



Hazardous Building Materials Assessment (Pre-construction)

Membership and Guest Center
361A Old Finch Avenue,
Toronto, Ontario

Prepared for:

Toronto Zoo

361A Old Finch Avenue
Toronto, Ontario, M18 5K7

September 8, 2022

Pinchin File: 313057.000



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Author:

Madhat Nazmi, B.Sc. Hons., EIT
Project Technologist
289.971.8427
mnazmi@pinchin.com

Reviewer:

Christopher Richardson
Project Manager
289.971.1167
crichardson@pinchin.com

Reviewer:

Scott Cryer, P.Geol.
National Practice Leader - Radon
905.363.1311
scryer@pinchin.com



EXECUTIVE SUMMARY

Toronto Zoo (Client) retained Pinchin Ltd. (Pinchin) to conduct a hazardous building materials assessment at Toronto Zoo Membership and Guest Center located at 361A Old Finch Avenue, Toronto, Ontario. Pinchin performed the assessment on August 4, 2022.

The objective of the assessment was to identify specified hazardous building materials in preparation for the upcoming building renovation, which will consist of reconfiguration of partition walls, replacement of interior doors, one exterior door, electrical, and HVAC. The proposed work was outlined by the Client via an email sent on July 11, 2022, with two drawings and a renovation summary attached.

The results of this assessment are intended for use with a properly developed scope of work or performance specifications and safe work procedures.

The assessed area was limited to the part of the building, which consisted of the Membership and Guest Center, as shown on the drawings in Appendix I.

SUMMARY OF FINDINGS

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

Asbestos:

- Red duct mastic.
- All asbestos-containing materials were observed to be in good condition.

Lead:

- Low levels of lead are present in grey paint on metal door in guest reception area. Remaining paints sampled identified insignificant quantities of lead.

Silica: Crystalline silica is present in concrete, ceramics, grout, drywall, ceiling tiles.

Mercury: liquid mercury is present in thermostat ampules.

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. Prepare a scope of work or specifications and safe work procedures for the hazardous materials 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 properly dispose of asbestos-containing materials prior to \ renovation activities.
4. All PCB lamp ballasts must be removed from service and properly disposed of by December 31, 2025.
5. Recycle mercury-containing lamp tubes and thermostats when removed from service.
6. Follow appropriate safe work procedures when handling or disturbing asbestos, lead, and silica.

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

Toronto Zoo (Client) retained Pinchin Ltd. (Pinchin) to conduct a hazardous building materials assessment at the Toronto Zoo Membership and Guest Center located at 361A Old Finch Avenue, Toronto, Ontario.

Pinchin performed the assessment on August 4, 2022. The assessor was unaccompanied 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 building renovation activities. which will consist of reconfiguration of partition walls, replacement of interior doors, one exterior door, electrical, and HVAC as described by the Client via an email sent on July 11, 2022, with two drawings and a renovation summary attached.

The results of this assessment are intended for use with a properly developed scope of work or performance specification.

1.1 Scope of Assessment

The **assessed area** consisted of all parts of the Toronto Zoo Membership and Guest building, 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(s) 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 (rooms, corridors, service areas, etc.) to identify the hazardous building materials as defined in the scope.

The assessment included limited demolition of wall and ceiling finishes (drywall) to view concealed conditions at representative areas as permitted by the current building use. Limited destructive testing of flooring was conducted where possible (under ceramic tiles, carpets). Demolition of exterior building finishes, masonry walls (chases, shafts etc.), and structural surrounds was not conducted. Roofing materials were not sampled.

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	Membership and Guest Building
Number of Floors	The building is 1 storey.
Total Area	The assessed area is 6,855 square feet.
Year of Construction	The building was constructed in 1975.
Structure	Structural steel, concrete (poured)
Exterior Cladding	Not assessed (not in scope)
HVAC	Rooftop HVAC units (not assessed)
Roof	Not assessed (not in scope)
Flooring	Vinyl floor tile, Carpet, Ceramic, Vinyl sheet flooring
Interior Walls	Drywall
Ceilings	Drywall, Acoustic ceiling tiles (lay-in)

3.2 Existing Reports

No existing reports were provided for reference.

4.0 FINDINGS

The following section summarizes the findings of the assessment and provides a general description of the hazardous materials identified and their locations. For details on approximate quantities, condition, friability, accessibility, and locations of hazardous materials; refer to the Hazardous Material Summary / Sample Log and All Data Report in Appendices V and VI.

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

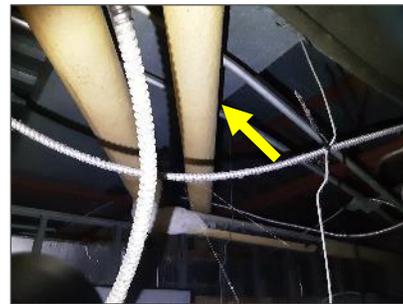
4.1 Asbestos

4.1.1 Pipe Insulation

Pipes are either uninsulated and/or insulated with fibreglass.



Uninsulated pipe, Membership and Guest Centre (HMIS Loc. 1).



Fiberglass insulated pipe, Membership and Guest Centre (HMIS Loc. 1).

4.1.2 Duct Insulation and Mastic

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

Red duct mastic, containing chrysotile asbestos, is present on seams / joints on ducts throughout the assessed area (samples S0012A-C).



Foil-faced fiberglass insulated duct, Membership and Guest Centre (HMIS Loc. 1).



Asbestos-containing red mastic is present on ducts seams/joint, Membership and Guest Centre (HMIS Loc. 1).

4.1.3 Acoustic Ceiling Tiles

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

Size, Type, Pattern	Sample Locations	Sample Number or Date Code	Asbestos Type
ACT1 - 24"x48", lay-in, Textured finish	Throughout the membership and guest Centre (HMIS Loc. 1).	02.02.19	None

Ceiling tiles are 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 stopped being used in acoustic ceiling tiles.



Non-asbestos ACT-01, 24"x48", lay-in, Textured finish
 Membership and Guest Centre (HMIS Loc. 1).



ACT1 - 24"x48", lay-in, manufacturing stamp date,
 Membership and Guest Centre (HMIS Loc. 1).

4.1.4 Drywall Joint Compound

Drywall joint compound present on wall and ceiling finishes throughout the assessed area does not contain asbestos (samples S0001A-B, S0004A-C, S0005A-C).



Non-asbestos drywall joint compound on bulkhead in GR
 Supervisor room S0005A-C, Membership and Guest Centre
 (HMIS Loc. 1).



Non-asbestos drywall joint compound on partition walls in GR
 manger room S0001A-C, Membership and Guest Centre
 (HMIS Loc. 1).

4.1.5 Vinyl Sheet Flooring

Vinyl sheet flooring is present as follows:

Pattern, Colour	Sample Locations	Sample Number	Asbestos Type	Asbestos Type (Adhesive)
Rustic, blue	Accounting room -Membership and Guest Centre (HMIS Loc. 1).	S0006A-C	Non-detected	None



Non asbestos blue vinyl sheet flooring in accounting room S0006A-C, Membership and Guest Centre (HMIS Loc. 1).

4.1.6 Vinyl Floor Tiles

Vinyl floor products are present as follows:

Description	Sample Locations	Sample Number	Asbestos Type (tile)	Asbestos Type (mastic)
VFT01- Light grey w/ white flakes	C3 connection building - Membership and Guest Centre (HMIS Loc. 1)	S0007A-C	None detected	None detected
VFT02- Light blue w/ white flakes	Lunch Area - Membership and Guest Centre (HMIS Loc. 1)	S0011A-C	None detected	None detected



Non-asbestos VFT-01, 12"x12" light grey with white flakes, in C3 connection building, Membership and Guest Centre (HMIS Loc. 1).



Non-asbestos VFT-02, 12"x12" light blue with white flakes in Lunch area, Membership and Guest Centre (HMIS Loc. 1).

4.1.7 Caulking

Black caulking at guest entrance exterior door frame does not contain asbestos (samples S0009A-C).



Non-asbestos black caulking on exterior guest entrance door frame, Membership and Guest Centre (HMIS Loc. 1).

4.1.8 Other Building Materials

Yellow mastic present on the underside of the green in Membership and Guest Centre (HMIS Loc. 1). does not contain asbestos (samples S0002A-C).

Yellow mastic present on the underside of the red carpet throughout in Membership and Guest Centre (HMIS Loc. 1). does not contain asbestos (samples S0003A-C).

Yellow mastic present on the underside of the blue carpet throughout the office area in Membership and Guest Centre (HMIS Loc. 1). does not contain asbestos (samples S0010A-C).

Ceramic tiles thin set sampled in guest entrance area in Membership and Guest Centre (HMIS Loc. 1). does not contain asbestos (samples S0013A-C).

Levelling compound associated with the blue vinyl sheet flooring is non-asbestos (samples S0006A-C phase c).

The beige levelling compound associated with the light beige vinyl sheet flooring is non-asbestos (samples S0008A-C phase c).

The beige levelling compound associated with the light blue vinyl floor tile is non-asbestos (samples S0011A-C phase c).



Non-asbestos yellow mastic under red carpet, Membership and Guest Centre (HMIS Loc. 1).



Non-asbestos yellow mastic under blue carpet in office areas, Membership and Guest Centre (HMIS Loc. 1).



4.1.9 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:

- Roofing felts and tar, mastics
- Electrical components
- Vermiculite
- Fibre-reinforced paints and coatings
- Paper products
- Soffit and fascia boards
- Sealants on pipe threads

4.2 Lead

4.2.1 Paints and Surface Coatings

The following table summarizes the analytical results of paints sampled.

Sample Number	Colour, Substrate Description	Sample Location	Lead (%)
L0001	Yellow paint on metal door frames	Office areas- Membership and Guest Centre (HMIS Loc. 1).	<0.00045
L0002	White paint on metal door frames	Office areas- Membership and Guest Centre (HMIS Loc. 1).	<0.0037
L0003	Grey paint on metal door frame	Guest entrance door- Membership and Guest Centre (HMIS Loc. 1).	<0.045

- Results less than or equal to 0.1% (1,000 mg/kg), but equal to or greater than 0.009% (90 mg/kg), are considered low-level lead paints or surface coatings in accordance with the EACC guideline.
- Paints containing less than 0.009% (90 mg/kg) lead is assumed to be insignificant.



L0001, Yellow paint within insignificant lead content on metal door frame in office area, Membership and Guest Centre (HMIS Loc. 1).



L0003, Grey paint with low-level lead content on metal door frame in guest entrance door, Membership and Guest Centre (HMIS Loc. 1).

4.2.2 Lead Products and Applications

Lead products were not found during the assessment.

4.2.3 Excluded Lead Materials

Lead is known to be present in a number of 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 known to be a component of the following materials:

- Poured or pre-cast concrete
- Masonry and mortar
- Ceramic tiles and grout
- Drywall
- Ceiling tiles

4.4 Mercury

4.4.1 Lamps

Mercury vapour is present in fluorescent lamp tubes and other lighting that is known to contain mercury such as neon lamps.

4.4.2 Mercury-Containing Devices

Mercury is present as a liquid in thermostats ampules.



Thermostat ampules is present in C3 connection building, Membership and Guest Centre (HMIS Loc. 1).

4.5 Polychlorinated Biphenyls

4.5.1 Caulking and Sealants

Black caulking is present at door frame (samples P0001) and contains <math><0.2\text{ mg/kg}</math> PCBs. The material is a non-PCB solid based on the threshold (50 mg/kg).



P0001, Non-PCB black caulking is present on metal door frame in guest entrance area, Membership and Guest Centre (HMIS Loc. 1).

4.5.2 Transformers

Transformers were not found during the assessment.

4.5.3 Excluded PCB Materials

PCBs are known to be present in a number of materials and equipment which were not assessed or sampled. The following materials, where found, should be presumed to contain PCBs until sampling proves otherwise.

- Capacitors within or associated with electrical equipment

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. Prepare scope of work or performance specifications for hazardous material removal required for the planned work. The specifications should include 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, observe and document the successful removal of hazardous materials.
5. Update the asbestos inventory upon completion of the abatement and removal of asbestos-containing materials and any other relevant findings.

5.2 Building Renovation Work

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

5.2.1 Asbestos

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

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

5.2.2 Lead

For paints identified as having low levels of lead (i.e., less than the EACC guideline of 0.1% (1,000 mg/kg) for lead-containing paints but equal to or above 0.009% (90 mg/kg)) special precautions are not recommended unless aggressive disturbance (grinding, blasting, torching) is planned. Exposure from construction disturbance of paints containing lead less than 0.009% (90 mg/kg) is assumed to be insignificant.



Construction disturbance of lead in paint and coatings (or other materials) may result in exposure to lead dust or fumes and safe work procedures are required. Project specific work procedures, engineering controls and personal protective equipment will need to be assessed and developed as per applicable regulations and guidelines.

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

5.2.3 *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 per applicable regulations and guidelines.

5.2.4 *Mercury*

Do not break lamps. Recycle and reclaim mercury from fluorescent lamps and thermostats 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.

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Template: Master Report for Hazardous Materials Assessment (Pre-Construction), HAZ, July 29, 2021

APPENDIX I
Drawings



LEGEND

-  ASBESTOS BULK SAMPLE
-  LEAD 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.



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

CLIENT NAME:
TORONTO ZOO

PROJECT LOCATION:
**TORONTO ZOO
361A OLD FINCH AVENUE
TORONTO, ONTARIO**

FIGURE NAME:
GROUND FLOOR

PROJECT NUMBER: 313057.000	SCALE: NOT TO SCALE
DRAWN BY: DP	REVIEWED BY: MN
DATE: AUGUST 2022	FIGURE NUMBER: 1 OF 1



APPENDIX II-A
Asbestos Analytical Certificates



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	Toronto Zoo, 361A Old Finch Ave, Toronto, ON		
Project No.:	0313057.000		
Prepared For:	M. Nazmi / C. Richardson		
Lab Reference No.:	b276418		
Analyst(s):	R. Janssen		
Date Received:	August 8, 2022	# Samples submitted:	39
Date Analyzed:	August 15, 2022	# Phases analyzed:	66

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.*



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Lab Reference No.: b276418
Date Analyzed: August 15, 2022

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S0001A Wall, All, Drywall And Joint Compound, Djc On Partition, Loc:1, Administration Office Area	Homogeneous, white, drywall joint compound.	None Detected	Non-Fibrous Material > 75%
S0001B Wall, All, Drywall And Joint Compound, Djc On Partition, Loc:1, Administration Office Area	Homogeneous, white, drywall joint compound.	None Detected	Non-Fibrous Material > 75%
S0001C Wall, All, Drywall And Joint Compound, Djc On Partition, Loc:1, Administration Office Area			Not Analyzed
Comments:	There is no drywall joint compound present in this sample to be analyzed.		
S0002A Floor, All, Adhesive/mastic, Yellow Adhesive Under Green Carpet, Loc:1, Administration Office Area	Homogeneous, yellow, adhesive material.	None Detected	Non-Fibrous Material > 75%
S0002B Floor, All, Adhesive/mastic, Yellow Adhesive Under Green Carpet, Loc:1, Administration Office Area	Homogeneous, yellow, adhesive material.	None Detected	Non-Fibrous Material > 75%
S0002C Floor, All, Adhesive/mastic, Yellow Adhesive Under Green Carpet, Loc:1, Administration Office Area	Homogeneous, yellow, adhesive material.	None Detected	Non-Fibrous Material > 75%



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

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BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S0003A Floor, All, Adhesive/mastic, Adhesive Under Red Carpet, Loc:1, Administration Office Area	Homogeneous, yellow, adhesive material.	None Detected	Non-Fibrous Material > 75%
S0003B Floor, All, Adhesive/mastic, Adhesive Under Red Carpet, Loc:1, Administration Office Area	Homogeneous, yellow, adhesive material.	None Detected	Non-Fibrous Material > 75%
S0003C Floor, All, Adhesive/mastic, Adhesive Under Red Carpet, Loc:1, Administration Office Area	Homogeneous, yellow, adhesive material.	None Detected	Non-Fibrous Material > 75%
S0004A Ceiling, All, Drywall And Joint Compound, Djc On Ceiling, Loc:1, Administration Office Area	Homogeneous, white, drywall joint compound.	None Detected	Non-Fibrous Material > 75%
S0004B Ceiling, All, Drywall And Joint Compound, Djc On Ceiling, Loc:1, Administration Office Area	Homogeneous, white, drywall joint compound.	None Detected	Non-Fibrous Material > 75%



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BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S0004C Ceiling, All, Drywall And Joint Compound, Djc On Ceiling, Loc:1, Administration Office Area	Homogeneous, white, drywall joint compound.	None Detected	Non-Fibrous Material > 75%
S0005A Bulkhead, Drywall Compound, Djc On Bulkhead, Loc:1, Administration Office Area	Homogeneous, white, drywall joint compound.	None Detected	Non-Fibrous Material > 75%
S0005B Bulkhead, Drywall Compound, Djc On Bulkhead, Loc:1, Administration Office Area	Homogeneous, white, drywall joint compound.	None Detected	Non-Fibrous Material > 75%
S0005C Bulkhead, Drywall Compound, Djc On Bulkhead, Loc:1, Administration Office Area	Homogeneous, white, drywall joint compound.	None Detected	Non-Fibrous Material > 75%
S0006A Floor, All, Vinyl Sheet Flooring, Blue Vinyl Sheet Flooring, Loc:1, Administration Office Area	3 Phases: a) Homogeneous, blue, consolidated material on the back of vinyl sheet flooring. b) Homogeneous, yellow, adhesive material on the back of vinyl sheet flooring. c) Homogeneous, grey, levelling compound.	None Detected None Detected None Detected	Cellulose 25-50% Non-Fibrous Material 50-75% Non-Fibrous Material > 75% Cellulose 5-10% Non-Fibrous Material > 75%
Comments:	Cellulose weave reinforcement is present on the surface of this sample.		



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BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S0006B Floor, All, Vinyl Sheet Flooring, Blue Vinyl Sheet Flooring, Loc:1, Administration Office Area	3 Phases: a) Homogeneous, blue, consolidated material on the back of vinyl sheet flooring.	None Detected	Cellulose 25-50% Non-Fibrous Material 50-75%
	b) Homogeneous, yellow, adhesive material on the back of vinyl sheet flooring.	None Detected	Non-Fibrous Material > 75%
	c) Homogeneous, grey, levelling compound.	None Detected	Cellulose 5-10% Non-Fibrous Material > 75%
Comments:	Cellulose weave reinforcement is present on the surface of this sample. Phase c) of this sample is small in size. For more reliable results, a larger sample is required.		
S0006C Floor, All, Vinyl Sheet Flooring, Blue Vinyl Sheet Flooring, Loc:1, Administration Office Area	4 Phases: a) Homogeneous, blue, consolidated material on the back of vinyl sheet flooring.	None Detected	Cellulose 25-50% Non-Fibrous Material 50-75%
	b) Homogeneous, yellow, adhesive material on the back of vinyl sheet flooring.	None Detected	Non-Fibrous Material > 75%
	c) Homogeneous, grey, levelling compound.	None Detected	Cellulose 5-10% Non-Fibrous Material > 75%
	d) Homogeneous, off-white, adhesive material.	None Detected	Non-Fibrous Material > 75%
Comments:	Cellulose weave reinforcement is present on the surface of this sample.		



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: Toronto Zoo, 361A Old Finch Ave, Toronto, ON
Project No.: 0313057.000
Prepared For: M. Nazmi / C. Richardson

Lab Reference No.: b276418
Date Analyzed: August 15, 2022

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S0007A Floor, All, Vinyl Floor Tile, Vft01: Light Grey W/ White Flakes, Loc:1, Administration Office Area	a) Homogeneous, light grey, consolidated, vinyl floor tile.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, yellow, soft, sticky material on the back of vinyl floor tile.	None Detected	Non-Fibrous Material > 75%
S0007B Floor, All, Vinyl Floor Tile, Vft01: Light Grey W/ White Flakes, Loc:1, Administration Office Area	a) Homogeneous, light grey, consolidated, vinyl floor tile.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, yellow, soft, sticky material on the back of vinyl floor tile.	None Detected	Non-Fibrous Material > 75%
	c) Homogeneous, black, tar material.	None Detected	Tar and other non-fibrous material > 75%
Comments:	Phases b) and c) of this sample are small in size. For more reliable results, a larger sample is required. Another phase is present but there was insufficient material submitted to analyze.		
S0007C Floor, All, Vinyl Floor Tile, Vft01: Light Grey W/ White Flakes, Loc:1, Administration Office Area	a) Homogeneous, light grey, consolidated, vinyl floor tile.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, yellow, soft, sticky material on the back of vinyl floor tile.	None Detected	Non-Fibrous Material > 75%



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: Toronto Zoo, 361A Old Finch Ave, Toronto, ON
Project No.: 0313057.000
Prepared For: M. Nazmi / C. Richardson

Lab Reference No.: b276418
Date Analyzed: August 15, 2022

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S0008A Floor, All, Vinyl Sheet Flooring, Light Beige Vinyl Floor Sheeting, Loc:1, Administration Office Area	3 Phases: a) Homogeneous, white, caulking material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, beige, consolidated material on the back of vinyl sheet flooring.	None Detected	Cellulose 25-50% Non-Fibrous Material 50-75%
	c) Homogeneous, brown, adhesive material on the back of vinyl sheet flooring.	None Detected	Non-Fibrous Material > 75%
Comments:	Cellulose weave reinforcement is present on the surface of this sample.		
S0008B Floor, All, Vinyl Sheet Flooring, Light Beige Vinyl Sheet Flooring, Loc:1, Administration Office Area	4 Phases: a) Homogeneous, yellow, adhesive material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, white, caulking material.	None Detected	Non-Fibrous Material > 75%
	c) Homogeneous, beige, consolidated material on the back of vinyl sheet flooring.	None Detected	Cellulose 25-50% Non-Fibrous Material 50-75%
	d) Homogeneous, brown, adhesive material on the back of vinyl sheet flooring.	None Detected	Non-Fibrous Material > 75%
Comments:	Cellulose weave reinforcement is present on the surface of this sample.		



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: Toronto Zoo, 361A Old Finch Ave, Toronto, ON
Project No.: 0313057.000
Prepared For: M. Nazmi / C. Richardson

Lab Reference No.: b276418
Date Analyzed: August 15, 2022

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S0008C Floor, All, Vinyl Sheet Flooring, Light Beige Vinyl Sheet Flooring, Loc:1, Administration Office Area	4 Phases: a) Homogeneous, beige, hard, caulking material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, beige, soft, caulking material.	None Detected	Non-Fibrous Material > 75%
	c) Homogeneous, beige, consolidated material on the back of vinyl sheet flooring.	None Detected	Cellulose 25-50% Non-Fibrous Material 50-75%
	d) Homogeneous, brown, adhesive material on the back of vinyl sheet flooring.	None Detected	Non-Fibrous Material > 75%
Comments:	Cellulose weave reinforcement is present on the surface of this sample.		
S0009A Wall, Door, Caulking, Black Caulking On Main Entrance Door, Loc:1, Administration Office Area	Homogeneous, brown, rubbery, caulking material.	None Detected	Non-Fibrous Material > 75%
S0009B Wall, Door, Caulking, Black Caulking On Main Entrance Door, Loc:1, Administration Office Area	Homogeneous, brown, rubbery, caulking material.	None Detected	Non-Fibrous Material > 75%
S0009C Wall, Door, Caulking, Black Caulking On Main Entrance Door, Loc:1, Administration Office Area	Homogeneous, brown, rubbery, caulking material.	None Detected	Non-Fibrous Material > 75%



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: Toronto Zoo, 361A Old Finch Ave, Toronto, ON
Project No.: 0313057.000
Prepared For: M. Nazmi / C. Richardson

Lab Reference No.: b276418
Date Analyzed: August 15, 2022

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S0010A Floor, All, Adhesive/mastic, Yellow Adhesive Under Blue Carpet, Loc:1, Administration Office Area	Homogeneous, yellow, adhesive material.	None Detected	Non-Fibrous Material > 75%
S0010B Floor, All, Adhesive/mastic, Yellow Adhesive Under Blue Carpet, Loc:1, Administration Office Area	Homogeneous, yellow, adhesive material.	None Detected	Non-Fibrous Material > 75%
S0010C Floor, All, Adhesive/mastic, Yellow Adhesive Under Blue Carpet, Loc:1, Administration Office Area	Homogeneous, yellow, adhesive material.	None Detected	Non-Fibrous Material > 75%
S0011A Floor, All, Vinyl Floor Tile, Vft02: Light Blue W White Flakes Vinyl Floor Tile, Loc:1, Administration Office Area	5 Phases:		
	a) Homogeneous, off-white, adhesive material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, grey, consolidated, vinyl floor tile.	None Detected	Non-Fibrous Material > 75%
	c) Homogeneous, black, soft, sticky material on the back of vinyl floor tile.	None Detected	Tar and other non-fibrous material > 75%
	d) Homogeneous, beige, levelling compound.	None Detected	Cellulose 0.5-5% Non-Fibrous Material > 75%
	e) Homogeneous, yellow, adhesive material.	None Detected	Non-Fibrous Material > 75%



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: Toronto Zoo, 361A Old Finch Ave, Toronto, ON
Project No.: 0313057.000
Prepared For: M. Nazmi / C. Richardson

Lab Reference No.: b276418
Date Analyzed: August 15, 2022

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S0011B Floor, All, Vinyl Floor Tile, Vft02: Light Blue W White Flakes Vinyl Floor Tile, Loc:1, Administration Office Area	4 Phases: a) Homogeneous, grey, consolidated, vinyl floor tile.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, black, soft, sticky material on the back of vinyl floor tile.	None Detected	Tar and other non-fibrous material > 75%
	c) Homogeneous, beige, levelling compound.	None Detected	Cellulose 0.5-5%
	d) Homogeneous, yellow, adhesive material.	None Detected	Non-Fibrous Material > 75%
S0011C Floor, All, Vinyl Floor Tile, Vft02: Light Blue W White Flakes Vinyl Floor Tile, Loc:1, Administration Office Area	4 Phases: a) Homogeneous, grey, consolidated, vinyl floor tile.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, black, soft, sticky material on the back of vinyl floor tile.	None Detected	Tar and other non-fibrous material > 75%
	c) Homogeneous, beige, levelling compound.	None Detected	Cellulose 0.5-5% Non-Fibrous Material > 75%
	d) Homogeneous, yellow, adhesive material.	None Detected	Non-Fibrous Material > 75%
S0012A Duct, All, Mastic, Red, Red Mastic On Duct, Loc:1, Administration Office Area	Homogeneous, red, mastic material.	Chrysotile 0.5-5%	Non-Fibrous Material > 75%
Comments:	Man-made vitreous fibres are present on the surface of this sample.		



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: Toronto Zoo, 361A Old Finch Ave, Toronto, ON
Project No.: 0313057.000
Prepared For: M. Nazmi / C. Richardson

Lab Reference No.: b276418
Date Analyzed: August 15, 2022

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S0012B Duct, All, Mastic, Red, Red Mastic On Duct, Loc:1, Administration Office Area			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
S0012C Duct, All, Mastic, Red, Red Mastic On Duct, Loc:1, Administration Office Area			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
S0013A Floor, All, Ceramic Tiles, Light Beige Ceramic Tiles, Loc:1, Administration Office Area	Homogeneous, light beige, granular, cementitious material.	None Detected	Non-Fibrous Material > 75%
S0013B Floor, All, Ceramic Tiles, Light Beige Ceramic Tiles, Loc:1, Administration Office Area	Homogeneous, light beige, granular, cementitious material.	None Detected	Non-Fibrous Material > 75%
S0013C Floo+A13:156r, All, Ceramic Tiles, Light Beige Ceramic Tiles, Loc:1, Administration Office Area	2 Phases: a) Homogeneous, light beige, granular, cementitious material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, grey, granular, cementitious material.	None Detected	Non-Fibrous Material > 75%

Reviewed by:

Reporting Analyst:

Jason Stapleton
2022.08.15 16:22:10-03'00'

Reid Janssen
2022.08.15 13:35:13-03'00'

Analyzed by: RJ
 Reviewed by: JS
 Report Sent by:

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

Client Name:	Toronto Zoo	Project Address:	361A Old Finch Ave, Toronto, ON
Portfolio/Building No:		Pinchin File:	313057
Submitted by:	Madhat Nazmi	Email:	mnazmi@pinchin.com
CC Results to:	Chris Richardson	CC Email:	crichardson@pinchin.com
Date Submitted:	August 05 2022	Required by:	August 12 2022
# of Samples:	39	Priority:	5 Day Turnaround
Year of Building Construction (Mandatory, Years ONLY):	1975		
Do NOT Stop on Positive (Sample Numbers):	S0001A-C, S0004A-C, S0005A-C		
Pinchin Group Company (Mandatory Field):	Pinchin		
HMIS2 Building Reference #:	108992/20227440460008		

To be Completed by Lab Personnel Only:

Lab Reference #:	<u>b226418</u>	Time:	24 hour clock		
Received by:	<u>R. Janssen AUG 08 2022</u>	Date:	Month	Day	Year

Name(s) of Analyst(s): R. Janssen

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
S	0001	A	Wall, All, Drywall And Joint Compound, Djc On Partition, Loc:1, Administration Office Area ND
S	0001	B	Wall, All, Drywall And Joint Compound, Djc On Partition, Loc:1, Administration Office Area ND
S	0001	C	Wall, All, Drywall And Joint Compound, Djc On Partition, Loc:1, Administration Office Area (NA)
S	0002	A	Floor, All, Adhesive/mastic, Yellow Adhesive Under Green Carpet, Loc:1, Administration Office Area ND
S	0002	B	Floor, All, Adhesive/mastic, Yellow Adhesive Under Green Carpet, Loc:1, Administration Office Area ND
S	0002	C	Floor, All, Adhesive/mastic, Yellow Adhesive Under Green Carpet, Loc:1, Administration Office Area ND
S	0003	A	Floor, All, Adhesive/mastic, Adhesive Under Red Carpet, Loc:1, Administration Office Area ND

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
S	0003	B	Floor,All,Adhesive/mastic,Adhesive Under Red Carpet,Loc:1,Administration Office Area ND
S	0003	C	Floor,All,Adhesive/mastic,Adhesive Under Red Carpet,Loc:1,Administration Office Area ND
S	0004	A	Ceiling,All,Drywall And Joint Compound,Djc On Ceiling,Loc:1,Administration Office Area ND
S	0004	B	Ceiling,All,Drywall And Joint Compound,Djc On Ceiling,Loc:1,Administration Office Area ND
S	0004	C	Ceiling,All,Drywall And Joint Compound,Djc On Ceiling,Loc:1,Administration Office Area ND
S	0005	A	Bulkhead,Drywall Compound,Djc On Bulkhead,Loc:1,Administration Office Area ND
S	0005	B	Bulkhead,Drywall Compound,Djc On Bulkhead,Loc:1,Administration Office Area ND
S	0005	C	Bulkhead,Drywall Compound,Djc On Bulkhead,Loc:1,Administration Office Area ND
S	0006	A	Floor,All,Vinyl Sheet Flooring,Blue Vinyl Sheet Flooring,Loc:1,Administration Office Area a)ND b)ND c)ND
S	0006	B	Floor,All,Vinyl Sheet Flooring,Blue Vinyl Sheet Flooring,Loc:1,Administration Office Area a)ND b)ND c)ND
S	0006	C	Floor,All,Vinyl Sheet Flooring,Blue Vinyl Sheet Flooring,Loc:1,Administration Office Area a)ND b)ND c)ND d)ND
S	0007	A	Floor,All,Vinyl Floor Tile,Vft01: Light Grey W/ White Flakes,Loc:1,Administration Office Area a)ND b)ND
S	0007	B	Floor,All,Vinyl Floor Tile,Vft01: Light Grey W/ White Flakes,Loc:1,Administration Office Area a)ND b)ND c)ND
S	0007	C	Floor,All,Vinyl Floor Tile,Vft01: Light Grey W/ White Flakes,Loc:1,Administration Office Area a)ND b)ND
S	0008	A	Floor,All,Vinyl Sheet Flooring,Light Beige Vinyl Floor Sheeting,Loc:1,Administration Office Area a)ND b)ND c)ND

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
S	0008	B	Floor,All,Vinyl Sheet Flooring,Light Beige Vinyl Sheet Flooring,Loc:1,Administration Office Area <i>AND BND CND DND</i>
S	0008	C	Floor,All,Vinyl Sheet Flooring,Light Beige Vinyl Sheet Flooring,Loc:1,Administration Office Area <i>AND BND CND DND</i>
S	0009	A	Wall,Door,Caulking,Black Caulking On Main Entrance Door,Loc:1,Administration Office Area <i>ND</i>
S	0009	B	Wall,Door,Caulking,Black Caulking On Main Entrance Door,Loc:1,Administration Office Area <i>ND</i>
S	0009	C	Wall,Door,Caulking,Black Caulking On Main Entrance Door,Loc:1,Administration Office Area <i>ND</i>
S	0010	A	Floor,All,Adhesive/mastic,Yellow Adhesive Under Blue Carpet,Loc:1,Administration Office Area <i>ND</i>
S	0010	B	Floor,All,Adhesive/mastic,Yellow Adhesive Under Blue Carpet,Loc:1,Administration Office Area <i>ND</i>
S	0010	C	Floor,All,Adhesive/mastic,Yellow Adhesive Under Blue Carpet,Loc:1,Administration Office Area <i>ND</i>
S	0011	A	Floor,All,Vinyl Floor Tile,Vft02: Light Blue W White Flakes Vinyl Floor Tile,Loc:1,Administration Office Area <i>AND BND CND DND END</i>
S	0011	B	Floor,All,Vinyl Floor Tile,Vft02: Light Blue W White Flakes Vinyl Floor Tile,Loc:1,Administration Office Area <i>AND BND CND DND</i>
S	0011	C	Floor,All,Vinyl Floor Tile,Vft02: Light Blue W White Flakes Vinyl Floor Tile,Loc:1,Administration Office Area <i>AND BND CND DND</i>
S	0012	A	Duct,All,Mastic, Red,Red Mastic On Duct,Loc:1,Administration Office Area <i>CHO.S-S</i>
S	0012	B	Duct,All,Mastic, Red,Red Mastic On Duct,Loc:1,Administration Office Area <i>(NA)</i>
S	0012	C	Duct,All,Mastic, Red,Red Mastic On Duct,Loc:1,Administration Office Area <i>(NA)</i>
S	0013	A	Floor,All,Ceramic Tiles,Light Beige Ceramic Tiles,Loc:1,Administration Office Area <i>ND</i>

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
S	0013	B	Floor,All,Ceramic Tiles,Light Beige Ceramic Tiles,Loc:1,Administration Office Area ND
S	0013	C	Floo+A13:I56r,All,Ceramic Tiles,Light Beige Ceramic Tiles,Loc:1,Administration Office Area a) NO b) NO

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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 Ltd.
2360 Meadowpine Blvd. Unit 2
Mississauga, ON L5N 7W5

Attn: Madhat Nazmi

Lab Order ID: 71998505
Analysis ID: 71998505_PBP
Date Received: 8/9/2022
Date Reported: 8/16/2022

Project: 313057

Sample ID	Description	Mass	Concentration	Concentration
Lab Sample ID	Lab Notes	(g)	(ppm)	(% by weight)
L0001	Other, Metal, Yellow Paint On Metal Door, Loc:1, Administration Office Area	0.0881	< 45	< 0.0045%
71998505PBP_1				
L0002	Other, Metal, White Paint On Door Frames, Loc:1, Administration Office Area	0.1076	< 37	< 0.0037%
71998505PBP_2				
L0003	Other, Metal, Grey Paint On Metal Door, Loc:1, Administration Office Area	0.0536	450	0.045%
71998505PBP_3				

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). Unless indicated, areas and volumes were provided by the customer.

Xaviera Watkins (3)

Analyst

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

Laboratory Director

71498505

Contact:	Madhat Nazmi	<p>Use Column "B" for your contact info</p> <p>To See an Example Click the bottom Example Tab.</p> <p style="text-align: center;">3</p> <p>Begin Samples with a "<<" above the first sample and end with a ">>" below the last sample. Only Enter your data on the first sheet "Sheet1"</p> <p>Note: Data 1 and Data 2 are optional fields that do not show up on the official report, however they will be included in the electronic data returned to you to facilitate your reintegration of the report data.</p>
Address:	2360 Meadowpine Blvd, Unit 2, Missiuaga	
Phone:	289-971-8427	
Fax:		
Email:	mnazmi@pinchin.com	
Project:	313057	<p>Scientific Analytical Institute</p>  <p>4604 Dundas Dr. Greensboro, NC 27407 Phone: 336.292.3888 Fax: 336.292.3313 Email: lab@sailab.com</p>
Client Notes:		
P.O. #.		
Date Submitted:	08-05-2022	
Analysis:	Paint Chips Flame AA	
TurnAroundTime:	Regular T.A.T	

Sample Number	Data 1 (Lab use only)	Sample Description	Data 2 (Lab use only)
<<			
L0001		Other, Metal, Yellow Paint On Metal Door, Loc:1, Administration Office Area	
L0002		Other, Metal, White Paint On Door Frames, Loc:1, Administration Office Area	
L0003		Other, Metal, Grey Paint On Metal Door, Loc:1, Administration Office Area	
>>			

Accepted

Rejected

Chin 12:30pm
8/9

APPENDIX II-C
PCB Analytical Certificates

Certificate of Analysis

Madhat Nazmi

Pinchin Ltd. (Mississauga)
2470 Milltower Court, Mississauga, ON L5N 7W5

Date of Issue: Aug 16, 2022

Report Description: 1 solid sample was submitted for the following chemical analysis

Project Name: Tablet	Date Sampled: Aug 05, 2022
Project No.: 313057	Date Tested: Aug 16, 2022
Site Location: 361A Old Finch Ave, Toronto, ON	Sampled by: Madhat

Report Number: 22-1243

No.	Analyte	Result	Units	MDL	Comments	Technique / Test Method
1	<u>Sample ID.:</u> P0001 Black Caulking On Metal Frame, Loc:1, Administration Office Area					
	PCBs in Solid	<0.2	mg/kg	0.2		LAB-M06 (EPA 3550C/8082A modified)

Results relate only to the samples tested above, as received.

Approved By:

Son C.H. Le, (Chem.)

Lab Manager

Phone: (519) 740-1333 Ext.: 1030

Fax: (519) 740-2320

Email: SonLe@aevitas.ca

The Analytical Chemistry Laboratory of Aevitas Inc. (Ayr) is accredited for specific tests in accordance with the recognized International Standard ISO/IEC 17025:2017, by the Canadian Association for Laboratory Accreditation (CALA) Inc. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017). The laboratory quality management system of Aevitas Inc. (Ayr) also operates in accordance with the principles of ISO 9001.

All Analytical data is subject to uncertainty which, may vary with sample matrices, sample preparation techniques and instrumental parameters. As a general guideline, uncertainty may be expressed as approximately +/- 50% of the reported value at or near the Method Detection Limit (MDL) and +/-10% or less, of the reported result that is greater than 10 times the MDL. Method Detection Limits are defined as approximately 3 times the standard deviation value (at 99% confidence level), which is obtained from replicate analysis of a low-level standard as per the Ontario MOE - MISA Protocol for the Sampling and Analysis of Industrial / Municipal Wastewater (2016). MDL determination is based on undiluted samples with relatively low matrix interferences. Where dilutions are required, the reported MDL value will be scaled proportionally.

All testing procedures follow strict guidelines and quality assurance / quality control (QA/QC) protocols. QA/QC data is available for review at any time upon client's request.

APPENDIX III
Methodology



1.0 GENERAL

An inspection 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 inspection 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.

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 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).

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 was 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	1000
Federal	0.009	90

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



1.3 Silica

Building materials known to contain crystalline silica (e.g., concrete, tile, 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), suspected to contain mercury was identified by visually 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.

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.

Template: Methodology for Hazardous Building Materials Assessment, HAZ, November 23, 2021

APPENDIX IV
Hazardous Materials Summary Report / Sample Log

Client: Toronto Zoo

Site: 361A Old Finch Avenue, Toronto, ON

Building Name: Membership and Guest Center

Survey Date: 2022-08-04

HAZMAT	Sample No	System/Component/Material/Sample Description	Locations	Bldg. Phase	LF	SF	EA	%	Type	Positive	Friability
Asbestos	S0001 ABC	Wall All Drywall And Joint Compound Djc On Partition	1	A	0	1000	0	0	None Detected	No	
Asbestos	S0002 ABC	Floor All Adhesive/mastic Yellow Adhesive Under Green Carpet	1	A	0	700	0	0	None Detected	No	
Asbestos	S0003 ABC	Floor All Adhesive/mastic Adhesive Under Red Carpet	1	A	0	200	0	0	None Detected	No	
Asbestos	S0004 ABC	Ceiling All Drywall And Joint Compound Djc On Ceiling	1	A	0	900	0	0	None Detected	No	
Asbestos	S0005 ABC	Ceiling Bulkhead Drywall Compound Djc On Bulkhead	1	A	0	75	0	0	None Detected	No	
Asbestos	S0006 ABC	Floor All Vinyl Sheet Flooring Blue Vinyl Sheet Flooring	1	A	0	200	0	0	None Detected	No	
Asbestos	S0007 ABC	Floor All Vinyl Floor Tile Vft01: Light Grey W/ White Flakes	1	A	0	1500	0	0	None Detected	No	
Asbestos	S0008 ABC	Floor All Vinyl Sheet Flooring Light Beige Vinyl Floor Sheeting	1	A	0	300	0	0	None Detected	No	
Asbestos	S0009 ABC	Wall Door Caulking Black Caulking On Main Entrance Door	1	A	0	18	0	0	None Detected	No	
Asbestos	S0010 ABC	Floor All Adhesive/mastic Yellow Adhesive Under Blue Carpet	1	A	0	800	0	0	None Detected	No	
Asbestos	S0011 ABC	Floor All Vinyl Floor Tile Vft02: Light Blue W White Flakes Vinyl Floor Tile	1	A	0	500	0	0	None Detected	No	
Asbestos	S0012 ABC	Duct All Mastic, Red Red Mastic On Duct	1	A	0	10	0	0	Chrysotile	Yes	NF
Asbestos	S0013 ABC	Floor All Ceramic Tiles Light Beige Ceramic Tiles	1	A	0	1500	0	0	None Detected	No	
Asbestos	V0000	Ceiling All Ceiling Tiles (lay-in) Act01: textured Finish Lay-in Ceiling Tiles	1	A	0	3500	0	0	Non Asbestos	No	
Asbestos	V0000	Duct All Fibreglass	1	A	0	0	0	0	Non Asbestos	No	
Asbestos	V0000	Duct Not Insulated	1	A	0	0	0	0	Non Asbestos	No	
Asbestos	V0000	Piping Fibreglass	1	A	150	0	0	0	Non Asbestos	No	
Asbestos	V0000	Piping Not Insulated	1	A	0	0	0	0	Non Asbestos	No	
Asbestos	V0000	Structure All Concrete (poured)	1	A	0	6855	0	0	Non Asbestos	No	
Paint	L0001	Other Metal Yellow Paint On Metal Door	1	A	0	0	1	0		No	-
Paint	L0002	Other Metal White Paint On Door Frames	1	A	0	0	2	0		No	-
Paint	L0003	Other Metal Grey Paint On Metal Door	1	A	0	0	1	0	Lead (Low)	Yes	-
PCB	P0001	Caulking Black Caulking On Metal Frame	1	A	18	0	0	0	-	No	-
ODS	V9000	Air Conditioner	1	A	0	0	0	0	ODS	Yes	-

HAZMAT	Sample No	System/Component/Material/Sample Description	Locations	Bldg. Phase	LF	SF	EA	%	Type	Positive	Friability
ODS	V9000	Fire Extinguisher	1	A	0	0	6	0	ODS	Yes	-
Hg	V9000	Fluorescent Light Tube	1	A	0	0	150	0	Hg	Yes	-
Hg	V9000	Thermostat	1	A	0	0	2	0	Hg	Yes	-

Legend:

Sample number	Units	
S####	SF	Asbestos sample collected Square feet
L####	LF	Paint sample collected Linear feet
P####	EA	PCB sample collected Each
M####	%	Mould sample collected Percentage
V####		Material visually similar to numbered sample collected
V0000		Known non Hazardous Material
V9000		Material is visually identified as Hazardous Material
V9500		Material is presumed to be Hazardous Material
[Loc. No.]		Abated Material
		NF Non Friable material.
		F Friable material
		PF Potentially Friable material

APPENDIX V
HMIS All Data Report

Client: Toronto Zoo
Location: #1 : Membership and Guest Center
Survey Date: 2022-08-04

Site: 361A Old Finch Avenue, Toronto, ON
Floor:

Building Name: Membership and Guest Center
Room #:
Last Re-Assessment: 0000-00-00

Area (sqft): 6855

ASBESTOS																
System	Component	Material	Item	Covering	A*	V*	AP*	Good	Fair	Poor	Unit	Sample	Asbestos Type	Amount	Hazard	Friable
Ceiling ¹	All	Ceiling Tiles (lay-in), ACT01:Textured finish Lay-in ceiling tiles			C	Y		3500			SF	V0000	Non-Asbestos		None	
Ceiling ²	All	Drywall and joint compound, DJC ON CEILING			C	Y		900			SF	S0004ABC	None Detected	N.D.	None	
Ceiling ³	Bulkhead	Drywall Compound, DJC ON BULKHEAD			C	Y		75			SF	S0005ABC	None Detected	N.D.	None	
Duct		Not Insulated			C	Y						V0000	Non-Asbestos		None	
Duct	All	Fibreglass		Aluminum	C	Y						V0000	Non-Asbestos		None	
Duct ⁴	All	Mastic, Red, Red mastic on duct			C	Y		10			SF	S0012ABC	Chrysotile	0.5-5%	Confirmed Asbestos	NF
Floor ⁵	All	Vinyl Sheet Flooring, BLUE VINYL SHEET FLOORING			D	Y		200			SF	S0006ABC	None Detected	N.D.	None	
Floor ⁶	All	Vinyl Sheet Flooring, Light beige vinyl floor sheeting			D	Y		300			SF	S0008ABC	None Detected	N.D.	None	
Floor ⁷	All	Ceramic Tiles, Light beige ceramic tiles			D	Y		1500			SF	S0013ABC	None Detected	N.D.	None	
Floor ⁸	All	Adhesive/mastic, YELLOW ADHESIVE UNDER GREEN CARPET		Carpet	D	N		700			SF	S0002ABC	None Detected	N.D.	None	
Floor ⁹	All	Adhesive/mastic, ADHESIVE UNDER RED CARPET		Carpet	D	N		200			SF	S0003ABC	None Detected	N.D.	None	
Floor ¹⁰	All	Adhesive/mastic, YELLOW ADHESIVE UNDER BLUE CARPET		Carpet	D	Y		800			SF	S0010ABC	None Detected	N.D.	None	
Floor ¹¹	All	Vinyl Floor Tile, VFT01: Light Grey w/ white flakes			D	Y		1500			SF	S0007ABC	None Detected	N.D.	None	
Floor ¹²	All	Vinyl Floor Tile, VFT02: Light blue w white flakes vinyl floor tile			D	Y		500			SF	S0011ABC	None Detected	N.D.	None	
Mechanical Equipment	All	None Found														
Piping		Fibreglass		Paper	C	Y		150			LF	V0000	Non-Asbestos		None	
Piping		Not Insulated			C	Y						V0000	Non-Asbestos		None	
Structure	All	Concrete (poured)			C	N		6855			SF	V0000	Non-Asbestos		None	
Wall ¹³	All (2)	Drywall and joint compound, PARTITION			A	Y		1000			SF	S0001ABC	None Detected	N.D.	None	
Wall ¹⁴	Door	Caulking, Black caulking on main entrance door			A	Y		18			SF	S0009ABC	None Detected	N.D.	None	

- 1 - Manufactured in 09
- 2 - GR MANAGER
- 3 - GR SUPERVISOR
- 4 - Men change locker room
- 5 - ACCOUNTING
- 6 - C2 - UPPER MAIN CORRIDOR
- 7 - Main Entrance area
- 8 - RM 22

9 - RM 22
10 - Office area
11 - C3 BUILDING CONNECTING CORRIDOR
12 - Lunch area
13 - GR MANAGER
14 - Main entrance

Client: Toronto Zoo **Site:** 361A Old Finch Avenue, Toronto, ON **Building Name:** Membership and Guest Center
Location: #1 : Membership and Guest Center **Floor:** **Room #:** **Area (sqft):** 6855
Survey Date: 2022-08-04 **Last Re-Assessment:** 0000-00-00

PAINT									
System	Item	Good	Poor	Unit	Sample	Sample Description	Amount	Hazard	
Other ¹	Metal	1		EA	L0001	Yellow paint on metal door	Pb: <0.00045 %	No	
Other ²	Metal	2		EA	L0002	White paint on door frames	Pb: <0.0037 %	No	
Other ³	Metal	1		EA	L0003	Grey Paint on metal door	Pb: <0.045 %	Lead (Low)	

1 - C4- bldg connect corridor
2 - ACCOUNTING
3 - Guest entrance door

Client: Toronto Zoo **Site:** 361A Old Finch Avenue, Toronto, ON **Building Name:** Membership and Guest Center
Location: #1 : Membership and Guest Center **Floor:** **Room #:** **Area (sqft):** 6855
Survey Date: 2022-08-04 **Last Re-Assessment:** 0000-00-00

MERCURY				
Component	Quantity	Unit	Sample	Hazard
Fluorescent Light Tube	150	EA	V9000	Yes
Thermostat	2	EA	V9000	Yes

Client: Toronto Zoo **Site:** 361A Old Finch Avenue, Toronto, ON **Building Name:** Membership and Guest Center
Location: #1 : Membership and Guest Center **Floor:** **Room #:** **Area (sqft):** 6855
Survey Date: 2022-08-04 **Last Re-Assessment:** 0000-00-00

PCB						
Component	Quantity	Unit	Sample	Sample Description	Amount	PCB
Caulking ¹	18	LF	P0001	Black caulking on metal frame		No

1 - Main entrance door

Client: Toronto Zoo **Site:** 361A Old Finch Avenue, Toronto, ON **Building Name:** Membership and Guest Center
Location: #1 : Membership and Guest Center **Floor:** **Room #:** **Area (sqft):** 6855
Survey Date: 2022-08-04 **Last Re-Assessment:** 0000-00-00

ODS					
Component	Type	Quantity	Unit	Sample	Hazard
Air Conditioner ¹				V9000	Yes
Fire Extinguisher		6	EA	V9000	Yes

1 - Supply air vent

Legend:

Sample number		Units		Other	
S####	Asbestos sample collected	SF	Square feet	A	Access
L####	Paint sample collected	LF	Linear feet	V	Visible
P####	PCB sample collected	EA	Each	AP	Air Plenum
M####	Mould sample collected	%	Percentage	F	Friable material
V####	Material is visually identified to be identical to S####	LF	Linear feet	NF	Non Friable material
V0000	Known non hazardous material			PF	Potentially Friable material
V9000	Material visually identified as a Hazardous Material			Pb	Lead
V9500	Material is presumed to be a hazardous material			Hg	Mercury
				As	Arsenic
				Cr	Chromium

Access	
A	Accessible to all building occupants
B	Accessible to maintenance and operations staff without a ladder
C	Accessible to maintenance and operations staff with a ladder. Also rarely entered, locked areas
D	Not normally accessible

Condition	
Good	No visible damage or deterioration
Fair	Minor, repairable damage, cracking, delamination or deterioration
Poor	Irreparable damage or deterioration with exposed and missing material

Visible	
Y	The material is visible when standing on the floor of the room, without the removal or opening of other building components (e.g. ceiling tiles or access panels).
N	The material is not visible to view when standing on the floor of the room and requires the removal of a building component (e.g. ceilings tiles or access panels) to view and access. Includes rarely entered crawlspaces, attic spaces, etc. Observations will be limited to the extent visible from the access points.

Air Plenum	
Yes or No	The material is in a return air plenum or in a direct airstream or there is evidence of air erosion (e.g. duct for heating or cooling blowing directly on or across an ACM). This field is only completed where Air Plenum consideration is required by regulation.

Colour Coding	
	The material is known to contain regulated concentrations of asbestos; either by analytical results or visible identification (use of the V9000 code).
	The material is presumed to contain asbestos; based on visual appearances; typically a material known to historically contain asbestos; however, not sampled due to limited access or the destructive nature of the sampling.