C.E.T.
Project Technologist
705.772.8599
bcolgan@pinchin.com

Reviewer: Sarah Young, C.Tech.
Operations Manager
613.541.1013 ext. 1609
syoung@pinchin.com

© 2019 Pinchin Ltd.

EXECUTIVE SUMMARY

Hydro One c/o BGIS (Client) retained Pinchin Ltd. (Pinchin) to conduct a hazardous building materials assessment at the Lindsay OC located at 40 Denniston Street, Lindsay, Ontario. Pinchin performed the assessment on June 13, 2019.

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

The assessed area was limited to the exterior walls of the office portion of the building and the wall common to the office and warehouse portions of the building to facilitate the replacement of humidifier units as outlined by the Client on site and as shown on the drawings in Appendix I.

SUMMARY OF FINDINGS

Asbestos: Asbestos-containing materials (ACM) are present as follows:

- Non-friable duck paper and vibration dampers, presumed to contain asbestos, are present in the assessed area, in good condition; however, are not anticipated to be disturbed as part of this project, therefore, sampling was not performed; and
- Non-friable black window and door caulking and red caulking within brick masonry expansion joints, presumed to contain asbestos, are present in the assessed area, in good condition; however, are not anticipated to be disturbed as part of this project, therefore sampling was not performed.

Lead: Lead is present as follows:

- Batteries of emergency lights.

Silica: Crystalline silica is present in concrete, masonry, brick and mortar.

Mercury: Mercury vapour is present in light tubes.

Polychlorinated Biphenyls (PCBs): PCB-containing materials were not found in the assessed area.

Mould and Water Damage: Visible mould growth and water damage was not observed in the assessed area.

© 2019 Pinchin Ltd.

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. Notify Pinchin immediately to conduct further testing.
3. Remove and dispose of asbestos-containing materials if disturbed by the planned renovation work.
4. Recycle mercury-containing light tubes when removed from service.
5. Follow appropriate safe work procedures when handling or disturbing 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.

© 2019 Pinchin Ltd.

TABLE OF CONTENTS

1.0 INTRODUCTION AND SCOPE 1
1.1 Scope of Assessment 1
2.0 BACKGROUND INFORMATION 2
2.1 Building Description 2
3.0 FINDINGS 2
3.1 Asbestos 2
3.2 Lead 6
3.3 Silica 7
3.4 Mercury 7
3.5 Polychlorinated Biphenyls 7
3.6 Mould 7
4.0 RECOMMENDATIONS 7
4.1 General 7
4.1 Abatement Budget Estimation 8
4.2 Building Renovation Work 8
5.0 TERMS AND LIMITATIONS 9
6.0 REFERENCES 9

APPENDICES

APPENDIX I Drawings
APPENDIX II Asbestos Analytical Certificates
APPENDIX II Methodology

© 2019 Pinchin Ltd.

1.0 INTRODUCTION AND SCOPE

Hydro One c/o BGIS (Client) retained Pinchin Ltd. (Pinchin) to conduct a hazardous building materials assessment at the Lindsay OC located at 40 Denniston Street, Lindsay, Ontario.

Bennett Colgan, C.E.T., Project Technologist, performed the assessment on June 13, 2019. The surveyor was accompanied by a representative from BGIS during the assessment. The assessed area was occupied at the time of the assessment.

The objective of the assessment was to identify specified hazardous building materials in preparation for the Building Upgrade Project. This assessment is intended to be used for pre-construction purposes only, and may not provide sufficient detail for long term management of hazardous materials as required by Health and Safety regulations. The results of this assessment are intended for use with a properly developed scope of work and performance specification.

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. The assessed area was limited to the exterior walls of the office portion of the building and the wall common to the office and warehouse portions of the building to facilitate the replacement of humidifier units. The extent of the assessed area was defined by the Client and is shown on the appended drawings.

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

- Asbestos;
- Lead;
- Silica;
- Mercury;
- Polychlorinated Biphenyls (PCBs); and
- 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;

© 2019 Pinchin Ltd.

- Ethylene oxide;
- Isocyanates; and
- Vinyl chloride monomer.

2.0 BACKGROUND INFORMATION

2.1 Building Description

Description Item	Details
Use	Office and warehouse
Number of Floors	One storey
Total Assessed Area	1,000 square feet
Year of Construction	1989
Structure	Concrete and steel
Exterior Cladding	Brick masonry, exterior insulation and finish system and vertical metal siding
HVAC	Gas-fired forced air
Roof	Not assessed (outside of scope)
Flooring	Concrete (assessed area only)
Interior Walls	Concrete block masonry (assessed area only)
Ceilings	None; exposed structure (assessed area only)

3.0 FINDINGS

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

3.1 Asbestos

3.1.1 Suspect Building Materials Not Found

The following types of building materials may historically contain asbestos but were not observed in the assessed area and are not discussed in the report findings:

- Spray-applied insulations (fireproofing, thermal or acoustic);
- Texture finishes (decorative);

© 2019 Pinchin Ltd.

- Acoustic ceiling tiles;
- Drywall joint compound;
- Asbestos cement products (e.g. Transite);
- Vinyl sheet flooring; and
- Vinyl floor tiles.

3.1.2 Pipe Insulation

Pipes present within the assessed area are either insulated with non-asbestos fibreglass, armaflex insulation or uninsulated.



View of non-asbestos fibreglass insulation present on water pipes within the assessed area.

3.1.3 Duct Insulation and Mastic

Ducts are insulated with non-asbestos fibreglass (canvas jacketed). Duct tape and vibration dampers were not sampled as the ducts are not anticipated to be disturbed during the renovations. Should the scope of work change and these materials may be disturbed, sampling of these materials should be undertaken.

© 2019 Pinchin Ltd.



View of fibreglass insulated ducts present within the assessed area.

3.1.4 Mechanical Equipment Insulation

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

3.1.5 Vermiculite

Destructive testing was conducted of masonry block walls. The masonry block walls were penetrated in 9 locations, loose fill vermiculite was not observed within the cavities. The locations of destructive testing have been indicated on the drawings in Appendix I.

3.1.6 Plaster and Stucco

Exterior insulation and finish system (EIFS) on the exterior of the office portion of the building. Based on the date of construction (1989), EIFS will not contain asbestos.



Non-asbestos EIFS system on office portion of the building.

© 2019 Pinchin Ltd.

3.1.7 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	Expansion joints of the EIFS	200 ft	19-01A-C	None detected
Caulking, black	Window and door frames	400 ft	Not sampled	Presumed asbestos-containing
Caulking, red	Masonry expansion joints	500 ft	Not sampled	Presumed asbestos-containing

Black and red caulking that is presumed to be asbestos-containing is not anticipated to be disturbed by this project. Should the scope of work change and caulking will be disturbed, sampling of the caulking should be undertaken.



Non-asbestos white caulking present on expansion joints of the EIFS.



Presumed asbestos-containing black window frame caulking and red masonry expansion joint caulking.

3.1.8 Presumed Asbestos Materials

The methodology identifies a list of materials which may contain asbestos, which were not to be sampled, based on limitations of the scope. The following is a list of materials which may contain asbestos, which were not observed during the assessment, but based on site conditions may be present. If determined to be present during building renovation, these materials are presumed to contain asbestos until otherwise proven by sampling and analysis:

- Roofing felts and tar, mastics;

© 2019 Pinchin Ltd.

- Electrical components;
- Caulking and putties (materials not sampled);
- Duct paper and vibration dampers on HVAC equipment and ducts; and
- Materials concealed or outside the assessed area.

3.2 Lead

3.2.1 Paints and Surface Coatings

Paints and surface coatings were not found in the assessed area.

3.2.2 Lead Products and Applications

Lead-containing batteries are present in emergency lighting.



Lead-acid battery present in emergency lighting within the assessed area.

3.2.3 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; and
- Solder on pipe connections.

© 2019 Pinchin Ltd.

3.3 Silica

Crystalline silica is a presumed component of the following materials:

- Poured or pre-cast concrete; and
- Masonry, brick and mortar.

3.4 Mercury

3.4.1 Lamps

Mercury vapour is present in fluorescent lamps.

3.4.2 Mercury-Containing Devices

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

3.5 Polychlorinated Biphenyls

3.5.1 Caulking

Caulking in the assessed areas was not suspected to contain PCBs due to the date of installation (after 1985).

3.5.2 Lighting Ballasts

Based on date of construction and confirmed by visual observations (evidence of T-5 or T-8 fixtures with magnetic ballasts) the building will not contain PCB ballasts.

3.5.3 Transformers

Transformers were not found in the assessed area.

3.6 Mould

Visible mould growth and water damage was not found 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.

© 2019 Pinchin Ltd.

2. If suspected hazardous building materials are discovered during the planned work, which are not identified in this report, do not disturb and inform Pinchin immediately to conduct further testing.
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.
5. Update the asbestos inventory upon completion of the abatement and removal of asbestos-containing materials.

4.1 Abatement Budget Estimation

The following Class D cost estimate (+/-25%) has been prepared to aid in budgeting for removal of all known hazardous building materials identified in this report.

Costs may also vary depending on seasonal work patterns, availability of contractors, or local market conditions.

Hazardous Material	Approximate Quantity	Removal Procedure	Cost Estimate
Mercury containing light tubes	<500	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 local regulations	$750.00
TOTAL ESTIMATE (Class D +/-25%)			**$750.00**

4.2 Building Renovation Work

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

4.2.1 Asbestos

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

© 2019 Pinchin Ltd.

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.

Asbestos-containing materials must be disposed of at a landfill approved to accept asbestos waste.

4.2.2 Lead

Lead-containing items (lead-acid batteries) should be recycled when taken out of service.

4.2.3 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.

4.2.4 Mercury

Do not break lamps. 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 local regulations.

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. 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.

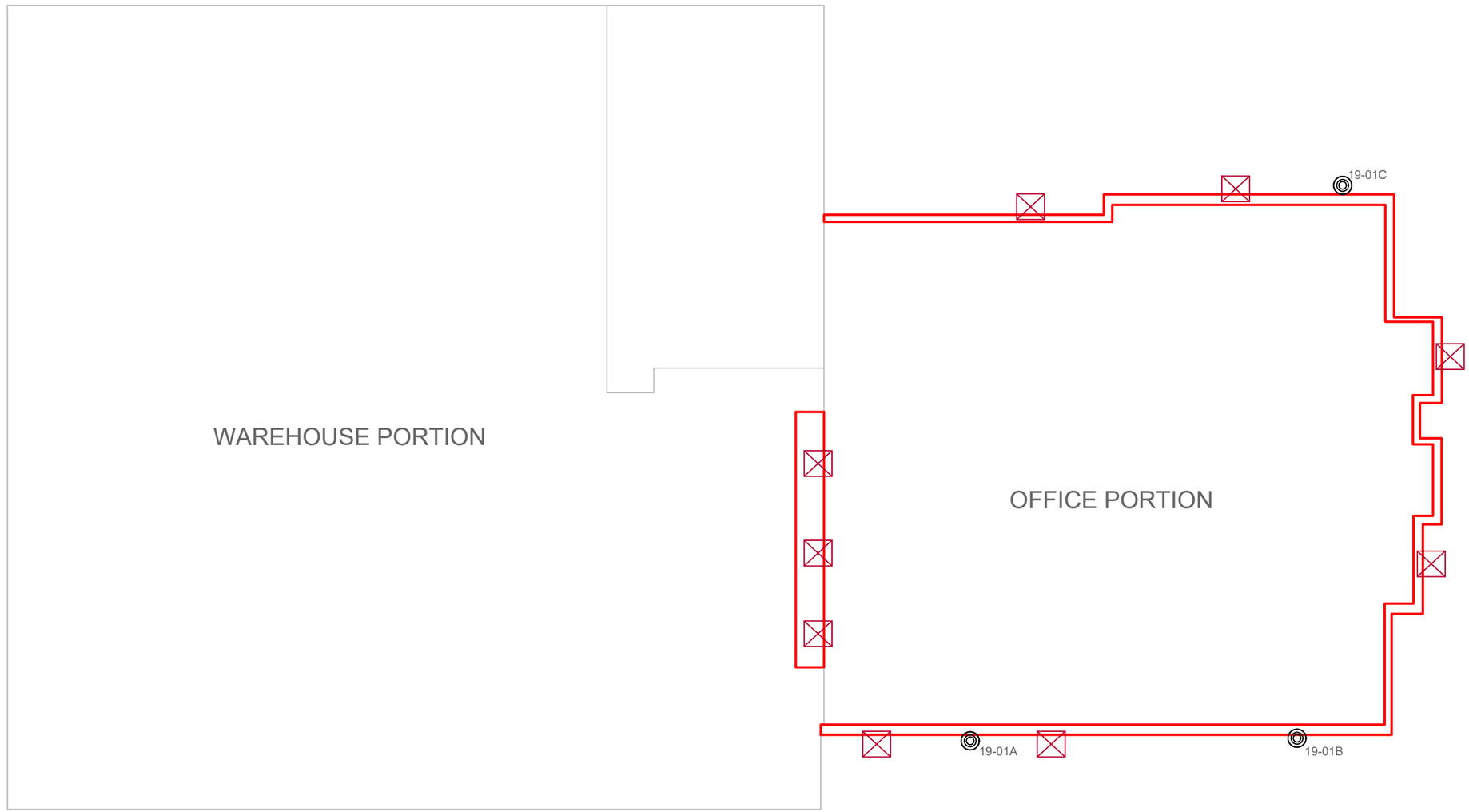
© 2019 Pinchin Ltd.

4. The Environmental Abatement Council of Ontario (EACO) Lead Guideline for Construction, Renovation, Maintenance or Repair, October 2014.
5. Ministry of the Environment Regulation, R.R.O. 1990 Reg. 347 as amended.
6. Surface Coating Materials Regulations, SOR/2005-109, Hazardous Products Act.
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.

© 2019 Pinchin Ltd.

APPENDIX I

Drawings



PINCHIN

LEGEND:

ASBESTOS BULK SAMPLE

SURVEY BOUNDARY/ASSESSED AREA

MASONRY COREHOLE LOCATION

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.

CLIENT:
BGIS

LOCATION:
LINDSAY OC (HYD01327)
40 DENNISTON STREET
LINDSAY, ONTARIO

TITLE:
HAZARDOUS BUILDING MATERIALS ASSESSMENT GROUND FLOOR

DATE:	PROJECT # :
2019/06/27	242815.011
DRAWN BY: BC	DRAWING:
CHECKED BY: SY	1 OF 1
SCALE: NTS	

IAZ ISO DRAWING TEMPLATE MARCH 2015

APPENDIX II

Asbestos Analytical Certificates

Pinchin Ltd. Asbestos Laboratory
Certificate of Analysis

Project Name:	**BGIS / Hydro One, HYD01327, 40 Denniston Street, Lindsay ON**		
Project No.:	**0242815.011**		
Prepared For:	**B. Colgan / S. Young**	**Date Received:**	**June 14, 2019**
Lab Reference No.:	**b211896**	**Date Analyzed:**	**June 21, 2019**
Analyst(s):	**C. Luong**	**# Samples submitted:**	**3**
		# Phases analyzed:	**3**

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. 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-600/M4-82-020: Interim Method for 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 17025:2005.

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: BGIS / Hydro One, HYD01327, 40 Denniston Street, Lindsay ON
Project No.: 0242815.011
Prepared For: B. Colgan / S. Young

Lab Reference No.: b211896
Date Analyzed: June 21, 2019

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
19-01A White control joint caulking - Exterior stucco finish	Homogeneous, white, caulking material.	None Detected	Non-Fibrous Material > 75%
19-01B White control joint caulking - Exterior stucco finish	Homogeneous, white, caulking material.	None Detected	Non-Fibrous Material > 75%
19-01C White control joint caulking - Exterior stucco finish	Homogeneous, white, caulking material.	None Detected	Non-Fibrous Material > 75%

Reviewed by:

Digitally signed by Julieth Oran
Date: 2019.06.21 16:35:02 -04'00'

Reporting Analyst:

Digitally signed by Julieth Oran
Date: 2019.06.21 16:34:52 -04'00'

Analyzed by: C.L

Reviewed by:

Report Sent by:

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

Client Name:	BGIS / Hydro One			**Project Address:**	40 Denniston Street, Lindsay ON			
Portfolio/Building No:	HYD01327			**Pinchin File:**	242815.011			
Submitted by:	Bennett Colgan			**Email:**	bcolgan@pinchin.com			
CC Results to:	Sarah Young			**CC Email:**	syoung@pinchin.com			
Invoice to:	Sarah Young			**Invoice Email:**	syoung@pinchin.com			
Date Submitted:	June	13	2019	**Required by:**	June	20	2019	
# of Samples:	3			**Priority:**	5 Day Turnaround			
Year of Building Construction (*Mandatory Field*):				1989				
Do NOT Stop on Positive (Sample Numbers):								
Pinchin Group Company (*Mandatory Field*):				Pinchin				

To be Completed by Lab Personnel Only:					
Lab Reference #:	b211896		**Time:**	24 hour clock	
Received by:	JE JUN 14 2019 JUN 14 2019		**Date:**	Month	Day	Year
Name(s) of Analyst(s):	C.L			June	21	2019

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	19-01A		White control joint caulking - Exterior stucco finish ND
	19-01B		White control joint caulking - Exterior stucco finish ND
	19-01C		White control joint caulking - Exterior stucco finish ND

APPENDIX II
Methodology

GENERAL

Pinchin conducts a room-by-room survey (rooms, corridors, service areas, exterior, etc.) 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 wall and ceiling finishes (drywall or plaster) to view concealed conditions at representative areas as permitted by the current building use. Limited destructive testing of flooring is conducted where possible (under carpets or multiple layers of flooring). Demolition of exterior building finishes, masonry walls (chases, shafts etc.), and structural items is not conducted.

© 2019 Pinchin Ltd.

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. The sampling strategy is 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 are visually identified without sample confirmation.

Drywall joint compound is sampled at exterior walls, columns or other locations that are unlikely to have been renovated in an attempt to determine the presence of asbestos in the original drywall compound. Delineation of asbestos-containing drywall compound from newer, non-asbestos drywall compound is not conducted.

Flooring mastic or adhesive is sampled and analyzed if present on the underside of flooring samples (vinyl floor tile and vinyl sheet flooring).

Limited demolition of masonry block walls (core holes) is conducted to investigate for loose fill vermiculite insulation. The core holes are temporarily patched with expanding foam or caulking.

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

- Roofing felts and tar, including repair mastics;
- Concrete floor levelling compound, including ceramic tile thin set;
- Elevator and lift brakes;
- Electrical components or wiring within control centers, breakers, motors or lights, insulation on wiring;
- Moulded plastic components (laboratory bench tops);
- Refractory materials and insulations in boilers, incinerators and stacks;

© 2019 Pinchin Ltd.

- Insulation under metal clad boilers and vessels;
- Mechanical packing, ropes and gaskets;
- Paints and coatings;
- Paper products under wood flooring or metal or slate roofing;
- Soffit and fascia boards at elevated heights;
- Fire resistant doors or metal clad finishes;
- Vibration dampers on HVAC equipment; and
- Materials concealed or outside the assessed area.

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
Ontario	0.5%	0.5%

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 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); and
- 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).

© 2019 Pinchin Ltd.

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, or equivalent.

The Ontario Ministry of Labour (MOL) has not established a lower limit for concentrations of lead in paint, below which precautions do not need to be considered during construction projects. 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%). Paint and surface coatings are evaluated for condition such as flaking, chipping or spalling.

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 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.

© 2019 Pinchin Ltd.

1.6 Polychlorinated Biphenyls

The potential for light ballast and wet transformers to contain PCBs is 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 is compared to known ban dates of PCBs and Environment Canada publications.

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

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

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.

1.7 Visible Mould

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

Template: Methodology for Hazardous Building Materials Assessment, HAZ, May 8, 2019

© 2019 Pinchin Ltd.