

CRESTWOOD SECONDARY SCHOOL MECHANICAL UPGRADES - 2021

1885 Sherbrooke Street West, Peterborough, Ontario K2K 0G2

Tender PUR21-067-ITT



KAWARTHA PINE RIDGE DISTRICT SCHOOL BOARD

SUPPLEMENTARY INFORMATION

MOFFET & DUNCAN ARCHITECTS INC.

Prime Consultant

RAVENS ENGINEERING INC.

Structural Engineer

DEI CONSULTING ENGINEERS

Mechanical & Electrical Engineers



Hazardous Building Materials Assessment (Pre-construction)

HVAC Update Program and
Walk-in Cooler Replacement
Crestwood Secondary School
1885 Sherbrooke Street West,
Peterborough, Ontario

Prepared for:

Kawartha Pine Ridge District School Board

1994 Fisher Drive,
Peterborough, Ontario K9J 7A2

May 11, 2021

Pinchin File: 285775



Hazardous Building Materials Assessment (Pre-construction)

Crestwood Secondary School, 1885 Sherbrooke Street West, Peterborough, Ontario
Kawartha Pine Ridge District School Board

May 11, 2021
Pinchin File: 285775

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Issuing Office: Peterborough, ON

Author: _____
Adam Heizer, B.Sc.
Senior Project Technologist
289.971.7921
aheizer@pinchin.com

Reviewer: _____
Chris Fennell
Senior Project Manager
705.270.0719
cfennell@pinchin.com

Reviewer: _____
Michael Harrett, C.E.T.
Regional Practice Leader (Ontario), Hazardous Materials
613.881.0762
mharrett@pinchin.com



EXECUTIVE SUMMARY

Kawartha Pine Ridge District School Board (Client) retained Pinchin Ltd. (Pinchin) to conduct a hazardous building materials assessment at Crestwood Secondary School located at 1885 Sherbrooke Street West, Peterborough, Ontario. Pinchin performed the assessment on January 8, 2021 and April 16, 2021.

The objective of the assessment was to identify specified hazardous building materials in preparation for building renovation.

The project area as of January 8, 2021 included the walk-in coolers in Kitchen 126 and Custodian's Closet 126D. The purpose of the renovation is for the removal of the walk-in cooler in Kitchen 126 and the compressor in Custodian Closet 126D.

The scope of the assessment was increased to include the replacement of Air Handling Units (AHUs). The assessment of the areas to be impacted by the AHU project was performed April 16, 2021.

The proposed work as identified by the Client includes replacing AHUs and associated duct work in the following locations:

- Mechanical Room (Location 84).
- Automotive Shop B109 (Location 89)
- Weight Room B108 (Location 75)
- Electrical Shop B107 (Location 92)
- Carpentry Shop B106 (Location 71)
- Fan Room 124 (Location 49)
- Fan Room 124A (Location 50)

Additional renovations include modifications to existing ductwork in preparation for new rooftop HVAC units in Kitchen 126 (Location 34) and Corridor H10 (Location 225).

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

The assessed area was limited to the part of the building, which consisted of:

- Mechanical Room (Location 84).
- Area around AHU unit in Automotive Shop B109 (Location 89)
- Area around AHU unit in Weight Room B108 (Location 75)



- Area around AHU unit in Electrical Shop B107 (Location 92)
- Area around AHU unit in Carpentry Shop B106 (Location 71)
- Walk-in cooler in Kitchen 126 (Location 34)
- Compressor in Custodian Closet 126D (Location 36)
- Ducts in Corridor H10 (Location 225)
- Fan Room 124 (Location 49)
- Fan Room 124A (Location 50)

SUMMARY OF FINDINGS

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

Asbestos:

- Parging cement insulation on pipe fittings
- Parging cement on duct insulation
- Glued-on paper on duct insulation
- Plaster ceiling
- Grey caulking
- Textile vibration dampers are presumed to contain asbestos
- Floor levelling compound is presumed to contain asbestos
- Ceramic tile setting compound is presumed to contain asbestos
- Terrazzo is presumed to contain asbestos
- Sealants on pipe threads is presumed to contain asbestos

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

The following asbestos-containing materials were observed to be damaged:

- Parging cement on duct insulation in Fan Room 124A (Location 50)

Lead:

Lead in paints is present as low-level lead paints as follows:

- White paint on metal walk-in cooler
- White paint on wood under compressor
- Black paint on metal walk-in cooler



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- White paint on metal AHU
- Dark grey paint on metal AHU

Silica: Crystalline silica is present in concrete, mortar, masonry, ceramics, grout, ceiling tiles, terrazzo and plaster.

Mercury: Mercury vapour is present in lamp tubes.

Polychlorinated Biphenyls (PCBs): PCBs are not present.

Mould and Water Damage: Approximately five linear feet of mould is present on jacketing of fibreglass pipe insulation above the walk-in cooler.



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 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. Recycle mercury-containing lamp tubes when removed from service.
5. Follow appropriate safe work procedures when handling or disturbing silica, lead, and mould.

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



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1.0 INTRODUCTION AND SCOPE

Kawartha Pine Ridge District School Board (Client) retained Pinchin Ltd. (Pinchin) to conduct a hazardous building materials assessment of Crestwood Secondary School located at 1885 Sherbrooke Street West, Peterborough, Ontario.

Pinchin performed the assessment on January 8, 2021 and April 16, 2021. The surveyor was unaccompanied during the assessment. The assessed area was occupied by custodial staff at the time of the assessment.

The objective of the assessment was to identify specified hazardous building materials in preparation for building renovation activities.

The initial renovation scope of work included Kitchen 126 (Location 34) and Custodian Closet 126D (Location 36) in preparation for replacement of the Walk-in cooler unit.

The renovation scope of work increased to include an HVAC upgrade program which includes the following areas assessed areas:

- Mechanical Room (Location 84).
- Automotive Shop B109 (Location 89)
- Weight Room B108 (Location 75)
- Electrical Shop B107 (Location 92)
- Carpentry Shop B106 (Location 71)
- Kitchen 126 (Location 34)
- Corridor H10 (Location 225)
- Custodian Closet 126D (Location 36)
- Fan Room 124 (Location 49)
- Fan Room 124A (Location 50)

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

The assessment was performed to establish the type of specified hazardous building materials, locations and approximate quantities incorporated in the structure(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, exterior, etc.) to identify the hazardous building materials as defined in the scope.

The assessment included 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 was conducted where possible (under ceramic tiles, carpets or multiple layers of flooring). Demolition of exterior building finishes, masonry walls (chases, shafts etc.), and structural surrounds was not conducted.

Sampling of roofing materials was not conducted.

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	Secondary School.
Number of Floors	The building is three storeys plus one level below grade. Assessed area is limited to the ground floor.
Total Area	The total area of the building is 15,000 square feet. The assessed area is 3,000 square feet.
Year of Construction	The building was constructed in 1993 with additions in 1965, 1972 and 2008. The assessed area consists of the 1963 and 1965 phases of construction.
Structure	Steel, concrete.
Exterior Cladding	Not assessed.
HVAC	Hot water heating from boilers, HVAC rooftop units and air handling units.
Roof	Not assessed.
Flooring	Vinyl floor tile, rubber, terrazzo, ceramic tile and concrete.
Interior Walls	Ceramic tile, concrete block, metal and plaster.
Ceilings	Plaster and acoustic ceiling tiles.

3.2 Existing Reports

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

- “Asbestos Assessment, Crestwood Secondary School, 1885 Sherbrooke Street West, Peterborough, Ontario”, August 1, 2018. Pinchin File 217434.
- Hazardous Building Materials Assessment, Crestwood Secondary School, Classroom Refresh, 1885 Sherbrooke Street West, Peterborough, Ontario”, April 11, 2018. Pinchin File 218757.
- “2020 Asbestos Building Materials Reassessment, Crestwood Secondary School, 1885 Sherbrooke Street West, Peterborough, Ontario”, June 4, 2020. Pinchin File 249042.
- “Hazardous Building Materials Assessment, Kitchen 126 and Custodian Closet 126D, Crestwood Secondary School, 1885 Sherbrooke Street West, Peterborough, Ontario”, March 10, 2021. Pinchin File 285775.

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 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

Parging cement, containing chrysotile asbestos, is present on pipe fittings (elbows, tees) on various pipe systems (samples 0004A-C). Parging cement is a friable insulation, jacketed with canvas.

Sweatwrap insulation present in Weight Room B108 (Location 75) does not contain asbestos (samples 0003A-C). Sweatwrap insulation is present in Weight Room B108 (Location 75), but not in the assessed area.

Insulation on the straight sections of pipes consist of non-asbestos fibreglass insulation with canvas or PVC jacketing.

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



Asbestos-containing parging cement above walk-in cooler.



Asbestos-containing parging cement above walk-in cooler.



Asbestos-containing parging around AHU in Electrical Shop B107 (Location 92).



Asbestos-containing parging Fan Room 124 (Location 49).

4.1.2 Duct Insulation

Parging cement, containing chrysotile asbestos, is present over the edges, seams and pins of fibreglass insulation on ducts in Mechanical Room (Location 84), Fan Room 124 (Location 49) and Fan Room 124A (Location 50) (samples 0059A-C). Parging cement is a friable insulation, jacketed with canvas.

Glued-on paper, containing chrysotile asbestos, is present on joints and edges of ducts of Fan Room 124 (Location 49) and Fan Room 124A (Location 50) (samples 0061A-C). All paper on ducts is non-friable.

The remaining ducts are either uninsulated or insulated with non-asbestos fibreglass (foil-faced or canvas jacketing).



Asbestos-containing parging cement on pins of fibreglass ducts in Fan Room 124 (Location 49).



Asbestos-containing glued-on paper of fibreglass duct in Fan Room 124 (Location 49).

4.1.3 Mechanical Equipment Insulation

Fan units present in the assessed area uninsulated.

Mechanical equipment (e.g. compressor, coolers) is either uninsulated or insulated with non-asbestos fibreglass.



Uninsulated compressor.



Cooling unit.



Uninsulated fan unit.

4.1.4 Vermiculite

Destructive testing was conducted of a representative selection of masonry block walls, including creating penetrations at four locations. The locations of destructive testing have been indicated on the drawings in Appendix I.

Loose fill vermiculite was not observed within the cavities.

4.1.5 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
24" x 48", lay-in, fleck and pinhole	Kitchen 126 (Location 26)	2010	None

Size, Type, Pattern	Sample Locations	Sample Number or Date Code	Asbestos Type
24" x 48", lay-in, widthwise fissure and pinhole	Kitchen 126 (Location 26)	2015	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 stopped being used in acoustic ceiling tiles.



Non-asbestos 24" x 48", lay-in, fleck and pinhole ceiling tile in Kitchen 126 (Location 34).



Non-asbestos 24" x 48", lay-in width wise fissure and pinhole ceiling tile in Kitchen 126 (Location 34).

4.1.6 Plaster

Plaster, containing chrysotile and Actinolite/Tremolite asbestos, is present on ceilings, in Fan Room 124 (Location 49) (samples 0062A-C). The plaster is applied to metal lath. Plaster is a non-friable material which may become friable during removal (e.g. potentially friable).

Plaster present as a bulkhead in Mechanical Room (Location 84) does not contain asbestos (samples 0060A-C).

Plaster present as wall finishes in Automotive Shop (Location 89) and Electrical Shop (Location 92) does not contain asbestos (samples 0001A-G)



Non-asbestos plaster bulkheads in Mech Room (Location 84).



Asbestos-containing plaster ceilings in Fan Room 124 (Location 49).

4.1.7 Vinyl Floor Tiles

Vinyl floor tiles are present as follows:

Size, Pattern, Colour	Locations (Location #)	Sample Number	Asbestos Type (tile)	Asbestos Type (mastic)
12" x 12" beige with brown splotch	Inside coolers in Kitchen 126 (Location 26)	0056A-C	None detected	None detected
12" x 12" white with beige splotch	Inside coolers in Kitchen 126 (Location 26)	0057A-C	None detected	None detected
9" x 9" grey with white streaks	Electrical Shop B107 (Location 92)	0020A-C	Chrysotile	None Detected
12" x 12" grey and white splotch replacement tiles	Weight Room B108 (Location 75)	Not Sampled	None	None

The vinyl floor tiles are non-friable.

The 12" x 12" grey and white splotch replacement tiles are presumed to be non-asbestos based on historical knowledge of the date of installation. The tiles were replaced after 1993.

The 9" x 9" grey with white streaks vinyl floor tiles are present within Electrical Shop B107 (Location 92), but not in the assessed area.



Non-asbestos 12" x 12" beige with brown splotch vinyl floor tiles (left) and 12" x 12" white with beige splotch vinyl floor tiles (right).



Asbestos-containing 9" x 9" grey with white streak vinyl floor tiles.



Non-asbestos grey and white splotch replacement tiles.

4.1.8 Sealants, Caulking, and Putty

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

Material and Colour	Location (Location #)	Quantity	Sample Number	Asbestos Type
Caulking, grey	Penetrations in walk-in coolers of Kitchen 126 (Location 26)	5 linear feet	0058A-C	Chrysotile

Caulking is a non-friable material and in good condition.



Asbestos-containing grey caulking in walk-in cooler at wall penetration.



Asbestos-containing grey caulking in walk-in cooler at wall penetration.

4.1.9 Textile Products

Textile vibration dampers, presumed to contain asbestos, are present as duct connectors throughout the assessed area. Vibration dampers are non-friable.



Presumed asbestos textile vibration dampers on AHU in Fan Room 124A (Location 50).



Presumed asbestos textile vibration dampers on AHU in Electrical Shop B107 (Location 92).

4.1.10 Presumed Asbestos 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
- Floor levelling compound
- Ceramic tile setting compound
- Electrical components
- Terrazzo

- Sealants on pipe threads

4.2 Lead

4.2.1 Paints and Surface Coatings

Refer to the lab report(s) in Appendix II-B and the Hazardous Materials Summary Report in Appendix V for details on paints sampled and their locations.

The following table summarizes the analytical results.

Sample Number	Colour, Substrate Description	Sample Location	Lead (%)
L0001	White paint on metal walk-in cooler	Kitchen 126 (Location 34)	0.014
L0002	White paint on wood under compressor	Custodian Closet (Location 36)	0.022
L0003	Black paint on metal walk-in cooler	Kitchen 126 (Location 34)	0.011
L0004	White paint on metal AHU	Mech Room (Location 84)	0.014
L0005	White paint on metal AHU	Electrical Shop B107 (Location 92)	0.078
L0006	Dark grey paint on metal AHU	Fan Room 124 (Location 49)	0.031

All paints sampled were below the threshold of 0.1% (1,000 mg/kg).

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 EACO guideline.

All paints determined to contain lead were found to be in good condition and not flaking, peeling or delaminating.

4.2.2 Lead Products and Applications

Lead products were not found during the assessment.

4.2.3 Presumed 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
- Glazing on ceramic tiles

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
- Plaster
- Ceiling tiles
- Terrazzo

4.4 Mercury

4.4.1 Lamps

Mercury vapour is present in fluorescent lamp tubes.

4.4.2 Mercury-Containing Devices

Mercury-containing devices were not found during the assessment.

4.5 Polychlorinated Biphenyls

4.5.1 Caulking

Refer to the Hazardous Materials Summary Report in Appendix V for details on caulking sampled and their locations.

The following table presents a summary of caulking present:

Material and Colour	Location	Quantity	Sample Number	PCB concentration (ppm)
Caulking, grey	Penetrations in walk-in coolers of Kitchen 126 (Location 26)	15 linear feet	PCB01	2.4

Grey caulking is a non-PCB solid based on the threshold (50 ppm).

4.5.2 Lighting Ballasts

Based on information from the Client and confirmed by visual observations (evidence of T-5 or T-8 fixtures) the building has been comprehensively re-lamped and will not contain PCB ballasts.

4.5.3 Transformers

Transformers were not found during the assessment.

4.6 Mould

Visible mould growth and water staining is present on fibreglass pipe insulation wrapped in canvas above the walk-in cooler. There is approximately five linear feet of pipe insulation with visible mould growth.



Visible water damage and mould observed on fiberglass pipe insulation above walk-in cooler.

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, 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 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.

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.

5.2.2 Lead

For paints identified as having low levels of lead (i.e., less than the EACO 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.

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

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 Ontario regulations and guidelines.

5.2.4 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 Ontario regulations.



5.2.5 Mould

Use appropriate precautions and protect workers during removal, using methods that comply with provincial guidelines. A qualified consultant should specify, inspect and verify the successful removal of mould-impacted finishes.

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

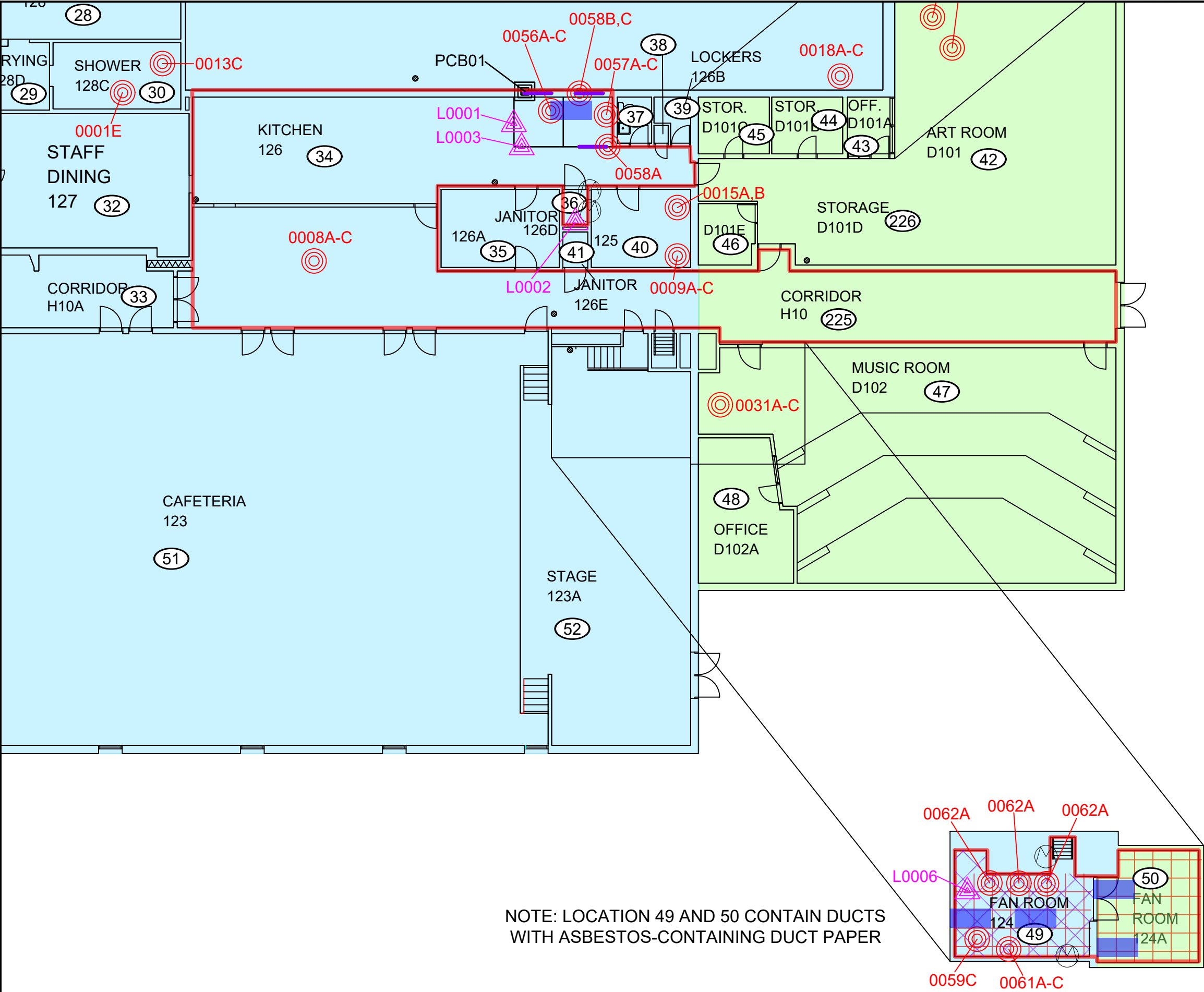
The following legislation and documents were referenced in completing the assessment and this report:

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 Ontario (EACO) 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. Surface Coating Materials Regulations, SOR/2016-193, Canada Consumer Product Safety Act.

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Template: Master Report for Hazardous Materials Assessment (Pre-Construction), HAZ, February 25, 2021

APPENDIX I
Drawings



N

LEGEND

(X)

PINCHIN LOCATION NUMBER

ASBESTOS BULK SAMPLE

LEAD BULK SAMPLE

PCB BULK SAMPLE

SURVEY BOUNDARY/ASSESSED AREA

VERMICULITE DRILLHOLE

ASBESTOS-CONTAINING MATERIALS:

CAULKING

PLASTER CEILING

PARGING CEMENT ON DUCTS

PARGING CEMENT ON PIPE FITTINGS

VINYL FLOOR TILES

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

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

KEY PLAN:

PROJECT NAME:

HAZARDOUS BUILDING MATERIALS ASSESSMENT

CLIENT NAME:

KAWARTHA PINE RIDGE DISTRICT SCHOOL BOARD

PROJECT LOCATION:

CRESTWOOD SECONDARY SCHOOL
1885 SHERBROOKE STREET WEST
PETERBOROUGH, ONTARIO

FIGURE NAME:

GROUND FLOOR

PROJECT NUMBER:

285775

SCALE:

NOT TO SCALE

DRAWN BY:

SD

REVIEWED BY:

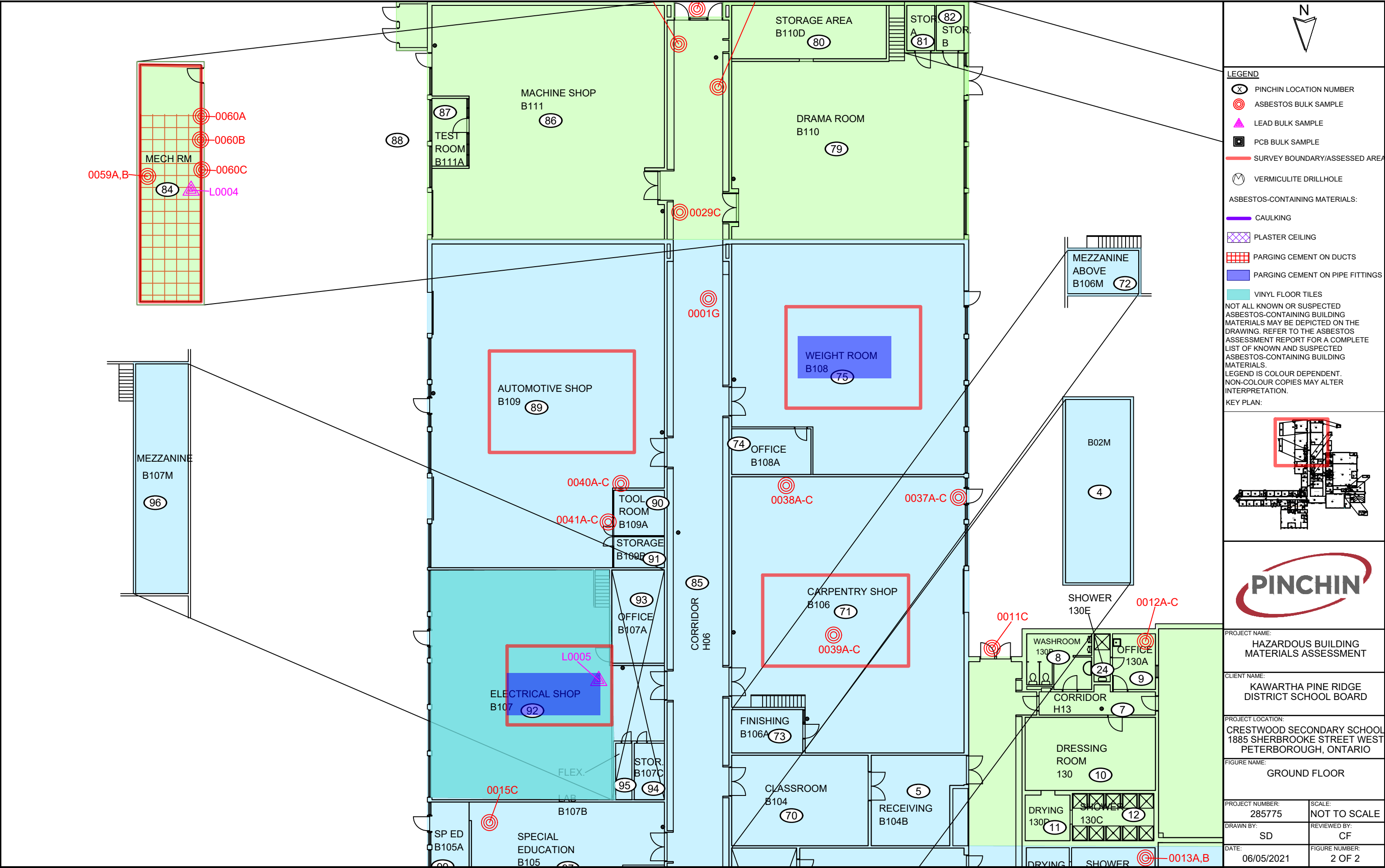
CF

DATE:

06/05/2021

FIGURE NUMBER:

1 OF 2



APPENDIX II-A
Asbestos Analytical Certificates



Pinchin Environmental Asbestos Laboratory Certificate of Analysis

Project Name:	Kawartha Pine Ridge District School Board Crestwood Secondary School, Peterborough		
Project No.:	58791	Date Received:	April 21, 2010
Prepared For:	Mike Wilson	Date Analyzed:	April 29, 2010
Lab Reference No.:	b71882	# Samples submitted:	34
Analyst(s):	W. Thompson	# Phases analyzed:	49

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. The percentage range category reported reflects the level of uncertainty of the method for estimating quantities of asbestos in bulk samples. A reported concentration of less than (<) the regulatory threshold (see chart below) indicates the presence of confirmed asbestos in trace quantities, limited to only a few fibres or fibre bundles in an entire sample. This method complies with all provincial regulatory requirements (NIOSH 9002, I.R.S.S.T. 244-2). Multiple phases within a sample are analyzed separately.

Provincial Jurisdiction	Regulatory Threshold	Provincial Jurisdiction	Regulatory Threshold
Ontario	0.5%	Manitoba	0.1% friable 1% non-friable
Quebec	0.1%	Saskatchewan	Unstated, likely 1.0%
Alberta, British Columbia, NWT, Yukon, Nunavut	1%	Atlantic Provinces	1%

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

Pinchin Environmental Ltd. is accredited by the National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101270-0 and 200795-0) for selected test methods for the identification of asbestos in bulk samples and meets all requirements of ISO/IEC 17025:2005 and relevant requirements of ISO 9002:1994. 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%. Supporting laboratory documentation is available upon request.*

Pinchin Environmental Asbestos Laboratory *Certificate of Analysis*

Project Name: Kawartha Pine Ridge District School Board
Crestwood Secondary School, Peterborough

Project No.: 58791

Prepared For: Mike Wilson

Lab Reference No.: b71882

Date Analyzed: April 29, 2010

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0001A Plaster - 2nd Floor Corridor at Room 201	2 Phases: a) Homogeneous, grey, hard, cementitious, plaster base coat.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, white, hard, cementitious, plaster top coat.	None Detected	Non-Fibrous Material > 75%
0001B Plaster - 2nd Floor Corridor at Room 201	2 Phases: a) Homogeneous, grey, hard, cementitious, plaster base coat.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, white, hard, cementitious, plaster top coat.	None Detected	Non-Fibrous Material > 75%
0001C Plaster - 3rd Floor at Lab Supplies Room	2 Phases: a) Homogeneous, grey, hard, cementitious, plaster base coat.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, white, hard, cementitious, plaster top coat.	None Detected	Non-Fibrous Material > 75%
0001D Plaster - 1st Floor Corridor	2 Phases: a) Homogeneous, grey, hard, cementitious, plaster base coat.	None Detected	Vermiculite 5-10% Other Non-Fibrous > 75%
	b) Homogeneous, white, hard, cementitious, plaster top coat.	None Detected	Non-Fibrous Material > 75%

ANALYST





Pinchin Environmental Asbestos Laboratory Certificate of Analysis

Project Name: Kawartha Pine Ridge District School Board
Crestwood Secondary School, Peterborough
Project No.: 58791
Prepared For: Mike Wilson

Lab Reference No.: b71882
Date Analyzed: April 29, 2010

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0001E Plaster - Boys Change Room Shower - 128C	Homogeneous, off-white, finishing or texture coat.	None Detected	Non-Fibrous Material > 75%
0001F Plaster - Girls Change Room Shower - Room 129C	2 Phases: a) Homogeneous, grey, hard, cementitious, plaster base coat.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, off-white, finishing or texture coat.	None Detected	Non-Fibrous Material > 75%
0001G Plaster - 1st Floor Corridor Room H06	2 Phases: a) Homogeneous, grey, hard, cementitious, plaster base coat.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, white, hard, cementitious, plaster top coat.	None Detected	Non-Fibrous Material > 75%
0002A Acoustic Ceiling Tile #1 - 2'x4' Thin Ridge, Medium Pinhole - Room A215	Homogeneous, beige, layered, compressed, acoustic ceiling tile.	None Detected	Cellulose 25-50% Mineral Wool 25-50% Perlite 10-25% Other Non-Fibrous 0.5-5%
0002B Acoustic Ceiling Tile #1 - 2'x4' Thin Ridge, Medium Pinhole - Room A215	Homogeneous, beige, layered, compressed, acoustic ceiling tile.	None Detected	Cellulose 25-50% Mineral Wool 25-50% Perlite 10-25% Other Non-Fibrous 0.5-5%

ANALYST

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Crestwood Secondary School, Peterborough

Project No.: 58791

Prepared For: Mike Wilson

Lab Reference No.: b71882

Date Analyzed: April 29, 2010

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0002C Acoustic Ceiling Tile #1 - 2'x4' Thin Ridge, Medium Pinhole - Room A215	Homogeneous, beige, layered, compressed, acoustic ceiling tile.	None Detected	Cellulose 25-50% Mineral Wool 25-50% Perlite 10-25% Other Non-Fibrous 0.5-5%
0003A Sweatwrap - Roof Drain, 2nd Floor Central Stairwell	2 Phases: a) Homogeneous, beige, layered paper.	None Detected	Cellulose > 75% Non-Fibrous Material 0.5-5%
	b) Homogeneous, black, tar with fibrous material.	None Detected	Cellulose 25-50% Tar and other non-fibrous 50-75%
0003B Sweatwrap - Roof Drain, 2nd Floor Central Stairwell	2 Phases: a) Homogeneous, beige, layered paper.	None Detected	Cellulose > 75% Non-Fibrous Material 0.5-5%
	b) Homogeneous, black, tar with fibrous material.	None Detected	Cellulose 25-50% Tar and other non-fibrous 50-75%
0003C Sweatwrap - Roof Drain, 2nd Floor Central Stairwell	2 Phases: a) Homogeneous, beige, layered paper.	None Detected	Cellulose > 75% Non-Fibrous Material 0.5-5%
	b) Homogeneous, black, tar with fibrous material.	None Detected	Cellulose 25-50% Tar and other non-fibrous 50-75%

ANALYST





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BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0004A Parging Cement - Hot Water Heating Pipe, 2nd Floor Corridor	Homogeneous, off-white, soft, parging cement.	Chrysotile 25-50%	Non-Fibrous Material 50-75%
0004B Parging Cement - Hot Water Heating Pipe, 2nd Floor Corridor			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0004C Parging Cement - Hot Water Heating Pipe, 2nd Floor Corridor			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0005A Vinyl Floor Tile - 12"x12" White with Blue and Black Streak - Room 112A	2 Phases: a) Homogeneous, off- white, consolidated, vinyl floor tile. b) Homogeneous, black, soft, sticky material on the back of vinyl floor tile.	Chrysotile 0.5-5% None Detected	Non-Fibrous Material > 75% Tar and other non- fibrous > 75%

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Crestwood Secondary School, Peterborough

Project No.: 58791

Prepared For: Mike Wilson

Lab Reference No.: b71882

Date Analyzed: April 29, 2010

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0005B Vinyl Floor Tile - 12"x12" White with Blue and Black Streak - Room 112A	2 Phases: a) Homogeneous, off-white, consolidated, vinyl floor tile. b) Homogeneous, black, soft, sticky material on the back of vinyl floor tile.	None Detected	Not Analyzed Tar and other non-fibrous > 75%
Comments:	Analysis of phase a) was stopped due to a previous positive result. Phase b) is small in size. For more reliable results, a larger sample is required.		
0005C Vinyl Floor Tile - 12"x12" White with Blue and Black Streak - Room 112A	2 Phases: a) Homogeneous, off-white, consolidated, vinyl floor tile. b) Homogeneous, black, soft, sticky material on the back of vinyl floor tile.	None Detected	Not Analyzed Tar and other non-fibrous > 75%
Comments:	Analysis of phase a) was stopped due to a previous positive result.		
0006A Texture Finish - Exterior Soffit at Vestibule H05A	Homogeneous, beige, finishing or texture coat.	Actinolite < 0.5%	Vermiculite 10-25% Other Non-Fibrous > 75%
0006B Texture Finish - Exterior Soffit at Vestibule H05A	Homogeneous, beige, finishing or texture coat.	None Detected	Vermiculite 10-25% Other Non-Fibrous > 75%
0006C Texture Finish - Exterior Soffit at Vestibule H05A	Homogeneous, beige, finishing or texture coat.	Actinolite < 0.5%	Vermiculite 10-25% Other Non-Fibrous > 75%

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BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0007A Vinyl Floor Tile - 12"x12" Pink Splotch - Vestibule H05A	2 Phases: a) Homogeneous, pink, 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 > 75%
Comments:	Phase b) is small in size. For more reliable results, a larger sample is required.		
0007B Vinyl Floor Tile - 12"x12" Pink Splotch - Vestibule H05A	2 Phases: a) Homogeneous, pink, 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 > 75%
0007C Vinyl Floor Tile - 12"x12" Pink Splotch - Vestibule H05A	2 Phases: a) Homogeneous, pink, 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 > 75%
0008A Acoustic Ceiling Tile #3 - 2'x2' Pinhole Pattern Corridor H10	Homogeneous, beige, compressed, acoustic ceiling tile.	None Detected	Cellulose 25-50% Mineral Wool 25-50% Perlite 10-25% Other Non-Fibrous 0.5-5%

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BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0008B Acoustic Ceiling Tile #3 - 2'x2' Pinhole Pattern Corridor H10	Homogeneous, beige, compressed, acoustic ceiling tile.	None Detected	Cellulose 25-50% Mineral Wool 25-50% Perlite 10-25% Other Non-Fibrous 0.5-5%
0008C Acoustic Ceiling Tile #3 - 2'x2' Pinhole Pattern Corridor H10	Homogeneous, beige, compressed, acoustic ceiling tile.	None Detected	Cellulose 25-50% Mineral Wool 25-50% Perlite 10-25% Other Non-Fibrous 0.5-5%
0009A Vinyl Floor Tile - 12"x12" Cream with Beige Splotch Room 126F	2 Phases: a) Homogeneous, off- white, consolidated, vinyl floor tile. b) Homogeneous, black, soft, sticky material on the back of vinyl floor tile.	None Detected None Detected	Non-Fibrous Material > 75% Tar and other non- fibrous > 75%
Comments:	Phase b) is small in size. For more reliable results, a larger sample is required.		
0009B Vinyl Floor Tile - 12"x12" Cream with Beige Splotch Room 126F	2 Phases: a) Homogeneous, off- white, consolidated, vinyl floor tile. b) Homogeneous, black, soft, sticky material on the back of vinyl floor tile.	None Detected None Detected	Non-Fibrous Material > 75% Tar and other non- fibrous > 75%

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Crestwood Secondary School, Peterborough

Project No.: 58791

Prepared For: Mike Wilson

Lab Reference No.: b71882

Date Analyzed: April 29, 2010

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0009C Vinyl Floor Tile - 12"x12" Cream with Beige Splotch Room 126F	2 Phases: a) Homogeneous, off-white, 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 > 75%
0010A Vinyl Floor Tile - 9"x9" Green with White Streak - Room 125C	2 Phases: a) Homogeneous, grey, consolidated, vinyl floor tile.	Chrysotile 0.5-5%	Non-Fibrous Material > 75%
	b) Homogeneous, black, soft, sticky material on the back of vinyl floor tile.	None Detected	Tar and other non-fibrous > 75%
0010B Vinyl Floor Tile - 9"x9" Green with White Streak - Room 125C	2 Phases: a) Homogeneous, grey, consolidated, vinyl floor tile.		Not Analyzed
	b) Homogeneous, black, soft, sticky material on the back of vinyl floor tile.	Chrysotile < 0.5%	Tar and other non-fibrous > 75%
Comments:	Analysis of phase a) was stopped due to a previous positive result. The asbestos present in phase b) may be due to contamination.		

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Crestwood Secondary School, Peterborough

Project No.: 58791

Prepared For: Mike Wilson

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BULK SAMPLE ANALYSIS

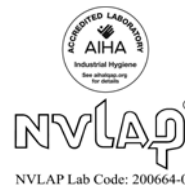
SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0010C Vinyl Floor Tile - 9"x9" Green with White Streak - Room 125C	2 Phases: a) Homogeneous, grey, consolidated, vinyl floor tile. b) Homogeneous, black, soft, sticky material on the back of vinyl floor tile.	None Detected	Not Analyzed Tar and other non- fibrous > 75%
Comments:	Analysis of phase a) was stopped due to a previous positive result.		

ANALYST



Bulk Asbestos Analysis

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



Customer: Pinchin Environmental Ltd
380 Armour Rd Suite 101
Peterborough, ON K9H 7L7

Attn: Tiffany Smith

Lab Order ID: 1108697

Analysis ID: 1108697PLM

Date Received: 6/21/2011

Project: Crestwood Secondary School

Date Reported: 6/30/2011

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S011A	Texture Coat - Exterior Soffit	None Detected		80% 20% Other Quartz	White, Gray Non Fibrous Heterogeneous
1108697PLM_1	small sample				Crushed
S011B	Texture Coat - Exterior Soffit	None Detected		80% 20% Other Quartz	White, Gray Non Fibrous Heterogeneous
1108697PLM_2	small sample				Crushed
S011C	Texture Coat - Exterior Soffit	None Detected		80% 20% Other Quartz	White, Gray Non Fibrous Heterogeneous
1108697PLM_3	small sample				Crushed
S012A	Vinyl floor tile - 9 x 9 Grey with brown and white streaks - Office 130A (Loc 9)	3% Chrysotile		97% Other	Gray Non Fibrous Heterogeneous
1108697PLM_4	tile only				Dissolved
S012B	Vinyl floor tile - 9 x 9 Grey with brown and white streaks - Office 130A (Loc 9)	Not Analyzed			
1108697PLM_5	tile only				
S012C - A	Vinyl floor tile - 9 x 9 Grey with brown and white streaks - Office 130A (Loc 9)	Not Analyzed			
1108697PLM_6	tile				
S012C - B	Vinyl floor tile - 9 x 9 Grey with brown and white streaks - Office 130A (Loc 9)	None Detected	3% Cellulose	97% Other	Black Non Fibrous Heterogeneous
1108697PLM_59	mastic				Dissolved
S013A	Texture coat - Showers 129C (Loc 19)	None Detected		100% Other	White Non Fibrous Heterogeneous
1108697PLM_7					Teased

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Ired Gulley (82)

Analyst

Scientific Analytical Institute, Inc. 302-L Pomona Dr. Greensboro, NC 27407 (336) 292-3888

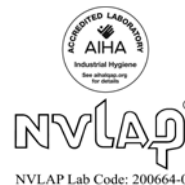
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Bulk Asbestos Analysis

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



Customer: Pinchin Environmental Ltd
380 Armour Rd Suite 101
Peterborough, ON K9H 7L7

Attn: Tiffany Smith

Lab Order ID: 1108697

Analysis ID: 1108697PLM

Date Received: 6/21/2011

Project: Crestwood Secondary School

Date Reported: 6/30/2011

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S013B	Texture coat - Showers 129C (Loc 19)	None Detected		100% Other	White Non Fibrous Heterogeneous
1108697PLM_8					Teased
S013C	Texture coat - Showers 128C (Loc 30)	None Detected		100% Other	White Non Fibrous Heterogeneous
1108697PLM_9					Teased
S014A - A	Vinyl floor tile - 9 x 9 White with green streaks - Office 129A (Loc 21)	3% Chrysotile		97% Other	White Non Fibrous Heterogeneous
1108697PLM_10	tile				Dissolved
S014A - B	Vinyl floor tile - 9 x 9 White with green streaks - Office 129A (Loc 21)	None Detected	5% Cellulose	95% Other	Black Non Fibrous Heterogeneous
1108697PLM_60	mastic				Dissolved
S014B - A	Vinyl floor tile - 9 x 9 White with green streaks - Office 129A (Loc 21)	Not Analyzed			
1108697PLM_11	tile				
S014B - B	Vinyl floor tile - 9 x 9 White with green streaks - Office 129A (Loc 21)	None Detected	5% Cellulose	95% Other	Black Non Fibrous Heterogeneous
1108697PLM_61	mastic				Dissolved
S014C - A	Vinyl floor tile - 9 x 9 White with green streaks - Office 129A (Loc 21)	Not Analyzed			
1108697PLM_12	tile				
S014C - B	Vinyl floor tile - 9 x 9 White with green streaks - Office 129A (Loc 21)	None Detected	5% Cellulose	95% Other	Black Non Fibrous Heterogeneous
1108697PLM_62	mastic				Dissolved

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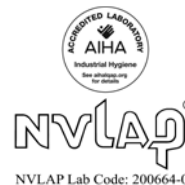
Analyst

Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis

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



Customer: Pinchin Environmental Ltd
380 Armour Rd Suite 101
Peterborough, ON K9H 7L7

Attn: Tiffany Smith

Lab Order ID: 1108697

Analysis ID: 1108697PLM

Date Received: 6/21/2011

Project: Crestwood Secondary School

Date Reported: 6/30/2011

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S015A	Drywall compound - Stores 125 (Loc 40)	None Detected		100% Other	White Non Fibrous Heterogeneous
1108697PLM_13					Teased
S015B	Drywall compound - Stores 125 (Loc 40)	None Detected		100% Other	White Non Fibrous Heterogeneous
1108697PLM_14					Teased
S015C	Drywall compound - B105 (Loc 97)	None Detected		100% Other	White Non Fibrous Heterogeneous
1108697PLM_15					Teased
S015D	Drywall compound - Classroom A302 (Loc 210)	None Detected		100% Other	White Non Fibrous Heterogeneous
1108697PLM_16					Teased
S015E	Drywall compound - Office A302A (Loc 211)	None Detected		100% Other	White Non Fibrous Heterogeneous
1108697PLM_17					Teased
S016A	AT05 - 1 x 1 Pinhole (2 sizes) - Classroom D101 (Loc 42)	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White Fibrous Heterogeneous
1108697PLM_18					Teased
S016B	AT05 - 1 x 1 Pinhole (2 sizes) - Classroom D101 (Loc 42)	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White Fibrous Heterogeneous
1108697PLM_19					Teased
S016C	AT05 - 1 x 1 Pinhole (2 sizes) - Classroom A209 (Loc 188)	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White Fibrous Heterogeneous
1108697PLM_20					Teased

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Ired Gulley (82)

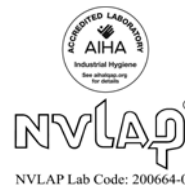
Analyst

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Bulk Asbestos Analysis

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



Customer: Pinchin Environmental Ltd
380 Armour Rd Suite 101
Peterborough, ON K9H 7L7

Attn: Tiffany Smith

Lab Order ID: 1108697

Analysis ID: 1108697PLM

Date Received: 6/21/2011

Project: Crestwood Secondary School

Date Reported: 6/30/2011

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S017A	AT07 - No pattern - Classroom D101 (Loc 42)	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White Fibrous Heterogeneous
1108697PLM_21					Teased
S017B	AT07 - No pattern - Classroom D101 (Loc 42)	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White Fibrous Heterogeneous
1108697PLM_22					Teased
S017C	AT07 - No pattern - Classroom D101 (Loc 42)	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White Fibrous Heterogeneous
1108697PLM_23					Teased
S018A - A	Vinyl floor tile - 9 x 9 Brown with brown and white streaks - Office D101A (Loc tile)	3% Chrysotile		97% Other	Brown Non Fibrous Heterogeneous
1108697PLM_24					Dissolved
S018A - B	Vinyl floor tile - 9 x 9 Brown with brown and white streaks - Office D101A (Loc mastic)	None Detected	5% Cellulose	95% Other	Black Non Fibrous Heterogeneous
1108697PLM_63					Dissolved
S018B - A	Vinyl floor tile - 9 x 9 Brown with brown and white streaks - Office D101A (Loc tile)	Not Analyzed			
1108697PLM_25					
S018B - B	Vinyl floor tile - 9 x 9 Brown with brown and white streaks - Office D101A (Loc mastic)	None Detected	5% Cellulose	95% Other	Black Non Fibrous Heterogeneous
1108697PLM_64					Dissolved
S018C - A	Vinyl floor tile - 9 x 9 Brown with brown and white streaks - Office D101A (Loc tile)	Not Analyzed			
1108697PLM_26					

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Ired Gulley (82)

Analyst

Scientific Analytical Institute, Inc. 302-L Pomona Dr. Greensboro, NC 27407 (336) 292-3888

Nathaniel Durham, MS or Approved Signatory

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Bulk Asbestos Analysis

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



Customer: Pinchin Environmental Ltd
380 Armour Rd Suite 101
Peterborough, ON K9H 7L7

Attn: Tiffany Smith

Lab Order ID: 1108697

Analysis ID: 1108697PLM

Date Received: 6/21/2011

Project: Crestwood Secondary School

Date Reported: 6/30/2011

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S018C - B	Vinyl floor tile - 9 x 9 Brown with brown and white streaks - Office D101A (Loc	None Detected	5% Cellulose	95% Other	Black Non Fibrous Heterogeneous
1108697PLM_65	mastic				Dissolved
S019A	Parging cement on DUCT in Fan Room 124 (Loc 49)	30% Chrysotile		70% Other	Gray Fibrous Heterogeneous
1108697PLM_27					Teased
S019B	Parging cement on DUCT in Fan Room 124 (Loc 49)	Not Analyzed			
1108697PLM_28					
S019C	Parging cement on DUCT in Fan Room 124 (Loc 49)	Not Analyzed			
1108697PLM_29					
S020A - A	Vinyl floor tile - 9 x 9 Grey with white streaks - Custodian Work Room 132 (Loc 55)	3% Chrysotile		97% Other	Gray Non Fibrous Heterogeneous
1108697PLM_30	tile				Dissolved
S020A - B	Vinyl floor tile - 9 x 9 Grey with white streaks - Custodian Work Room 132 (Loc 55)	None Detected	5% Cellulose	95% Other	Black Non Fibrous Heterogeneous
1108697PLM_66	mastic				Dissolved
S020B - A	Vinyl floor tile - 9 x 9 Grey with white streaks - Custodian Work Room 132 (Loc 55)	Not Analyzed			
1108697PLM_31	tile				
S020B - B	Vinyl floor tile - 9 x 9 Grey with white streaks - Custodian Work Room 132 (Loc 55)	None Detected	3% Cellulose	97% Other	Black Non Fibrous Heterogeneous
1108697PLM_67	mastic				Dissolved

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Analyst

Scientific Analytical Institute, Inc. 302-L Pomona Dr. Greensboro, NC 27407 (336) 292-3888

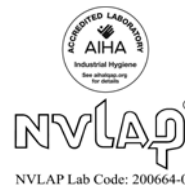
Nathaniel Durham, MS or Approved Signatory

Page 5 of 11



Bulk Asbestos Analysis

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



Customer: Pinchin Environmental Ltd
380 Armour Rd Suite 101
Peterborough, ON K9H 7L7

Attn: Tiffany Smith

Lab Order ID: 1108697

Analysis ID: 1108697PLM

Date Received: 6/21/2011

Project: Crestwood Secondary School

Date Reported: 6/30/2011

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S020C - A	Vinyl floor tile - 9 x 9 Grey with white streaks - Custodian Work Room 132 (Loc 55)	Not Analyzed			
1108697PLM_32	tile				
S020C - B	Vinyl floor tile - 9 x 9 Grey with white streaks - Custodian Work Room 132 (Loc 55)	None Detected	5% Cellulose	95% Other	Black Non Fibrous Heterogeneous
1108697PLM_68	mastic				Dissolved
S021A	AT10 - 1 x 1 Ridges - Classroom B102 (Loc 63)	None Detected	85% Fiber Glass 10% Cellulose	5% Other	White Fibrous Heterogeneous
1108697PLM_33					Teased
S021B	AT10 - 1 x 1 Ridges - Classroom B102 (Loc 63)	None Detected	85% Fiber Glass 10% Cellulose	5% Other	White Fibrous Heterogeneous
1108697PLM_34					Teased
S021C	AT10 - 1 x 1 Ridges - Classroom B102 (Loc 63)	None Detected	85% Fiber Glass 10% Cellulose	5% Other	White Fibrous Heterogeneous
1108697PLM_35					Teased
S022A	Vinyl floor tile - 12 x 12 White with large blacks streaks - Washroom B102A	3% Chrysotile		97% Other	White Non Fibrous Heterogeneous
1108697PLM_36	tile only				Dissolved
S022B - A	Vinyl floor tile - 12 x 12 White with large blacks streaks - Washroom B102A	Not Analyzed			
1108697PLM_37	tile				
S022B - B	Vinyl floor tile - 12 x 12 White with large blacks streaks - Washroom B102A	None Detected	5% Cellulose	95% Other	Black Non Fibrous Heterogeneous
1108697PLM_69	mastic				Dissolved

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Ired Gulley (82)

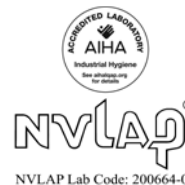
Analyst

Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis

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



Customer: Pinchin Environmental Ltd
380 Armour Rd Suite 101
Peterborough, ON K9H 7L7

Attn: Tiffany Smith

Lab Order ID: 1108697

Analysis ID: 1108697PLM

Date Received: 6/21/2011

Project: Crestwood Secondary School

Date Reported: 6/30/2011

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S022C	Vinyl floor tile - 12 x 12 White with large blacks streaks - Washroom B102A	Not Analyzed			
1108697PLM_38	tile only				
S023A - A	Vinyl floor tile - 12 x 12 White with thin blacks streaks - Washroom B102A	None Detected		100% Other	White Non Fibrous Heterogeneous
1108697PLM_39	tile				Dissolved
S023A - B	Vinyl floor tile - 12 x 12 White with thin blacks streaks - Washroom B102A	None Detected	3% Cellulose	97% Other	Yellow, Black Non Fibrous Heterogeneous
1108697PLM_70	mastic				Dissolved
S023B - A	Vinyl floor tile - 12 x 12 White with thin blacks streaks - Washroom B102A	None Detected		100% Other	White Non Fibrous Heterogeneous
1108697PLM_40	tile				Dissolved
S023B - B	Vinyl floor tile - 12 x 12 White with thin blacks streaks - Washroom B102A	None Detected	3% Cellulose	97% Other	Black Non Fibrous Heterogeneous
1108697PLM_71	mastic				Dissolved
S023C - A	Vinyl floor tile - 12 x 12 White with thin blacks streaks - Washroom B102A	None Detected		100% Other	White Non Fibrous Heterogeneous
1108697PLM_41	tile				Dissolved
S023C - B	Vinyl floor tile - 12 x 12 White with thin blacks streaks - Washroom B102A	None Detected	3% Cellulose	97% Other	Black Non Fibrous Heterogeneous
1108697PLM_72	mastic				Dissolved
S024A - A	Vinyl floor tile - 12 x 12 Gold with white streaks - Classroom B103 (Loc 100)	3% Chrysotile		97% Other	Tan Non Fibrous Heterogeneous
1108697PLM_42	tile				Dissolved

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Ired Gulley (82)

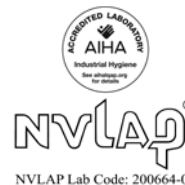
Analyst

Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis

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



Customer: Pinchin Environmental Ltd
380 Armour Rd Suite 101
Peterborough, ON K9H 7L7

Attn: Tiffany Smith

Lab Order ID: 1108697

Analysis ID: 1108697PLM

Date Received: 6/21/2011

Date Reported: 6/30/2011

Project: Crestwood Secondary School

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S024A - B	Vinyl floor tile - 12 x 12 Gold with white streaks - Classroom B103 (Loc 100)	None Detected	3% Cellulose	97% Other	Black Non Fibrous Heterogeneous
1108697PLM_73	mastic				Dissolved
S024B - A	Vinyl floor tile - 12 x 12 Gold with white streaks - Classroom B103 (Loc 100)	Not Analyzed			
1108697PLM_43	tile				
S024B - B	Vinyl floor tile - 12 x 12 Gold with white streaks - Classroom B103 (Loc 100)	None Detected	3% Cellulose	97% Other	Black Non Fibrous Heterogeneous
1108697PLM_74	mastic				Dissolved
S024C - A	Vinyl floor tile - 12 x 12 Gold with white streaks - Classroom B103 (Loc 100)	Not Analyzed			
1108697PLM_44	tile				
S024C - B	Vinyl floor tile - 12 x 12 Gold with white streaks - Classroom B103 (Loc 100)	None Detected	3% Cellulose	97% Other	Black Non Fibrous Heterogeneous
1108697PLM_75	mastic				Dissolved
S025A	Plaster - Corridor H03 (Loc 105)	None Detected		100% Other	White Non Fibrous Heterogeneous
1108697PLM_45	single layer plaster				Crushed
S025B - A	Plaster - Corridor H03 (Loc 105)	None Detected		100% Other	White Non Fibrous Heterogeneous
1108697PLM_46	finish				Crushed
S025B - B	Plaster - Corridor H03 (Loc 105)	None Detected		80% Other 20% Quartz	Gray Non Fibrous Heterogeneous
1108697PLM_76	base				Crushed

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Ired Gulley (82)

Analyst

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Bulk Asbestos Analysis

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



Customer: Pinchin Environmental Ltd
380 Armour Rd Suite 101
Peterborough, ON K9H 7L7

Attn: Tiffany Smith

Lab Order ID: 1108697

Analysis ID: 1108697PLM

Date Received: 6/21/2011

Project: Crestwood Secondary School

Date Reported: 6/30/2011

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S025C - A	Plaster - Corridor H03 (Loc 105)	None Detected		100% Other	White Non Fibrous Heterogeneous
1108697PLM_47	finish				Crushed
S025C - B	Plaster - Corridor H03 (Loc 105)	None Detected		80% Other 20% Quartz	Gray Non Fibrous Heterogeneous
1108697PLM_77	base				Crushed
S025D - A	Plaster - Corridor H02 (Loc 168)	None Detected		100% Other	White Non Fibrous Heterogeneous
1108697PLM_48	finish				Crushed
S025D - B	Plaster - Corridor H02 (Loc 168)	None Detected		80% Other 20% Quartz	Gray Non Fibrous Heterogeneous
1108697PLM_78	base				Crushed
S025E - A	Plaster - Corridor H01 (Loc 196)	None Detected		100% Other	White Non Fibrous Heterogeneous
1108697PLM_49	finish				Crushed
S025E - B	Plaster - Corridor H01 (Loc 196)	None Detected		80% Other 20% Quartz	Gray Non Fibrous Heterogeneous
1108697PLM_79	base				Crushed
S026A	Drywall compound - Corridor H03 (Loc 105)	None Detected		100% Other	White Non Fibrous Heterogeneous
1108697PLM_50					Teased
S026B	Drywall compound - Corridor H03 (Loc 105)	None Detected		100% Other	White Non Fibrous Heterogeneous
1108697PLM_51					Teased

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Analyst

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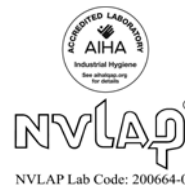
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Page 9 of 11



Bulk Asbestos Analysis

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



Customer: Pinchin Environmental Ltd
380 Armour Rd Suite 101
Peterborough, ON K9H 7L7

Attn: Tiffany Smith

Lab Order ID: 1108697

Analysis ID: 1108697PLM

Date Received: 6/21/2011

Project: Crestwood Secondary School

Date Reported: 6/30/2011

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S026C	Drywall compound - Second Floor Vestibule (Loc 183)	None Detected		100% Other	White Non Fibrous Heterogeneous
1108697PLM_52					Teased
S027A	AT13 - 1 x 1 Small, med, large pinhole - Conf. Room A113 (Loc 114)	None Detected	90% Fiber Glass 5% Cellulose	5% Other	White Fibrous Heterogeneous
1108697PLM_53					Teased
S027B	AT13 - 1 x 1 Small, med, large pinhole - Conf. Room A113 (Loc 114)	None Detected	90% Fiber Glass 5% Cellulose	5% Other	White Fibrous Heterogeneous
1108697PLM_54					Teased
S027C	AT13 - 1 x 1 Small, med, large pinhole - Conf. Room A113 (Loc 114)	None Detected	90% Fiber Glass 5% Cellulose	5% Other	White Fibrous Heterogeneous
1108697PLM_55					Teased
S028A - A	Vinyl floor tile - 9 x 9 Dark grey with white streaks - Office A202A	3% Chrysotile		97% Other	Gray Non Fibrous Heterogeneous
1108697PLM_56	tile				Dissolved
S028A - B	Vinyl floor tile - 9 x 9 Dark grey with white streaks - Office A202A	None Detected	5% Cellulose	95% Other	Black Non Fibrous Heterogeneous
1108697PLM_80	mastic				Dissolved
S028B - A	Vinyl floor tile - 9 x 9 Dark grey with white streaks - Office A202A	Not Analyzed			
1108697PLM_57	tile				
S028B - B	Vinyl floor tile - 9 x 9 Dark grey with white streaks - Office A202A	None Detected	3% Cellulose	97% Other	Black Non Fibrous Heterogeneous
1108697PLM_81	mastic				Dissolved

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Ired Gulley (82)

Analyst

Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis

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



Customer: Pinchin Environmental Ltd
380 Armour Rd Suite 101
Peterborough, ON K9H 7L7

Attn: Tiffany Smith

Lab Order ID: 1108697

Analysis ID: 1108697PLM

Date Received: 6/21/2011

Project: Crestwood Secondary School

Date Reported: 6/30/2011

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S028C - A	Vinyl floor tile - 9 x 9 Dark grey with white streaks - Office A202A	Not Analyzed			
1108697PLM_58	tile				
S028C - B	Vinyl floor tile - 9 x 9 Dark grey with white streaks - Office A202A	None Detected	3% Cellulose	97% Other	Black Non Fibrous Heterogeneous
1108697PLM_82	mastic				Dissolved

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Ired Gulley (82)

Analyst

Nathaniel Durham, MS or Approved Signatory

1108697

Client:	Pinchin Environmental Ltd.	*Instructions: Use Column "B" for your contact info. To See an Example Click the bottom Example Tab. Enter samples between "<<" and ">>" 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" 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.	Scientific Analytical Institute, Inc. 302-L Pomona Dr. Greensboro, NC 27407 Phone: 336.292.3888 Fax: 336.292.3313 Email: lab@sallab.com
Contact:	Tiffany Smith		
Address:	380 Armour Rd., Suite 101		
Phone:	(7050 748-4627		
Fax:	(705) 748-6927		
Email:	tsmith@pinchin.com		
Project:	Crestwood Secondary School		
Client Notes:	Stop on positive		
P.O. #	59723		
Date Submitted:	6/20/2011 0:00		
Analysis:	Asbestos analysis		
Turn Around Time:	144 Hours +		

Sample Number	Data 1	Sample Description	Data 2
<<			
S011A		Texture Coat - Exterior Soffit	
S011B		Texture Coat - Exterior Soffit	
S011C		Texture Coat - Exterior Soffit	
S012A		Vinyl floor tile - 9 x 9 Grey with brown and white streaks - Office 130A (Loc 9)	
S012B		Vinyl floor tile - 9 x 9 Grey with brown and white streaks - Office 130A (Loc 9)	
S012C		Vinyl floor tile - 9 x 9 Grey with brown and white streaks - Office 130A (Loc 9)	
S013A		Texture coat - Showers 129C (Loc 19)	
S013B		Texture coat - Showers 129C (Loc 19)	
S013C		Texture coat - Showers 128C (Loc 30)	
S014A		Vinyl floor tile - 9 x 9 White with green streaks - Office 129A (Loc 21)	
S014B		Vinyl floor tile - 9 x 9 White with green streaks - Office 129A (Loc 21)	
S014C		Vinyl floor tile - 9 x 9 White with green streaks - Office 129A (Loc 21)	
S015A		Drywall compound - Stores 125 (Loc 40)	
S015B		Drywall compound - Stores 125 (Loc 40)	
S015C		Drywall compound - B105 (Loc 97)	
S015D		Drywall compound - Classroom A302 (Loc 210)	
S015E		Drywall compound - Office A302A (Loc 211)	
S016A		AT05 - 1 x 1 Pinhole (2 sizes) - Classroom D101 (Loc 42)	

Accepted ☒

Rejected ☐

ACB 6-21 10A

1108697

S016B	AT05 - 1 x 1 Pinhole (2 sizes) - Classroom D101 (Loc 42)
S016C	AT05 - 1 x 1 Pinhole (2 sizes) - Classroom A209 (Loc 188)
S017A	AT07 - No pattern - Classroom D101 (Loc 42)
S017B	AT07 - No pattern - Classroom D101 (Loc 42)
S017C	AT07 - No pattern - Classroom D101 (Loc 42)
S018A	Vinyl floor tile - 9 x 9 Brown with brown and white streaks - Office D101A (Loc 43)
S018B	Vinyl floor tile - 9 x 9 Brown with brown and white streaks - Office D101A (Loc 43)
S018C	Vinyl floor tile - 9 x 9 Brown with brown and white streaks - Office D101A (Loc 43)
S019A	Parging cement on DUCT in Fan Room 124 (Loc 49)
S019B	Parging cement on DUCT in Fan Room 124 (Loc 49)
S019C	Parging cement on DUCT in Fan Room 124 (Loc 49)
S020A	Vinyl floor tile - 9 x 9 Grey with white streaks - Custodian Work Room 132 (Loc 55)
S020B	Vinyl floor tile - 9 x 9 Grey with white streaks - Custodian Work Room 132 (Loc 55)
S020C	Vinyl floor tile - 9 x 9 Grey with white streaks - Custodian Work Room 132 (Loc 55)
S021A	AT10 - 1 x 1 Ridges - Classroom B102 (Loc 63)
S021B	AT10 - 1 x 1 Ridges - Classroom B102 (Loc 63)
S021C	AT10 - 1 x 1 Ridges - Classroom B102 (Loc 63)
S022A	Vinyl floor tile - 12 x 12 White with large blacks streaks - Washroom B102A (Loc 64)
S022B	Vinyl floor tile - 12 x 12 White with large blacks streaks - Washroom B102A (Loc 64)
S022C	Vinyl floor tile - 12 x 12 White with large blacks streaks - Washroom B102A (Loc 64)
S023A	Vinyl floor tile - 12 x 12 White with thin blacks streaks - Washroom B102A (Loc 64)
S023B	Vinyl floor tile - 12 x 12 White with thin blacks streaks - Washroom B102A (Loc 64)
S023C	Vinyl floor tile - 12 x 12 White with thin blacks streaks - Washroom B102A (Loc 64)
S024A	Vinyl floor tile - 12 x 12 Gold with white streaks - Classroom B103 (Loc 100)
S024B	Vinyl floor tile - 12 x 12 Gold with white streaks - Classroom B103 (Loc 100)
S024C	Vinyl floor tile - 12 x 12 Gold with white streaks - Classroom B103 (Loc 100)
S025A	Plaster - Corridor H03 (Loc 105)
S025B	Plaster - Corridor H03 (Loc 105)
S025C	Plaster - Corridor H03 (Loc 105)
S025D	Plaster - Corridor H02 (Loc 168)
S025E	Plaster - Corridor H01 (Loc 196)
S026A	Drywall compound - Corridor H03 (Loc 105)
S026B	Drywall compound - Corridor H03 (Loc 105)
S026C	Drywall compound - Second Floor Vestibule (Loc 183)
S027A	AT13 - 1 x 1 Small, med, large pinhole - Conf. Room A113 (Loc 114)
S027B	AT13 - 1 x 1 Small, med, large pinhole - Conf. Room A113 (Loc 114)
S027C	AT13 - 1 x 1 Small, med, large pinhole - Conf. Room A113 (Loc 114)

1108697

S028A

S028B

S028C

>>

Vinyl floor tile - 9 x 9 Dark grey with white streaks - Office A202A

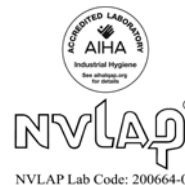
Vinyl floor tile - 9 x 9 Dark grey with white streaks - Office A202A

Vinyl floor tile - 9 x 9 Dark grey with white streaks - Office A202A



Bulk Asbestos Analysis

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



Customer: Pinchin Environmental Ltd
2470 Milltower Court
Mississauga, ONT L5N 7W5

Attn: Bryan Guindon

Lab Order ID: 1208572

Analysis ID: 1208572PLM

Date Received: 5/21/2012

Date Reported: 6/1/2012

Project: KPRDSB-Crestwood SS 72034
Crestwood Secondary School

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S029A - A	Wall plaster, Loc 85 by Machine Shop, 1963 YOC	None Detected		100% Other	White Non Fibrous Homogeneous
1208572PLM_1	finish				Crushed
S029A - B	Wall plaster, Loc 85 by Machine Shop, 1963 YOC	None Detected	2% Cellulose	98% Other	Gray Non Fibrous Heterogeneous
1208572PLM_13	base				Crushed
S029B - A	Wall plaster, Loc 85 by Machine Shop, 1963 YOC	None Detected		100% Other	White Non Fibrous Homogeneous
1208572PLM_2	finish				Crushed
S029B - B	Wall plaster, Loc 85 by Machine Shop, 1963 YOC	None Detected	2% Cellulose	98% Other	Gray Non Fibrous Heterogeneous
1208572PLM_14	base				Crushed
S029C - A	Wall plaster, Loc 85 by Machine Shop, 1963 YOC	None Detected		100% Other	White Non Fibrous Homogeneous
1208572PLM_3	finish				Crushed
S029C - B	Wall plaster, Loc 85 by Machine Shop, 1963 YOC	None Detected	2% Cellulose	98% Other	Gray Non Fibrous Heterogeneous
1208572PLM_15	base				Crushed
S030A	DJC column, Library, Loc 149, 1972 YOC	3% Chrysotile		97% Other	Tan Non Fibrous Homogeneous
1208572PLM_4					Crushed
S030B	DJC bulkhead, Loc 149 Library, 1972 YOC	Not Analyzed			
1208572PLM_5					

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Bart Huber (18)

Analyst

Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis

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



Customer: Pinchin Environmental Ltd
2470 Milltower Court
Mississauga, ONT L5N 7W5

Attn: Bryan Guindon

Lab Order ID: 1208572

Analysis ID: 1208572PLM

Date Received: 5/21/2012

Project: KPRDSB-Crestwood SS 72034
Crestwood Secondary School

Date Reported: 6/1/2012

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S030C	DJC Column Loc 149, Library 1972 YOC	Not Analyzed			
1208572PLM_6					
S031A	Bulkhead plaster, Music Room, Loc 47 480SF	5% Chrysotile		95% Other	White Non Fibrous Homogeneous
1208572PLM_7					Crushed
S031B	Bulkhead plaster, Music Room, Loc 47 480SF	Not Analyzed			
1208572PLM_8					
S031C	Bulkhead plaster, Music Room, Loc 47 480SF	Not Analyzed			
1208572PLM_9					
S032A - A	wall plaster above lockers, Loc 168 Corridor	None Detected		100% Other	White Non Fibrous Homogeneous
1208572PLM_10	finish				Crushed
S032A - B	wall plaster above lockers, Loc 168 Corridor	None Detected	2% Cellulose	98% Other	Gray Non Fibrous Heterogeneous
1208572PLM_16	base				Crushed
S032B - A	wall plaster above lockers, Loc 168 Corridor	None Detected		100% Other	White Non Fibrous Homogeneous
1208572PLM_11	finish				Crushed
S032B - B	wall plaster above lockers, Loc 168 Corridor	None Detected	2% Cellulose	98% Other	Gray Non Fibrous Heterogeneous
1208572PLM_17	base				Crushed

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Analyst

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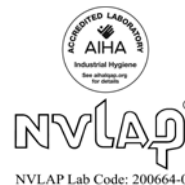
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Page 2 of 3



Bulk Asbestos Analysis

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



Customer: Pinchin Environmental Ltd
2470 Milltower Court
Mississauga, ONT L5N 7W5

Attn: Bryan Guindon

Lab Order ID: 1208572

Analysis ID: 1208572PLM

Date Received: 5/21/2012

Date Reported: 6/1/2012

Project: KPRDSB-Crestwood SS 72034
Crestwood Secondary School

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S032C - A	wall plaster above lockers, Loc 168 Corridor	None Detected		100% Other	White Non Fibrous Homogeneous
1208572PLM_12	finish				Crushed
S032C - B	wall plaster above lockers, Loc 168 Corridor	None Detected	2% Cellulose	98% Other	Gray Non Fibrous Heterogeneous
1208572PLM_18	base				Crushed

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


Bart Huber (18)

Analyst

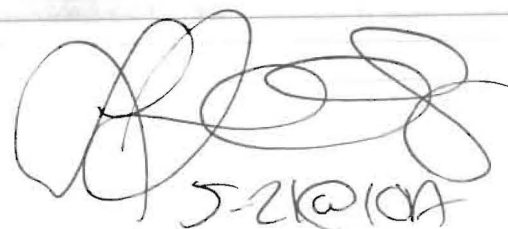
Nathaniel Durham, MS or Approved Signatory

1208572

Version 1-15-2012

Client:	Pinchin Environmental Ltd.	*Instructions: Use Column "B" for your contact info To See an Example Click the bottom Example Tab. Enter samples between "<<" and ">>" 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" 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.	Scientific Analytical Institute  4604 Dundas Dr. Greensboro, NC 27407 Phone: 336.292.3888 Fax: 336.292.3313 Email: lab@sailab.com
Contact:	Bryan Guindon		
Address:	2470 Milltower court		
Phone:	905-363-0678		
Fax:	905-363-0681		
Email:	bguindon@pinchin.com		
Project:	KPRDSB- Crestwood SS		
Client Notes:	Crestwood Secondary School		
P.O. #.	[Enter P.O. # Here]		
Date Submitted:	5/16/2012 0:00		
Number of samples	12		
Analysis:	PLM- Asbestos		
TurnAroundTime:	Regular turnaround		

Sample Number	Data 1 (Lab use only)	Sample Description	Data 2 (Lab use only)
<<			
S029A	[Enter data of your choosing here]	Wall plaster, Loc 85 by Machine Shop, 1963 YOC	[Enter data of your choosing here]
S029B	[Enter data of your choosing here]	Wall plaster, Loc 85 by Machine Shop, 1963 YOC	[Enter data of your choosing here]
S029C	[Enter data of your choosing here]	Wall plaster, Loc 85 by Machine Shop, 1963 YOC	[Enter data of your choosing here]
S030A	[Enter data of your choosing here]	DJC column, Library, Loc 149, 1972 YOC	[Enter data of your choosing here]
S030B	[Enter data of your choosing here]	DJC bulkhead, Loc 149 Library, 1972 YOC	[Enter data of your choosing here]
S030C	[Enter data of your choosing here]	DJC Column Loc 149, Library 1972 YOC	[Enter data of your choosing here]
S031A	[Enter data of your choosing here]	Bulkhead plaster, Music Room, Loc 47 480SF	[Enter data of your choosing here]
S031B	[Enter data of your choosing here]	Bulkhead plaster, Music Room, Loc 47 480SF	[Enter data of your choosing here]
S031C	[Enter data of your choosing here]	Bulkhead plaster, Music Room, Loc 47 480SF	[Enter data of your choosing here]
S032A		wall plaster above lockers, Loc 168 Corridor	
S032B		wall plaster above lockers, Loc 168 Corridor	
S032C		wall plaster above lockers, Loc 168 Corridor	
>>			



5-21-10A

Accepted ☒

Rejected ☐

Pinchin Environmental Asbestos Laboratory *Certificate of Analysis*

Project Name:	Kawartha Pine Ridge District School Board Crestwood SS, 1885 Sherbrooke St. W		
Project No.:	79721		
Prepared For:	B. Guindon	Date Received:	May 21, 2013
Lab Reference No.:	b98949	Date Analyzed:	May 28, 2013
Analyst(s):	K. Cockburn-Swance	# Samples submitted:	1
		# Phases analyzed:	1

Method of Analysis:

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

Bulk samples are checked visually and scanned under a stereomicroscope. Slides are prepared and observed under a Polarized Light Microscope (PLM) at magnifications of 40X, 100X or 400X as appropriate. Asbestos fibres are identified by a combination of morphology, colour, refractive index, extinction, sign of elongation, birefringence and dispersion staining colours. A visual estimate is made of the percentage of asbestos present. A reported concentration of less than (<) the regulatory threshold (see chart below) indicates the presence of confirmed asbestos in trace quantities, limited to only a few fibres or fibre bundles in an entire sample. This method complies with all provincial regulatory requirements (NIOSH 9002, I.R.S.S.T. 244-2). Multiple phases within a sample are analyzed and reported separately.

Provincial Jurisdiction	Regulatory Threshold	Provincial Jurisdiction	Regulatory Threshold
Ontario, British Columbia	0.5%	Manitoba	0.1% friable 1% non-friable
Quebec	0.1%	Saskatchewan	0.1% friable 1% non-friable
Alberta, NWT, Yukon, Nunavut	1%	Atlantic Provinces	1%

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

Pinchin Environmental Ltd. 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 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 Environmental Asbestos Laboratory
Certificate of Analysis

Project Name: Kawartha Pine Ridge District School Board

Crestwood SS, 1885 Sherbrooke St. W

Project No.: 79721

Prepared For: B. Guindon

Lab Reference No.: b98949

Date Analyzed: May 28, 2013

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0033A Aircell Pipe Insulation, Location 65, DHW pipe insulation	Homogeneous, off-white, layered, corrugated paper.	Chrysotile 50-75%	Cellulose 25-50% Non-Fibrous Material 5-10%

ANALYST



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	KPRDSB, Crestwood SS, 1885 Sherbrooke Street, Peterborough, ON		
Project No.:	112696		
Prepared For:	C. Fennell / M. Wilson	Date Received:	February 8, 2016
Lab Reference No.:	b127074	Date Analyzed:	February 18, 2016
Analyst(s):	J. Dacquel	# Samples submitted:	9
		# Phases analyzed:	10

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%	Manitoba	0.1% friable 1% non-friable
Quebec	0.1%	Saskatchewan	0.5% friable 1% non-friable
Alberta, NWT, Yukon, Nunavut	1%	Newfoundland and Labrador, PEI and New Brunswick	1%

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.

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Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: KPRDSB, Crestwood SS, 1885 Sherbrooke Street, Peterborough, ON
Project No.: 112696
Prepared For: C. Fennell / M. Wilson

Lab Reference No.: b127074
Date Analyzed: February 18, 2016

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0034A Vinyl base adhesive Room 209	2 Phases: a) Homogeneous, brown, adhesive material. b) Homogeneous, grey, soft, cementitious material.	None Detected Chrysotile 0.5-5%	Non-Fibrous Material > 75% Non-Fibrous Material > 75%
Comments:	Phase b) is small in size. Cellulose and synthetic fibres are present on the surface of this sample.		
0034B Vinyl base adhesive Room 209	Homogeneous, brown, adhesive material.	None Detected	Non-Fibrous Material > 75%
Comments:	Cellulose and synthetic fibres are present on the surface of this sample.		
0034C Vinyl base adhesive Room 209	Homogeneous, brown, adhesive material.	None Detected	Non-Fibrous Material > 75%
Comments:	Cellulose and synthetic fibres are present on the surface of this sample.		
0035A 1 X 1 Acoustic ceiling tile Room 209	Homogeneous, beige, layered, compressed, acoustic ceiling tile.	None Detected	Cellulose 25-50% Man-made Vitreous 50-75% Fibres Non-Fibrous Material 0.5-5%
0035B 1 X 1 Acoustic ceiling tile Room 209	Homogeneous, beige, layered, compressed, acoustic ceiling tile.	None Detected	Cellulose 25-50% Man-made Vitreous 50-75% Fibres Non-Fibrous Material 0.5-5%
0035C 1 X 1 Acoustic ceiling tile Room 209	Homogeneous, beige, layered, compressed, acoustic ceiling tile.	None Detected	Cellulose 25-50% Man-made Vitreous 50-75% Fibres Non-Fibrous Material 0.5-5%

REVIEWED BY

ANALYST



Pinchin Ltd. Asbestos Laboratory
Certificate of Analysis

Project Name: KPRDSB, Crestwood SS, 1885 Sherbrooke Street, Peterborough, ON
Project No.: 112696
Prepared For: C. Fennell / M. Wilson

Lab Reference No.: b127074
Date Analyzed: February 18, 2016

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0036A Caulking - Beige - at joint between radiator and block wall Room 209	Homogeneous, white, caulking material.	None Detected	Non-Fibrous Material > 75%
0036B Caulking - Beige - at joint between radiator and block wall Room 209	Homogeneous, white, caulking material.	None Detected	Non-Fibrous Material > 75%
0036C Caulking - Beige - at joint between radiator and block wall Room 209	Homogeneous, beige, soft, cementitious material.	None Detected	Mica 0.5-5% Other Non-Fibrous > 75%
Comments:	This sample is small in size. For more reliable results, a larger sample is required.		

REVIEWED BY

Digitally signed by D. Stewart
dstewart@pinchin.com
Data Entry Administrator
Pinchin Ltd.

ANALYST

Digitally signed by D. Stewart
dstewart@pinchin.com
Data Entry Administrator
Pinchin Ltd.



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	KRPDSB, Crestwood SS	Date Received:	March 1, 2018
Project No.:	0218575.000	Date Analyzed:	March 8, 2018
Prepared For:	B. Colgan / C. Fennell	# Samples submitted:	30
Lab Reference No.:	b185373	# Phases analyzed:	30
Analyst(s):	C. Luong		

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.

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

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Pinchin Ltd. Asbestos Laboratory
Certificate of Analysis

Project Name: KRPDSB, Crestwood SS
Project No.: 0218575.000
Prepared For: B. Colgan / C. Fennell

Lab Reference No.: b185373
Date Analyzed: March 8, 2018

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0037A Brown Caulking - Exit Door, B106	Homogeneous, brown, rubbery, caulking material.	None Detected	Non-Fibrous Material > 75%
Comments:	Foam is present on the surface of this sample.		
0037B Brown Caulking - Exit Door, B106	Homogeneous, brown, rubbery, caulking material.	None Detected	Non-Fibrous Material > 75%
0037C Brown Caulking - Exit Door, B106	Homogeneous, brown, rubbery, caulking material.	None Detected	Non-Fibrous Material > 75%
Comments:	Foam is present on the surface of this sample.		
0038A Vinyl Adhesive, B106	Non-homogeneous, yellow, brown and black, adhesive material.	None Detected	Cellulose 10-25% Non-Fibrous Material > 75%
Comments:	Cellulose is present on the surface of this sample.		
0038b Vinyl Adhesive, B106	Homogeneous, yellow, soft, cementitious material with fibres.	None Detected	Cellulose 50-75% Non-Fibrous Material 25-50%
Comments:	Cellulose is present on the surface of this sample.		
0038c Vinyl Adhesive, B106	Homogeneous, yellow, soft, cementitious material with fibres.	None Detected	Cellulose 50-75% Non-Fibrous Material 25-50%
0039a Dust Mastic - Surface Planner, B106	Homogeneous, grey, caulking material.	None Detected	Non-Fibrous Material > 75%
0039b Dust Mastic - Surface Planer, B106	Homogeneous, grey, caulking material.	None Detected	Non-Fibrous Material > 75%



Pinchin Ltd. Asbestos Laboratory
Certificate of Analysis

Project Name: KRPDSB, Crestwood SS
Project No.: 0218575.000
Prepared For: B. Colgan / C. Fennell

Lab Reference No.: b185373
Date Analyzed: March 8, 2018

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0039c Dust Mastic - Surface Planner, B106	Homogeneous, grey, caulking material.	None Detected	Non-Fibrous Material > 75%
0040a Cementious Skim Coat, B109 -Tool Room	Homogeneous, white, soft, cementitious material.	None Detected	Non-Fibrous Material > 75%
0040b Cementious Skim Coat, B109 -Tool Room	Homogeneous, white, soft, cementitious material.	None Detected	Non-Fibrous Material > 75%
0040c Cementious Skim Coat, B109 -Tool Room	Homogeneous, white, soft, cementitious material.	None Detected	Non-Fibrous Material > 75%
0041a Painted Caulking - Tool Shed, B109	Homogeneous, grey, hard, caulking material.	Chrysotile 0.5-5%	Non-Fibrous Material > 75%
0041b Painted Caulking - Tool Shed, B109			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0041c Painted Caulking - Tool Shed, B109			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0042a Vinyl Adhesive, Black, A 212	2 Phases: a) Homogeneous, yellow, adhesive material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, black, rubbery material.	None Detected	Non-Fibrous Material > 75%



Pinchin Ltd. Asbestos Laboratory
Certificate of Analysis

Project Name: KRPDSB, Crestwood SS
Project No.: 0218575.000
Prepared For: B. Colgan / C. Fennell

Lab Reference No.: b185373
Date Analyzed: March 8, 2018

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0042b Vinyl Adhesive, Black, A 212	2 Phases: a) Homogeneous, yellow, adhesive material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, black, rubbery material.	None Detected	Non-Fibrous Material > 75%
Comments:	Phase b) is small in size.		
0042c Vinyl Adhesive, Black, A 212	2 Phases: a) Homogeneous, yellow, adhesive material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, black, rubbery material.	None Detected	Non-Fibrous Material > 75%
Comments:	Phase b) is small in size.		
0043a Silver Sink Mastic, A 212	Homogeneous, gold, soft, fleck material.	Chrysotile 0.5-5%	Non-Fibrous Material > 75%
0043b Silver Sink Mastic, A 212			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0043c Silver Sink Mastic, A 212			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0044a Control Joint Putty, 308A	Homogeneous, light grey, soft material.	Chrysotile 0.5-5%	Talc 5-10% Non-Fibrous Material > 75%
Comments:	Cellulose is present on the surface of this sample.		



Pinchin Ltd. Asbestos Laboratory
Certificate of Analysis

Project Name: KRPDSB, Crestwood SS
Project No.: 0218575.000
Prepared For: B. Colgan / C. Fennell

Lab Reference No.: b185373
Date Analyzed: March 8, 2018

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0044b Control Joint Putty, 308A			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0044c Control Joint Putty, 308A			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0045a Textile on Drain, A310	Non-homogeneous, brown, woven fibrous material.	None Detected	Man-made Vitreous Fibres 50-75% Non-Fibrous Material 25-50%
0045b Textile on Drain, A310	Non-homogeneous, brown, woven fibrous material.	None Detected	Man-made Vitreous Fibres 50-75% Non-Fibrous Material 25-50%
0045c Textile on Drain, A310	Non-homogeneous, brown, woven fibrous material.	None Detected	Man-made Vitreous Fibres 50-75% Non-Fibrous Material 25-50%
0046a Vinyl Floor Tile, Grey Splotch, A210, Podium	2 Phases: a) Homogeneous, 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%
Comments:	Cellulose is present on the surface of this sample.		



Pinchin Ltd. Asbestos Laboratory
Certificate of Analysis


Project Name: KRPDSB, Crestwood SS
Project No.: 0218575.000
Prepared For: B. Colgan / C. Fennell

Lab Reference No.: b185373
Date Analyzed: March 8, 2018


BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0046b Vinyl Floor Tile, Grey Spotch, A210, Podium	2 Phases: a) Homogeneous, 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%
Comments:	Cellulose is present on the surface of this sample.		
0046c Vinyl Floor Tile, Grey Spotch, A210, Podium	2 Phases: a) Homogeneous, 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%
Comments:	Cellulose is present on the surface of this sample.		

Reviewed by:

 Digitally signed
by Julieth Oran
Date: 2018.03.08
15:25:51 -05'00'

Reporting Analyst:

 Digitally signed
by Julieth Oran
Date: 2018.03.08
15:25:37 -05'00'



Analyzed by: C.L.
Reviewed by: HB
Report Sent by: JR

Special Instructions:

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

Client Name:	KRPDSB	Project Address:	Crestwood SS
Portfolio/Building No:		Pinchin File:	218575
Submitted by:	Ben Colgan	Email:	bcolgan@pinchin.com
CC Results to:	Chris Fennell	CC Email:	cfennell@pinchin.com
Invoice to:	Chris Fennell	Invoice Email:	cfennell@pinchin.com
Date Submitted:	february 28 2018	Required by:	march 7 2018
# of Samples:	30	Priority:	Rush Turnaround
Year of Building Construction (Mandatory Field):	1963		
Do NOT Stop on Positive (Sample Numbers):			
Pinchin Group Company (Mandatory Field):	Pinchin		

To be Completed by Lab Personnel Only:

Lab Reference #:	6185373		Time:	24 hour clock		
Received by:	MAR 01 2018 JR		Date:	Month	Day	Year
Name(s) of Analyst(s):	C.L.			March	03	2018
Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)			
	0037	A	Brown Caulking - Exit Door, B106 NO			
	0037	B	Brown Caulking - Exit Door, B106 NO			
	0037	BC	Brown Caulking - Exit Door, B106 NO			
	0038	A	Vinyl Adhesive, B106 NO			
	0038	b	Vinyl Adhesive, B106 NO			
	0038	c	Vinyl Adhesive, B106 NO			

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	0039	a	Dust Mastic - Surface Planner, B106 ND
	0039	b	Dust Mastic - Surface Planer, B106 ND
	0039	c	Dust Mastic - Surface Planner, B106 ND
	0040	a	Cementious Skim Coat, B109 -Tool Room ND
	0040	b	Cementious Skim Coat, B109 -Tool Room ND
	0040	c	Cementious Skim Coat, B109 -Tool Room ND
	0041	a	Painted Caulking - Tool Shed, B109 CH 0.5-5%
	0041	b	Painted Caulking - Tool Shed, B109 -NA-
	0041	c	Painted Caulking - Tool Shed, B109 -NA-
	0042	a	Light Yellow Adhesive, on Black Vinyl Base, A 212 a) ND b) ND
	0042	b	Light Yellow Adhesive, on Black Vinyl Base, A 212 a) ND b) ND
	0042	c	Light Yellow Adhesive, on Black Vinyl Base, A 212 a) ND b) ND
	0043	a	Silver Sink Mastic, A 212 CH 0.5-5%
	0043	b	Silver Sink Mastic, A 212 -NA-
	0043	c	Silver Sink Mastic, A 212 -NA-
	0044	a	Control Joint Putty, 308A CH 0.5-5%

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	0044	b	Control Joint Putty, 308A - NA -
	0044	c	Control Joint Putty, 308A - NA -
	0045	a	Textile on Drain, A310 ND
	0045	b	Textile on Drain, A310 ND
	0045	c	Textile on Drain, A310 ND
	0046	a	Vinyl Floor Tile, Grey Splotch, A210, Podium a) NO b) NO
	0046	b	Vinyl Floor Tile, Grey Splotch, A210, Podium a) NO b) NO
	0046	c	Vinyl Floor Tile, Grey Splotch, A210, Podium a) NO b) NO



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	KRPDSB, Crestwood SS	Date Received:	March 23, 2018
Project No.:	0218575.000	Date Analyzed:	March 23, 2018
Prepared For:	C. Fennell	# Samples submitted:	3
Lab Reference No.:	b186561	# Phases analyzed:	3
Analyst(s):	T. Tran		

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%	Manitoba	0.1% friable 1% non-friable
Quebec	0.1%	Saskatchewan	0.5% friable 1% non-friable
Alberta, NWT, Yukon, Nunavut	1%	Newfoundland and Labrador, PEI and New Brunswick	1%

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

Pinchin Ltd. 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.

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Pinchin Ltd. Asbestos Laboratory
Certificate of Analysis


Project Name: KRPDSB, Crestwood SS
Project No.: 0218575.000
Prepared For: C. Fennell

Lab Reference No.: b186561
Date Analyzed: March 23, 2018


BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0047A Acoustic Ceiling Tile, 12" x 12", Room 212	Homogeneous, off-white, compressed, acoustic ceiling tile.	None Detected	Man-made Vitreous > 75% Fibres Non-Fibrous Material 0.5-5%
0047B Acoustic Ceiling Tile, 12" x 12", Room 212	Homogeneous, off-white, compressed, acoustic ceiling tile.	None Detected	Man-made Vitreous > 75% Fibres Non-Fibrous Material 0.5-5%
0047c Acoustic Ceiling Tile, 12" x 12", Room 212	Homogeneous, off-white, compressed, acoustic ceiling tile.	None Detected	Man-made Vitreous > 75% Fibres Non-Fibrous Material 0.5-5%

Reviewed by:


Digitally signed
by Eileen Luong
Date:
2018.03.23
13:22:27 -04'00'

Reporting Analyst:


Digitally signed
by Eileen Luong
Date:
2018.03.23
13:22:42 -04'00'



Analyzed by: *[Signature]*

Reviewed by: *[Signature]*

Report Sent by: *[Signature]*

Special Instructions:

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

Client Name:	KRPDSB	Project Address:	Crestwood SS
Portfolio/Building No:		Pinchin File:	218575
Submitted by:	Chris Fennell	Email:	
CC Results to:	Chris Fennell	CC Email:	cfennell@pinchin.com
Invoice to:	Chris Fennell	Invoice Email:	cfennell@pinchin.com
Date Submitted:	March 22 2018	Required by:	march 24 2018
# of Samples:	3	Priority:	Rush Turnaround
Year of Building Construction (Mandatory Field):		1963	
Do NOT Stop on Positive (Sample Numbers):			
Pinchin Group Company (Mandatory Field):		Pinchin	

To be Completed by Lab Personnel Only:

Lab Reference #:	6186561	Time:	24 hour clock
Received by:	MAR 23 2018 JR	Date:	Month Day Year
Name(s) of Analyst(s):	thar		Mar 23 2018
Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	0047	A	Acoustic Ceiling Tile, 12" x 12", Room 212 ND
	0047	B	Acoustic Ceiling Tile, 12" x 12", Room 212 ND
	0047	c	Acoustic Ceiling Tile, 12" x 12", Room 212 ND



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: Kawartha Pine Ridge District School Board
Crestwood Secondary School, 1885 Sherbrooke Street, Peterborough
Project No.: 0202162.000
Prepared For: C. Fennell / M. Wilson
Lab Reference No.: b165671 Revised2
Analyst(s): N. Barinque
Date Received: February 22, 2017 **# Samples submitted:** 24
Date Analyzed: March 3, 2017 **# Phases analyzed:** 27

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%	Manitoba	0.1% friable 1% non-friable
Quebec	0.1%	Saskatchewan	0.5% friable 1% non-friable
Alberta, NWT, Yukon, Nunavut	1%	Newfoundland and Labrador, PEI and New Brunswick	1%

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This report relates only to the items tested.

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Pinchin Ltd. Asbestos Laboratory *Certificate of Analysis*

Project Name: Kawartha Pine Ridge District School Board

1885 Sherbrooke Street, Peterborough

Project No.: 0202162.000

Prepared For: C. Fennell / M. Wilson

Lab Reference No.: b165671 Revised2

Date Analyzed: March 3, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0048A Mastic - Vinyl base	2 Phases: a) Homogeneous, yellow, mastic material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, brown, mastic material.	None Detected	Non-Fibrous Material > 75%
0048B Mastic - Vinyl base	2 Phases: a) Homogeneous, yellow, mastic material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, brown, mastic material.	None Detected	Non-Fibrous Material > 75%
0048C Mastic - Vinyl base	2 Phases: a) Homogeneous, yellow, mastic material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, brown, mastic material.	None Detected	Non-Fibrous Material > 75%
0049A Caulking - Grey	Homogeneous, grey, caulking material.	None Detected	Man-made Vitreous Fibres 0.5-5% Non-Fibrous Material > 75%
0049B Caulking - Grey	Homogeneous, grey, caulking material.	None Detected	Man-made Vitreous Fibres 0.5-5% Non-Fibrous Material > 75%



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: Kawartha Pine Ridge District School Board

1885 Sherbrooke Street, Peterborough

Project No.: 0202162.000

Prepared For: C. Fennell / M. Wilson

Lab Reference No.: b165671 Revised2

Date Analyzed: March 3, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0049C Caulking - Grey	Homogeneous, grey, caulking material.	None Detected	Man-made Vitreous Fibres 0.5-5% Non-Fibrous Material > 75%
0050A Drywall joint compound	2 Phases: a) Homogeneous, white, drywall joint compound.	Chrysotile 0.5-5%	Non-Fibrous Material > 75%
	b) Homogeneous, off-white, drywall joint	Chrysotile 0.5-5%	Non-Fibrous Material > 75%
0050B Drywall joint compound			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0050C Drywall joint compound			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0051A Plaster	2 Phases: a) Homogeneous, grey, hard, cementitious, plaster base coat.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, white, hard, cementitious, plaster top coat.	None Detected	Non-Fibrous Material > 75%
0051B Plaster	2 Phases: a) Homogeneous, grey, hard, cementitious, plaster base coat.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, white, hard, cementitious, plaster top coat.	None Detected	Non-Fibrous Material > 75%



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: Kawartha Pine Ridge District School Board

1885 Sherbrooke Street, Peterborough

Project No.: 0202162.000

Prepared For: C. Fennell / M. Wilson

Lab Reference No.: b165671 Revised2

Date Analyzed: March 3, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0051C Plaster	2 Phases: a) Homogeneous, grey, hard, cementitious, plaster base coat.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, white, hard, cementitious, plaster top coat.	None Detected	Non-Fibrous Material > 75%
0052A Sink coating - Main office	Homogeneous, black, tar material.	Chrysotile 5-10%	Tar and other non-fibrous > 75%
0052B Sink coating - Main office			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0052C Sink coating - Main office			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0053A Caulking - White - kitchenette - off main office	Homogeneous, white, caulking material.	Chrysotile 0.5-5%	Non-Fibrous Material > 75%
0053B Caulking - White - kitchenette - off main office			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0053C Caulking - White - kitchenette - off main office			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: Kawartha Pine Ridge District School Board

1885 Sherbrooke Street, Peterborough

Project No.: 0202162.000

Prepared For: C. Fennell / M. Wilson

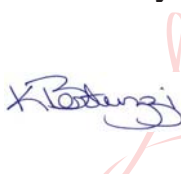
Lab Reference No.: b165671 Revised2

Date Analyzed: March 3, 2017


BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0054A Caulking - brown - library window frames	2 Phases: a) Homogeneous, brown, caulking material.	None Detected	Man-made Vitreous Fibres 0.5-5% Non-Fibrous Material > 75%
	b) Homogeneous, white, caulking material.	None Detected	Non-Fibrous Material > 75%
0054B Caulking - brown - library window frames	2 Phases: a) Homogeneous, brown, caulking material.	None Detected	Man-made Vitreous Fibres 0.5-5% Non-Fibrous Material > 75%
	b) Homogeneous, white, caulking material.	None Detected	Non-Fibrous Material > 75%
Comments:	Phase b) is small in size.		
0054C Caulking - brown - library window frames	Homogeneous, brown, caulking material.	None Detected	Man-made Vitreous Fibres 0.5-5% Non-Fibrous Material > 75%
0055A Carpet adhesive - library	Homogeneous, tan, hard, sticky material.	None Detected	Non-Fibrous Material > 75%
0055B Carpet adhesive - library	Homogeneous, tan, hard, sticky material.	None Detected	Non-Fibrous Material > 75%
0055C Carpet adhesive - library	Homogeneous, tan, hard, sticky material.	None Detected	Non-Fibrous Material > 75%
Comments:	Synthetic fibres are present on the surface of this sample.		

Reviewed by:

 Digitally signed
by Eileen Luong
Date:
2018.03.23
09:18:29 -04'00'

Reporting Analyst:

 Digitally signed
by Eileen Luong
Date:
2018.03.23
09:18:45 -04'00'



Pinchin Ltd. Asbestos Laboratory *Certificate of Analysis*

Project Name:	KPRDSB, Crestwood Secondary School		
Project No.:	0285775.000		
Prepared For:	A. Heizer / J. Birney	Date Received:	January 11, 2021
Lab Reference No.:	b243887	Date Analyzed:	January 18, 2021
Analyst(s):	A. LeBar Vertolli	# Samples submitted:	9
		# Phases analyzed:	13

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 indicates the presence of confirmed asbestos in trace quantities, limited to only a few fibres or fibre bundles in an entire sample. This method complies with provincial regulatory requirements where applicable. Multiple phases within a sample are analyzed and reported separately.

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

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Pinchin Ltd. Asbestos Laboratory

Certificate of Analysis

Project Name: KPRDSB, Crestwood Secondary School
Project No.: 0285775.000
Prepared For: A. Heizer / J. Birney

Lab Reference No.: b243887
Date Analyzed: January 18, 2021

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0056A 12" x 12" VFT beige with brown splotch in walk-in cooler in Kitchen 126 (Location 34)	2 Phases: a) Homogeneous, off-white, 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%
0056B 12" x 12" VFT beige with brown splotch in walk-in cooler in Kitchen 126 (Location 34)	2 Phases: a) Homogeneous, off-white, 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%
0056C 12" x 12" VFT beige with brown splotch in walk-in cooler in Kitchen 126 (Location 34)	2 Phases: a) Homogeneous, off-white, 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%
0057A 12" x 12" VFT white with beige splotch in walk-in cooler in Kitchen 126 (Location 34)	2 Phases: a) Homogeneous, off-white, consolidated, vinyl floor tile.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, off-white, soft, sticky material on the back of vinyl floor tile.	None Detected	Non-Fibrous Material > 75%
Comments:		Cellulose is present on the surface of this sample.	



Pinchin Ltd. Asbestos Laboratory
Certificate of Analysis

Project Name: KPRDSB, Crestwood Secondary School
Project No.: 0285775.000
Prepared For: A. Heizer / J. Birney

Lab Reference No.: b243887
Date Analyzed: January 18, 2021

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0057B 12" x 12" VFT white with beige splotch in walk-in cooler in Kitchen 126 (Location 34)	2 Phases: a) Homogeneous, off-white, consolidated, vinyl floor tile.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, off-white, soft, sticky material on the back of vinyl floor tile.	None Detected	Non-Fibrous Material > 75%
Comments:	Cellulose is present on the surface of this sample.		
0057C 12" x 12" VFT white with beige splotch in walk-in cooler in Kitchen 126 (Location 34)	2 Phases: a) Homogeneous, off-white, consolidated, vinyl floor tile.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, off-white, soft, sticky material on the back of vinyl floor tile.	None Detected	Non-Fibrous Material > 75%
Comments:	Cellulose is present on the surface of this sample.		
0058A Grey caulking on penetrations in walk-in cooler in Kitchen 126 (Location 34)	Homogeneous, grey, soft, sticky, caulking material.	Chrysotile 5-10%	Non-Fibrous Material > 75%
0058B Grey caulking on penetrations in walk-in cooler in Kitchen 126 (Location 34)			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		



Pinchin Ltd. Asbestos Laboratory
Certificate of Analysis

Project Name: KPRDSB, Crestwood Secondary School
Project No.: 0285775.000
Prepared For: A. Heizer / J. Birney

Lab Reference No.: b243887
Date Analyzed: January 18, 2021

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0058C Grey caulking on penetrations in walk-in cooler in Kitchen 126 (Location 34)			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		

Reviewed by:

Digitally signed by
Julieth Oran
Date: 2021.01.18
14:24:09 -05'00'

Reporting Analyst:

Digitally signed by
Julieth Oran
Date: 2021.01.18
14:23:55 -05'00'

Analyzed by: ALV
 Reviewed by: KB
 Report Sent by: JK

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

Client Name:	KPRDSB	Project Address:	Crestwood Secondary School
Portfolio/Building No:		Pinchin File:	285775
Submitted by:	Adam Heizer	Email:	aheizer@pinchin.com
CC Results to:	Jordan Birney	CC Email:	jbirney@pinchin.com
CC Results to:	Chris Fennell	CC Email:	cfennell@pinchin.com
Invoice to:	Chris Fennell	Invoice Email:	cfennell@pinchin.com
Date Submitted:	January 8 2021	Required by:	January 15 2021
# of Samples:	9	Priority:	5 Day Turnaround
Year of Building Construction (Mandatory Field):		1963	
Do NOT Stop on Positive (Sample Numbers):			
Pinchin Group Company (Mandatory Field):		Pinchin	

To be Completed by Lab Personnel Only:

Lab Reference #:	JAN 11 2021 6243887	Time:	24 hour clock
Received by:		Date:	Month Day Year
Name(s) of Analyst(s):	ALV		18-Jan-21 (13)

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	0056	A	12" x 12" VFT beige with brown splotch in walk-in cooler in Kitchen 126 (Location 34) a) NO b) NO
	0056	B	12" x 12" VFT beige with brown splotch in walk-in cooler in Kitchen 126 (Location 34) a) NO b) NO
	0056	C	12" x 12" VFT beige with brown splotch in walk-in cooler in Kitchen 126 (Location 34) a) NO b) NO
	0057	A	12" x 12" VFT white with beige splotch in walk-in cooler in Kitchen 126 (Location 34) a) NO b) NO
	0057	B	12" x 12" VFT white with beige splotch in walk-in cooler in Kitchen 126 (Location 34) a) NO b) NO
	0057	C	12" x 12" VFT white with beige splotch in walk-in cooler in Kitchen 126 (Location 34) a) NO b) NO
	0058	A	Grey caulking on penetrations in walk-in cooler in Kitchen 126 (Location 34) CH 5-10

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	0058	B	Grey caulking on penetrations in walk-in cooler in Kitchen 126 (Location 34) na
	0058	C	Grey caulking on penetrations in walk-in cooler in Kitchen 126 (Location 34) na



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: KPRDSB, Crestwood Secondary School
Project No.: 0285775.000
Prepared For: A. Heizer / J. Birney / C. Fennell
Lab Reference No.: b248929
Analyst(s): Y. Park / N. Barinque
Date Received: April 19, 2021 **# Samples submitted:** 12
Date Analyzed: April 23, 2021 **# Phases analyzed:** 8

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 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.

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This report relates only to the items tested.

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Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: KPRDSB, Crestwood Secondary School
Project No.: 0285775.000
Prepared For: A. Heizer / J. Birney / C. Fennell

Lab Reference No.: b248929
Date Analyzed: April 23, 2021

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0059A Parging cement on ducts under canvas, Mech Room (Loc. 84)	Homogeneous, grey, soft, parging cement.	Chrysotile > 75%	Non-Fibrous Material 0.5-5%
0059B Parging cement on ducts under canvas, Mech Room (Loc. 84)			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0059C Parging cement on ducts under canvas, Fan Room (Loc. 49)			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0060A Plaster, Mech Room (Loc. 84)	2 Phases: a) Homogeneous, grey, hard, cementitious material. b) Homogeneous, grey, hard, cementitious material.	None Detected None Detected	Non-Fibrous Material > 75% Vermiculite 50-75% Other Non-Fibrous 25-50%
0060B Plaster, Mech Room (Loc. 84)	2 Phases: a) Homogeneous, grey, hard, cementitious material. b) Homogeneous, grey, hard, cementitious material.	None Detected None Detected	Non-Fibrous Material > 75% Vermiculite 50-75% Other Non-Fibrous 25-50%
0060C Plaster, Mech Room (Loc. 84)	Homogeneous, grey, hard, cementitious material.	None Detected	Vermiculite 50-75% Other Non-Fibrous 25-50%



Pinchin Ltd. Asbestos Laboratory
Certificate of Analysis

Project Name: KPRDSB, Crestwood Secondary School
Project No.: 0285775.000
Prepared For: A. Heizer / J. Birney / C. Fennell

Lab Reference No.: b248929
Date Analyzed: April 23, 2021

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0061A Duct paper on ducts under canvas, Fan Room 124 (Loc. 49)	Homogeneous, off-white, layered paper.	Chrysotile > 75%	Cellulose 0.5-5% Non-Fibrous Material 0.5-5%
Comments:	Man-made vitreous fibres and foil are present on the surface of this sample.		
0061B Duct paper on ducts under canvas, Fan Room 124 (Loc. 49)			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0061C Duct paper on ducts under canvas, Fan Room 124 (Loc. 49)			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0062A Plaster on ceiling, Fan Room 124 (Loc. 49)	Homogeneous, grey, soft, cementitious material.	Chrysotile 0.5-5% Actinolite/Tremolite < 0.5%	Cellulose 0.5-5% Vermiculite 10-25% Other Non-Fibrous > 75%
0062B Plaster on ceiling, Fan Room 124 (Loc. 49)			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0062C Plaster on ceiling, Fan Room 124 (Loc. 49)			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		

Reviewed by:

Digitally signed by
Kendra Bertuzzi
Date: 2021.04.23
14:47:32 -04'00'

Reporting Analyst:

Digitally signed by
Kendra Bertuzzi
Date: 2021.04.23
14:47:17 -04'00'

Analyzed by: HB 21-4-23
 Reviewed by: HB
 Report Sent by: HB

8

Special Instructions: please analyze in Pinchin lab

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

Client Name:	KPRDSB	Project Address:	Crestwood Secondary School
Portfolio/Building No:		Pinchin File:	285775
Submitted by:	Adam Heizer	Email:	aheizer@pinchin.com
CC Results to:	Jordan Birney	CC Email:	jbirney@pinchin.com
CC Results to:	Chris Fennell	CC Email:	cfennell@pinchin.com
Invoice to:	Chris Fennell	Invoice Email:	cfennell@pinchin.com
Date Submitted:	April 16 2021	Required by:	April 23 2021
# of Samples:	12	Priority:	5 Day Turnaround
Year of Building Construction (Mandatory Field):		1963	
Do NOT Stop on Positive (Sample Numbers):			
Pinchin Group Company (Mandatory Field):		Pinchin	

To be Completed by Lab Personnel Only:

Lab Reference #:	6248929		Time:	24 hour clock		
Received by:	APR 19 2021		Date:	Month	Day	Year
Name(s) of Analyst(s): VP / HB						
Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)			
	0059	A	Parging cement on ducts under canvas, Mech Room (Loc. 84) CH 77.8%			
	0059	B	Parging cement on ducts under canvas, Mech Room (Loc. 84) NA			
	0059	C	Parging cement on ducts under canvas, Fan Room (Loc. 49) NA			
	0060	A	Plaster, Mech Room (Loc. 84) a) ND b) ND			
	0060	B	Plaster, Mech Room (Loc. 84) a) ND b) ND			
	0060	C	Plaster, Mech Room (Loc. 84) ND			

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	0061	A	Duct paper on ducts under canvas, Fan Room 124 (Loc. 49) CH 775%
	0061	B	Duct paper on ducts under canvas, Fan Room 124 (Loc. 49) NA
	0061	C	Duct paper on ducts under canvas, Fan Room 124 (Loc. 49) NA
	0062	A	Plaster on ceiling, Fan Room 124 (Loc. 49) CH 0.5-5% AC/TE. <0.5%
	0062	B	Plaster on ceiling, Fan Room 124 (Loc. 49) —na
	0062	C	Plaster on ceiling, Fan Room 124 (Loc. 49) —na

2

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.
204-160 Charlotte Street
Peterborough, ON K9J 2T8

Attn: Jordan Birney
Chris Fennell

Lab Order ID: 71957499
Analysis ID: 71957499_PBP
Date Received: 1/11/2021
Date Reported: 1/15/2021

Project: HBMA Crestwood SS

Sample ID	Description	Mass (g)	Concentration (ppm)	Concentration (% by weight)
Lab Sample ID	Lab Notes			
L0001	White paint on metal walk-in cooler in Kitchen 126 (Location 34)	0.0530	140	0.014%
71957499PBP_1				
L0002	White paint on wood in Custodian Closet (Location 36)	0.0611	220	0.022%
71957499PBP_2				
L0003	Black paint on metal walk-in cooler in Kitchen 126 (Location 34)	0.0610	110	0.011%
71957499PBP_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.

Matthew Caffey (3)

Analyst

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

Laboratory Director

71951499

Version 1-15-2012

Client: Pinchin Ltd.
Contact: Jordan Birney
Address: 160 Charlotte Street Unit 204
City: Peterborough
Phone: 705.270.0720
Fax:
Email: jbirney@pinchin.com
cc email: cfennell@pinchin.com

Project Name: HBMA Crestwood SS

Pinchin File #: 285775
Date Submitted: Jan 08 2021

Analysis: Lead in Paint
TurnAroundTime: Regular

***Instructions:**

Use Column "B" for your contact info

To See an Example Click the
bottom Example Tab.

Enter samples between "<<" and ">>"
 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"

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.

Invoice to:

Chris Fennell
cfennell@pinchin.com

Scientific
 Analytical
 Institute



4604 Dundas Dr.
 Greensboro, NC 27407
 Phone: 336.292.3888
 Fax: 336.292.3313
 Email: lab@sailab.com

Sample Number	Data 1 (Lab use only)	Sample Description	Data 2 (Lab use only)
<<			
L0001		White paint on metal walk-in cooler in Kitchen 126 (Location 34)	
L0002		White paint on wood in Custodian Closet (Location 36)	
L0003		Black paint on metal walk-in cooler in Kitchen 126 (Location 34)	
>>			

Accepted



Rejected



J. Fennell 1-11
 10:30A



Analysis for Lead Concentration in Paint Chips

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



Customer: Pinchin Ltd.
204-160 Charlotte Street
Peterborough, ON K9J 2T8

Attn: Adam Heizer
Chris Fennell

Lab Order ID: 71963997
Analysis ID: 71963997_PBP
Date Received: 4/20/2021
Date Reported: 4/27/2021

Project: HBMA Crestwood SS

Sample ID	Description	Mass (g)	Concentration (ppm)	Concentration (% by weight)
Lab Sample ID	Lab Notes			
L0004	White paint on metal AHU, Mech Room (Loc. 84)	0.0805	140	0.014%
71963997PBP_1				
L0005	White paint on metal AHU, Electrical Shop B107 (Loc. 92)	0.0638	780	0.078%
71963997PBP_2				
L0006	Dark grey paint on metal AHU Fan Room 124 (Loc. 49)	0.0878	310	0.031%
71963997PBP_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.

Athena Summa (3)

Analyst

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

Laboratory Director

71963997

Version 1-15-2012

Client: Pinchin Ltd.
Contact: Adam Heizer
Address: 160 Charlotte Street Unit 204
City: Peterborough
Phone: 289.971.7921
Fax:
Email: ahimizer@pinchin.com
cc email: cfennell@pinchin.com

Project Name: HBMA Crestwood SS

Pinchin File #: 285775
Date Submitted: 4/14/2021 0:00

Analysis: FAA Lead in Paint
TurnAroundTime: Regular

***Instructions:**

Use Column "B" for your contact info

To See an Example Click the
bottom Example Tab.

Enter samples between "<<" and ">>"
 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"

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.

Invoice to:

Chris Fennell
cfennell@pinchin.com

Scientific
 Analytical
 Institute



4604 Dundas Dr.
 Greensboro, NC 27407
 Phone: 336.292.3888
 Fax: 336.292.3313
 Email: lab@sailab.com

Sample Number	Data 1 (Lab use only)	Sample Description	Data 2 (Lab use only)
<<			
L0004		White paint on metal AHU, Mech Room (Loc. 84)	
L0005		White paint on metal AHU, Electrical Shop B107 (Loc. 92)	
L0006		Dark grey paint on metal AHU Fan Room 124 (Loc. 49)	

Accepted



Rejected



Chen 4/20 10:30am

APPENDIX II-C
PCB Analytical Certificates



Your Project #: 285775
Site#: KPRDSB
Site Location: CRESTWOOD SS
Your C.O.C. #: n/a

Attention: Jordan Birney

Pinchin Ltd
160 Charlotte Street
Suite 204
Peterborough, ON
CANADA K9J 2T8

Report Date: 2021/01/15
Report #: R6482152
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C106556

Received: 2021/01/11, 09:00

Sample Matrix: Solid
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Polychlorinated Biphenyl in Solids (1)	1	2021/01/13	2021/01/14	CAM SOP-00309	EPA 8082A m

Remarks:

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

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

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

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

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

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

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

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

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



Your Project #: 285775
Site#: KPRDSB
Site Location: CRESTWOOD SS
Your C.O.C. #: n/a

Attention: Jordan Birney

Pinchin Ltd
160 Charlotte Street
Suite 204
Peterborough, ON
CANADA K9J 2T8

Report Date: 2021/01/15
Report #: R6482152
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C106556
Received: 2021/01/11, 09:00

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Antonella Brasil, Senior Project Manager
Email: Antonella.Brasil@bureauveritas.com
Phone# (905)817-5817

=====

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

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



BUREAU
VERITAS

BV Labs Job #: C106556
Report Date: 2021/01/15

Pinchin Ltd
Client Project #: 285775
Site Location: CRESTWOOD SS
Sampler Initials: JB

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOLID)

BV Labs ID		OOQ119		
Sampling Date		2021/01/08 12:00		
COC Number		n/a		
	UNITS	PCB01-GREY CAULKING ON PENETRATIONS IN WALK-IN COOLER IN KITCHEN 126 (LOCATION 34)	RDL	QC Batch
PCBs				
Aroclor 1262	ug/g	<0.6	0.6	7147667
Aroclor 1016	ug/g	<0.6	0.6	7147667
Aroclor 1221	ug/g	<0.6	0.6	7147667
Aroclor 1232	ug/g	<0.6	0.6	7147667
Aroclor 1242	ug/g	<0.6	0.6	7147667
Aroclor 1248	ug/g	0.7	0.6	7147667
Aroclor 1254	ug/g	1.0	0.6	7147667
Aroclor 1260	ug/g	0.7	0.6	7147667
Aroclor 1268	ug/g	<0.6	0.6	7147667
Total PCB	ug/g	2.4	0.6	7147667
Surrogate Recovery (%)				
Decachlorobiphenyl	%	55		7147667
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				



BUREAU
VERITAS

BV Labs Job #: C106556
Report Date: 2021/01/15

Pinchin Ltd
Client Project #: 285775
Site Location: CRESTWOOD SS
Sampler Initials: JB

TEST SUMMARY

BV Labs ID: OOQ119
Sample ID: PCB01-GREY CAULKING ON PENETRATIONS IN WALK-IN COOLER IN KITCHEN 126 (LOCATION SHIPPED)
Matrix: Solid
Collected: 2021/01/08
Received: 2021/01/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Polychlorinated Biphenyl in Solids	GC/ECD	7147667	2021/01/13	2021/01/14	Sarah Huang



BUREAU
VERITAS

BV Labs Job #: C106556

Report Date: 2021/01/15

Pinchin Ltd

Client Project #: 285775

Site Location: CRESTWOOD SS

Sampler Initials: JB

GENERAL COMMENTS

Results relate only to the items tested.



BUREAU
VERITAS

BV Labs Job #: C106556
Report Date: 2021/01/15

Pinchin Ltd
Client Project #: 285775
Site Location: CRESTWOOD SS
Sampler Initials: JB

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7147667	SHG	Matrix Spike	Decachlorobiphenyl	2021/01/13		80	%	30 - 130
			Aroclor 1260	2021/01/13		NC	%	30 - 130
			Total PCB	2021/01/13		NC	%	30 - 130
7147667	SHG	Spiked Blank	Decachlorobiphenyl	2021/01/13		70	%	30 - 130
			Aroclor 1260	2021/01/13		83	%	30 - 130
			Total PCB	2021/01/13		83	%	30 - 130
7147667	SHG	RPD	Aroclor 1260	2021/01/13	4.8		%	50
			Total PCB	2021/01/13	4.8		%	50
7147667	SHG	Method Blank	Aroclor 1262	2021/01/13	<0.1		ug/g	
			Decachlorobiphenyl	2021/01/13		75	%	30 - 130
			Aroclor 1016	2021/01/13	<0.1		ug/g	
			Aroclor 1221	2021/01/13	<0.1		ug/g	
			Aroclor 1232	2021/01/13	<0.1		ug/g	
			Aroclor 1242	2021/01/13	<0.1		ug/g	
			Aroclor 1248	2021/01/13	<0.1		ug/g	
			Aroclor 1254	2021/01/13	<0.1		ug/g	
			Aroclor 1260	2021/01/13	<0.1		ug/g	
			Aroclor 1268	2021/01/13	<0.1		ug/g	
			Total PCB	2021/01/13	<0.1		ug/g	

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

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

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

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

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

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)



BUREAU
VERITAS

BV Labs Job #: C106556
Report Date: 2021/01/15

Pinchin Ltd
Client Project #: 285775
Site Location: CRESTWOOD SS
Sampler Initials: JB

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Anastassia Hamanov, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



6740 Campobello Road, Mississauga, ON L5N 2L8
Phone: 905-817-5700 Fax: 905-817-5779

11-Jan-21 09:00

Antonella Brasil

C106556

CHAIN OF CUSTODY RECORD

Page 1 of 1

INVOICE INFORMATION:				PROJECT INFORMATION:				MAXXAM JOB NUMBER:			
Company Name: Pinchin Environmental Ltd.				Project #:				MAXXAM JOB NUMBER:			
Contact Name:				Site Location:				CHAIN OF CUSTODY #:			
Address: 160 Charlotte Street, Suite 204				Site #:							
Peterborough, Ontario				Sampled By: Jordan Birney							
Phone: 705-748-4627 Fax: 705-748-6927											
Email: jbirney@pinchin.com, cfennell@pinchin.com											
Note: For MOE Regulated Drinking Water samples, please use the Drinking Water COC.											
Regulation 153 (2011)				ANALYSIS REQUESTED (Please be specific):				TURNAROUND TIME (TAT) REQUIRED:			
<input type="checkbox"/> Table 1 <input type="checkbox"/> Res/Park <input type="checkbox"/> Med/Fine								PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS Regular (Standard) TAT: <input checked="" type="checkbox"/> (5-7 working days for most tests) Rush TAT: ***Samples must be received by 3pm to guarantee your TAT*** Rush Confirmation #: PN <input type="checkbox"/> 1 day <input type="checkbox"/> 2 days <input type="checkbox"/> 3 days DATE Req'd: _____ TAT for certain tests are > 5 days. Please contact your Project Manager for details.			
<input type="checkbox"/> Table 2 <input type="checkbox"/> Ind/Comm <input type="checkbox"/> Coarse											
<input type="checkbox"/> Table 3 <input type="checkbox"/> Agri/Other											
<input type="checkbox"/> Table _____											
<input type="checkbox"/> For RSC <input type="checkbox"/> Yes <input type="checkbox"/> No											
<input type="checkbox"/> CCME <input type="checkbox"/> Sanitary Sewer Bylaw											
<input type="checkbox"/> Reg 558 <input type="checkbox"/> Storm Sewer Bylaw											
<input type="checkbox"/> MISA											
<input type="checkbox"/> PWQO Municipality: _____											
<input type="checkbox"/> Other (Specify): _____											
Include Criteria on Certificate of Analysis (Y/N)?											
SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM											
Sample Identification		Date Sampled	Time Sampled	Matrix (GW, SW, Soil, etc.)	PCB					# of Cont.	COMMENTS / TAT COMMENTS
1 PCB01 - Grey caulking on penetrations in walk-in cooler in Kitchen 126 (Location 34)		8-Jan-21	12:00	Caulking	X					1	
2											
3											
4											
5											
6											
7											
8											
9											
10											
RELINQUISHED BY: (Signature/Print)		Date (YYYY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)		Date (YYYY/MM/DD)	Time:	# JARS USED AND NOT SUBMITTED		Laboratory Use Only	
Jordan Birney		2021/01/08	13:00	[Signature]		2021/01/11	09:00			Custody Seal: Yes No Present Intact	

MANDATORY SECTIONS IN GREY MUST BE FILLED OUT. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS

Maxxam Analytics International Corporation o/a Maxxam Analytics

APPENDIX III
Methodology

1.0 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.

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.

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 a suitable product.

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

- Roofing felts and tar, mastics
- Floor levelling compound
- Ceramic tile setting compound
- 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
- Insulation under metal clad boilers and vessels
- Mechanical packing, ropes and gaskets
- Vermiculite
- Adhesives and duct mastics
- Fibre-reinforced paints and coatings
- Paper products

- Soffit and fascia boards
- Fire resistant doors
- Metal clad finishes
- Stucco, plaster or other cementitious parge coatings
- Vibration dampers on HVAC equipment

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

Analytical results are compared to the following criteria.

Jurisdiction	Friable	Non-Friable
BC	0.5% ¹	0.5%
Alberta	Any Amount ²	Any Amount ²
Saskatchewan	>0.5% ¹	>1%
Manitoba	0.1% ¹	1%
Ontario	0.5%	0.5%
Nova Scotia	0.5% ¹	0.5%
New Brunswick, Prince Edward Island, Newfoundland & Labrador	1%	1%
Yukon, Nunavut, Northwest Territories	1%	1%
Federal	1%	1%

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

¹ Or any amount if vermiculite

² The Government of Alberta in their guideline document entitled the “Alberta Asbestos Abatement Manual” (August 2019), defines an Asbestos-Containing Material as a product or building material that contains asbestos in any quantity or percentage.

samples or, if detected, it is below the lower limit of an asbestos-containing material in the applicable regulation.

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

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

1.3 Lead

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

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

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%). Exposure from construction disturbance of paints containing lead less than 0.009% is assumed to be insignificant. 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.

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, March 9, 2020

APPENDIX IV
Location Summary Report

Client:Kprdsb
 Building Name: Crestwood Secondary School
 Surveyor:
 Reassessment Surveyor:

Site: 1885 Sherbrooke Street West, Peterborough, ON

Survey Date:
 Last Re-Assessment:

Location No.	Name or Description	ft ²	Floor No.	Notes
34	KITCHEN, room no. 126	800	1	
49	FAN ROOM, room no. 124	175	B	Asbestos containing duct seam tape below edges jacketed with canvas.
50	FAN ROOM, room no. 124A	175	B	1 Fitting Behind Fan Unit Removed 2017
71	CARPENTRY SHOP, room no. B106	1500	1	Parging Cement Removed Summer 2018 Project 218575
75	WEIGHT ROOM, room no. B108	2600	1	F - 12x12 new replacement floor tile.
84	MECHANICAL ROOM	500	MEZZ	Access the mezzanine above corridor within Drama Storage Room B110D at Staircase
89	AUTOMOTIVE SHOP, room no. B109	2000	1	Parging Cement Removed Summer 2018 Project 218575
92	ELECTRICAL SHOP, room no. B107	1500	1	Parging cement on fitting for radiator piping at north/east perimeter wall at 2' height.
225	Corridor	300	G	

APPENDIX V

Hazardous Materials Summary Report / Sample Log

Client:Kprdsb

Site: 1885 Sherbrooke Street West,
Peterborough, ON

Building Name: Crestwood Secondary School

Surveyor:

Survey Date:

HAZMAT	Sample No	System/Material/Sample Description	Locations	LF	SF	EA	%	Type	Positive
Asbestos	V0001	WALL PLASTER PLASTER	89,92	0	180	0	0	None Detected	No
Asbestos	V0003	PIPING SWEATWRAP SWEATWRAP	75	50	0	0	0	None Detected	No
Asbestos	S0004	PIPING PARGING CEMENT PARGING CEMENT	34,49,50,75,92	0	0	43	0	Chrysotile	Yes
Asbestos	V0020	FLOOR VINYL FLOOR TILE AND MASTIC VINYL FLOOR TILE - 9 X 9 GREY WITH WHITE STREAKS - CUSTODIAN WORK ROOM 132 (LOC 55)	92	0	1500	0	0	Chrysotile	Yes
Asbestos	S0056	FLOOR VINYL FLOOR TILE AND MASTIC 12" X 12" VFT BEIGE WITH BROWN SPLOTCH IN WALK-IN COOLER IN KITCHEN 126 (LOCATION 34)	34	0	80	0	0	None Detected	No
Asbestos	S0057	FLOOR VINYL FLOOR TILE AND MASTIC 12" X 12" VFT WHITE WITH BEIGE SPLOTCH IN WALK-IN COOLER IN KITCHEN 126 (LOCATION 34)	34	0	6	0	0	None Detected	No
Asbestos	S0058	OTHER CAULKING, GREY GREY CAULKING ON PENETRATIONS IN WALK-IN COOLER IN KITCHEN 126 (LOCATION 34)	34	15	0	0	0	Chrysotile	Yes
Asbestos	S0059 ABC	DUCT PARGING CEMENT	49,50,84	0	450	0	0	Chrysotile	Yes
Asbestos	S0060 ABC	WALL PLASTER	84	0	300	0	0	None Detected	No
Asbestos	S0061 ABC	DUCT PAPER	49,50	0	250	0	0	Chrysotile	Yes
Asbestos	S0062 ABC	CEILING PLASTER	49	0	174	0	0	Chrysotile	Yes
Asbestos	V9500	FLOOR TERRAZZO	34,225	0	1014	0	0	Presumed Asbestos	Yes
Asbestos	V9500	OTHER TEXTILE	49,50,71,75,84,89,92	0	140	0	0	Presumed Asbestos	Yes
Asbestos	V0000	CEILING CEILING TILES (LAY-IN)	34,71,75,89,92,225	0	3900	0	0	Non Asbestos	No
Asbestos	V0000	FLOOR VINYL FLOOR TILE AND MASTIC	75	0	2600	0	0	Non Asbestos	No
Asbestos	V0000	PIPING NOT INSULATED	71,89	0	0	39	0	Non Asbestos	No
Paint	L0001	WALL PAINT WHITE PAINT ON METAL WALK-IN COOLER IN KITCHEN 126 (LOCATION 34)	34	0	300	0	0	Lead (Low)	Yes
Paint	L0003	WALL PAINT BLACK PAINT ON METAL WALK-IN COOLER IN KITCHEN 126 (LOCATION 34).	34	0	30	0	0	Lead (Low)	Yes
Paint	L0004	MECHANICAL EQUIPMENT PAINT WHITE PAINT ON METAL AHU	84	0	0	0	100	Lead (Low)	Yes
Paint	L0005	MECHANICAL EQUIPMENT PAINT WHITE PAINT ON METAL AHU	71,75,89,92	0	0	0	100	Lead (Low)	Yes
Paint	L0006	MECHANICAL EQUIPMENT PAINT DARK GREY PAINT ON METAL AHU	49	0	0	0	100	Lead (Low)	Yes

HAZMAT	Sample No	System/Material/Sample Description	Locations	LF	SF	EA	%	Type	Positive
PCB	P0001	CAULKING GREY CAULKING ON PENETRATIONS IN WALK-IN COOL	34	15	0	0	0	-	No

Legend:

Sample number		Units	
S####	Asbestos sample collected	SF	Square feet
L####	Paint sample collected	LF	Linear feet
P####	PCB sample collected	EA	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		

APPENDIX VI
HMIS All Data Report

ALL DATA REPORT

Client: Kprdsb

Location: #34 : KITCHEN

Survey Date: 2021-01-08

Site: 1885 Sherbrooke Street West,
Peterborough, ON

Floor: 1

Building Name: Crestwood Secondary School

Room #: 126

Last Re-Assessment:

Area (sqft): 800

ASBESTOS														
System	Component	Material	Item	Covering	A*	V*	AP*	Good	Fair	Poor	Unit	Sample	Asbestos Type	Hazard
Ceiling ¹		Ceiling Tiles (lay-in)			C	Y		700			SF	V0000	Non-Asbestos	None
Ceiling ²		Ceiling Tiles (lay-in)			C	Y		100			SF	V0000	Non-Asbestos	None
Duct	All	Not Insulated			C	Y								
Floor ³		Vinyl Floor Tile and Mastic			A	Y		80			SF	S0056	None Detected	N.D. None
Floor ⁴		Vinyl Floor Tile and Mastic			A	Y		6			SF	S0057	None Detected	N.D. None
Floor		Terrazzo			A	Y		714			SF	V9500	Presumed Asbestos	Presumed Asbestos(NF)
Mechanical Equipment		None Found												
Other ⁵		Caulking, Grey			A	Y		15			LF	S0058	Chrysotile	5-10% Confirmed Asbestos(NF)
Piping ⁶		Parging Cement	Elbow	Canvas	C	N		3			EA	S0004	Chrysotile	25-50% Confirmed Asbestos(F)
Piping		Armaflex			C	Y								
Piping		Not Insulated			C	Y								
Piping	All	Fibreglass			C	Y								
Structure		Not Insulated												
Wall		Concrete (precast)												
Wall ⁷	Refrigeration	Metal		Paint										

- 1 - 24" x 48" fleck and pinhole with 2010 date stamp
- 2 - 24" x 48" widthwise fissure and pinhole with 2015 date stamp
- 3 - 12" x 12" beige with brown splotch VFTs in walk-in coolers
- 4 - 12" x 12" White with beige splotch VFTs in cooler adjacent to W.Rs
- 5 - grey caulking around penetrations of walk-in coolers
- 6 - Three parging cement elbows above walk-in cooler
- 7 - Walk-in cooler with metal walls.

Client: Kprdsb

Location: #34 : KITCHEN

Survey Date: 2021-01-08

Site: 1885 Sherbrooke Street West,
Peterborough, ON

Floor: 1

Building Name: Crestwood Secondary School

Room #: 126

Last Re-Assessment:

Area (sqft): 800

PAINT									
System	Item	Good	Poor	Unit	Sample	Sample Description	Amount	Hazard	
Wall	Paint	300		SF	L0001	White paint on metal walk-in cooler in Kitchen 126 (Location 34)	Pb: 0.014 %	Lead (Low)	
Wall ¹	Paint	30		SF	L0003	Black paint on metal walk-in cooler in Kitchen 126 (Location 34).	Pb: 0.011 %	Lead (Low)	

- 1 - Black paint on metal walk-in cooler in Kitchen 126 (Location 34).

ALL DATA REPORT

Client: Kprdsb

Location: #34 : KITCHEN

Survey Date: 2021-01-08

Site: 1885 Sherbrooke Street West,
Peterborough, ON

Floor: 1

Building Name: Crestwood Secondary School

Room #: 126

Last Re-Assessment:

Area (sqft): 800

PCB						
Component	Quantity	Unit	Sample	Sample Description	Amount	PCB
CAULKING ¹	15	LF	P0001	Grey caulking on penetrations in walk-in cool		No

1 - Grey caulking on penetrations in walk-in cool

ALL DATA REPORT

Client: Kprdsb
Location: #49 : FAN ROOM
Survey Date: 2021-01-08

Site: 1885 Sherbrooke Street West,
Peterborough, ON
Floor: B

Building Name: Crestwood Secondary School
Room #: 124
Last Re-Assessment:

Area (sqft): 175

ASBESTOS														
System	Component	Material	Item	Covering	A*	V*	AP*	Good	Fair	Poor	Unit	Sample	Asbestos Type	Hazard
Ceiling		Plaster	Surface		C	Y		174			SF	S0062ABC	Chrysotile	Confirmed Asbestos(PF)
Duct		Parging Cement	Base	Canvas	D	Y		150			SF	S0059C	Chrysotile	Confirmed Asbestos(F)
Duct		Paper	Base	Canvas	D	N		150			SF	S0061ABC	Chrysotile	Confirmed Asbestos(NF)
Duct	All	Fibreglass	Straight											
Floor		Concrete (poured)												
Mechanical Equipment	Fan Unit	Not Insulated												
Other	Duct Connector	Textile	Surface		C	N		20			SF	V9500	Presumed Asbestos	Presumed Asbestos(NF)
Piping	All	Fibreglass	Straight											
Piping	All	Parging Cement	Fitting	Canvas	A	Y		8			EA	V0004	Chrysotile	Confirmed Asbestos(F)
Structure		Not Insulated												
Wall		Masonry												

Asbestos containing duct seam tape below edges jacketed with canvas.

Client: Kprdsb
Location: #49 : FAN ROOM
Survey Date: 2021-01-08

Site: 1885 Sherbrooke Street West,
Peterborough, ON
Floor: B

Building Name: Crestwood Secondary School
Room #: 124
Last Re-Assessment:

Area (sqft): 175

PAINT									
System	Item	Good	Poor	Unit	Sample	Sample Description	Amount	Hazard	
Mechanical Equipment ¹	Paint	100		%	L0006	Dark grey paint on metal AHU	Pb: 0.031 %	Lead (Low)	

Asbestos containing duct seam tape below edges jacketed with canvas.

1 - Dark grey paint on metal AHU

ALL DATA REPORT

Client: Kprdsb

Location: #50 : FAN ROOM

Survey Date: 2021-01-08

Site: 1885 Sherbrooke Street West,
Peterborough, ON

Floor: B

Building Name: Crestwood Secondary School

Room #: 124A

Last Re-Assessment:

Area (sqft): 175

ASBESTOS														
System	Component	Material	Item	Covering	A*	V*	AP*	Good	Fair	Poor	Unit	Sample	Asbestos Type	Hazard
Ceiling		None Found												
Duct		Parging Cement	Base	Canvas	D	Y		98		2	SF	V0059	Chrysotile	>75% Confirmed Asbestos(F)
Duct		Paper	Base	Canvas	D	N		100			SF	V0061	Chrysotile	>75% Confirmed Asbestos(NF)
Duct	All	Fibreglass	Straight											
Floor		Concrete (poured)												
Mechanical Equipment	Fan Unit	Not Insulated												
Other		None Found												
Other	Duct Connector	Textile	Surface		C	N		20			SF	V9500	Presumed Asbestos	Presumed Asbestos(NF)
Piping	All	Fibreglass	Straight											
Piping	All	Parging Cement	Fitting	Canvas	A	Y		8			EA	V0004	Chrysotile	25-50% Confirmed Asbestos(F)
Structure		Concrete (poured)												
Wall		Masonry												

1 Fitting Behind Fan Unit Removed 2017

ALL DATA REPORT

Client: Kprdsb
Location: #71 : CARPENTRY SHOP
Survey Date: 2021-01-08

Site: 1885 Sherbrooke Street West,
Peterborough, ON
Floor: 1

Building Name: Crestwood Secondary School
Room #: B106
Last Re-Assessment:

Area (sqft): 1500

ASBESTOS															
System	Component	Material	Item	Covering	A*	V*	AP*	Good	Fair	Poor	Unit	Sample	Asbestos Type	Amount	Hazard
Ceiling ¹		Ceiling Tiles (lay-in)			C	Y		700			SF	V0000	Non-Asbestos		None
Ceiling		None Found													
Duct		Fibreglass													
Floor		Concrete (poured)			A	Y									
Floor		Wood													
Mechanical Equipment		None Found													
Other	Duct Connector	Textile	Surface		C	N		20			SF	V9500	Presumed Asbestos		Presumed Asbestos(NF)
Piping		Fibreglass	Straight	Canvas	C	Y									
Piping	Hot Water Heating	Fibreglass	Straight												
Piping	Hot Water Heating	Fibreglass	Fitting												
Piping	Hot Water Heating	Not Insulated	Fitting	Canvas	C	Y		19			EA	V0000	Non-Asbestos		None
Piping	Rain Water Leader	Not Insulated	Fitting	Canvas	C	Y		4			EA	V0000	Non-Asbestos		None
Structure		Not Insulated													
Wall		Concrete (precast)													

Parging Cement Removed Summer 2018 Project 218575
1 - 24" x 48" fleck and pinhole with 2010 date stamp

Client: Kprdsb
Location: #71 : CARPENTRY SHOP
Survey Date: 2021-01-08

Site: 1885 Sherbrooke Street West,
Peterborough, ON
Floor: 1

Building Name: Crestwood Secondary School
Room #: B106
Last Re-Assessment:

Area (sqft): 1500

PAINT								
System	Item	Good	Poor	Unit	Sample	Sample Description	Amount	Hazard
Mechanical Equipment ¹	Paint	100		%	V0005	White paint on metal AHU	Pb: 0.078 %	Lead (Low)

Parging Cement Removed Summer 2018 Project 218575
1 - White paint on metal AHU

ALL DATA REPORT

Client: Kprdsb
Location: #75 : WEIGHT ROOM
Survey Date: 2021-01-08

Site: 1885 Sherbrooke Street West,
 Peterborough, ON
Floor: 1

Building Name: Crestwood Secondary School
Room #: B108
Last Re-Assessment:

Area (sqft): 2600

ASBESTOS															
System	Component	Material	Item	Covering	A*	V*	AP*	Good	Fair	Poor	Unit	Sample	Asbestos Type	Amount	Hazard
Ceiling ¹		Ceiling Tiles (lay-in)			C	Y		700			SF	V0000	Non-Asbestos		None
Ceiling		None Found													
Duct		Not Insulated			C	Y									
Floor		Vinyl Floor Tile and Mastic		Rubber	A	N		2600			SF	V0000	Non-Asbestos		None
Floor		Rubber			A	Y		2600			SF				
Mechanical Equipment		None Found													
Other	Duct Connector	Textile	Surface		C	N		20			SF	V9500	Presumed Asbestos		Presumed Asbestos(NF)
Piping		Parging Cement	Fitting	Canvas	C	N		8			EA	V0004	Chrysotile	25-50%	Confirmed Asbestos(F)
Piping		Sweatwrap			C	Y		50			LF	V0003	None Detected	N.D.	None
Piping	All	Fibreglass			C	Y									
Structure		Not Insulated													
Wall		Concrete (precast)													
Wall		Wallboard w/Plastic Laminate													

F - 12x12 new replacement floor tile.
 1 - 24" x 48" fleck and pinhole with 2010 date stamp

Client: Kprdsb
Location: #75 : WEIGHT ROOM
Survey Date: 2021-01-08

Site: 1885 Sherbrooke Street West,
 Peterborough, ON
Floor: 1

Building Name: Crestwood Secondary School
Room #: B108
Last Re-Assessment:

Area (sqft): 2600

PAINT								
System	Item	Good	Poor	Unit	Sample	Sample Description	Amount	Hazard
Mechanical Equipment ¹	Paint	100		%	V0005	White paint on metal AHU	Pb: 0.078 %	Lead (Low)

F - 12x12 new replacement floor tile.
 1 - White paint on metal AHU

ALL DATA REPORT

Client: Kprdsb
Location: #84 : MECHANICAL ROOM
Survey Date: 2021-01-08

Site: 1885 Sherbrooke Street West,
Peterborough, ON
Floor: MEZZ

Building Name: Crestwood Secondary School
Room #:
Last Re-Assessment:

Area (sqft): 500

ASBESTOS															
System	Component	Material	Item	Covering	A*	V*	AP*	Good	Fair	Poor	Unit	Sample	Asbestos Type	Amount	Hazard
Ceiling		None Found													
Duct		Parging Cement	Base	Canvas	D	Y		200			SF	S0059AB	Chrysotile	>75%	Confirmed Asbestos(F)
Duct		None Found													
Floor		Concrete (poured)													
Mechanical Equipment	Fan Unit	Not Insulated													
Other	Duct Connector	Textile	Surface		C	N		20			SF	V9500	Presumed Asbestos		Presumed Asbestos(NF)
Piping	All	Fibreglass													
Structure		Not Insulated													
Wall		Concrete (precast)													
Wall	Bulkhead	Plaster	Surface		C	Y		300			SF	S0060ABC	None Detected	N.D.	None

Access the mezzanine above corridor within Drama Storage Room B110D at Staircase

Client: Kprdsb
Location: #84 : MECHANICAL ROOM
Survey Date: 2021-01-08

Site: 1885 Sherbrooke Street West,
Peterborough, ON
Floor: MEZZ

Building Name: Crestwood Secondary School
Room #:
Last Re-Assessment:

Area (sqft): 500

PAINT								
System	Item	Good	Poor	Unit	Sample	Sample Description	Amount	Hazard
Mechanical Equipment ¹	Paint	100		%	L0004	White paint on metal AHU	Pb: 0.014 %	Lead (Low)

Access the mezzanine above corridor within Drama Storage Room B110D at Staircase

1 - White paint on metal AHU

ALL DATA REPORT

Client: Kprdsb
Location: #89 : AUTOMOTIVE SHOP
Survey Date: 2021-01-08

Site: 1885 Sherbrooke Street West,
Peterborough, ON
Floor: 1

Building Name: Crestwood Secondary School
Room #: B109
Last Re-Assessment:

Area (sqft): 2000

ASBESTOS															
System	Component	Material	Item	Covering	A*	V*	AP*	Good	Fair	Poor	Unit	Sample	Asbestos Type	Amount	Hazard
Ceiling ¹		Ceiling Tiles (lay-in)			C	Y		700			SF	V0000	Non-Asbestos		None
Ceiling		None Found													
Duct	All	Not Insulated													
Floor		Concrete (poured)													
Mechanical Equipment	Fan Unit	Not Insulated													
Other	Duct Connector	Textile	Surface	Paint	C	Y		20			SF	V9500	Presumed Asbestos		Presumed Asbestos(NF)
Piping	Domestic Water (Hot and Cold)	Fibreglass	Straight												
Piping	Domestic Water (Hot and Cold)	Fibreglass	Straight												
Piping	Domestic Water (Hot and Cold)	Not Insulated	Fitting	Canvas	C	Y		6			EA	V0000	Non-Asbestos		None
Piping	Hot Water Heating	Not Insulated	Fitting	Canvas	C	Y		10			EA	V0000	Non-Asbestos		None
Structure		Not Insulated													
Wall		Plaster	Surface	Paint	A	Y		100			SF	V0001	None Detected	N.D.	None
Wall		Masonry													

Parging Cement Removed Summer 2018 Project 218575
1 - 24" x 48" fleck and pinhole with 2010 date stamp

Client: Kprdsb
Location: #89 : AUTOMOTIVE SHOP
Survey Date: 2021-01-08

Site: 1885 Sherbrooke Street West,
Peterborough, ON
Floor: 1

Building Name: Crestwood Secondary School
Room #: B109
Last Re-Assessment:

Area (sqft): 2000

PAINT								
System	Item	Good	Poor	Unit	Sample	Sample Description	Amount	Hazard
Mechanical Equipment ¹	Paint	100		%	V0005	White paint on metal AHU	Pb: 0.078 %	Lead (Low)

Parging Cement Removed Summer 2018 Project 218575
1 - White paint on metal AHU

ALL DATA REPORT

Client: Kprdsb
Location: #92 : ELECTRICAL SHOP
Survey Date: 2021-01-08

Site: 1885 Sherbrooke Street West,
Peterborough, ON
Floor: 1

Building Name: Crestwood Secondary School
Room #: B107
Last Re-Assessment:

Area (sqft): 1500

ASBESTOS															
System	Component	Material	Item	Covering	A*	V*	AP*	Good	Fair	Poor	Unit	Sample	Asbestos Type	Amount	Hazard
Ceiling ¹		Ceiling Tiles (lay-in)			C	Y		700			SF	V0000	Non-Asbestos		None
Ceiling		None Found													
Duct	All	Not Insulated													
Floor		Vinyl Floor Tile and Mastic	Surface		A	Y		1500			SF	V0020	Not Analyzed	0.5-5%	Confirmed Asbestos(NF)
Mechanical Equipment	Fan Unit	Not Insulated													
Other	Duct Connector	Textile	Surface	Paint	C	Y		20			SF	V9500	Presumed Asbestos		Presumed Asbestos(NF)
Piping	Hot Water Heating	Fibreglass	Straight												
Piping	Hot Water Heating	Parging Cement	Fitting	Canvas	C	Y		15			EA	V0004	Chrysotile	25-50%	Confirmed Asbestos(F)
Piping	Hot Water Heating	Parging Cement	Fitting	Canvas	A	Y		1			EA	V0004	Chrysotile	25-50%	Confirmed Asbestos(F)
Structure		Not Insulated													
Wall		Concrete (precast)													
Wall		Plaster	Surface		A	Y		80			SF	V0001	None Detected	N.D.	None

Parging cement on fitting for radiator piping at north/east perimeter wall at 2' height.
1 - 24" x 48" fleck and pinhole with 2010 date stamp

Client: Kprdsb
Location: #92 : ELECTRICAL SHOP
Survey Date: 2021-01-08

Site: 1885 Sherbrooke Street West,
Peterborough, ON
Floor: 1

Building Name: Crestwood Secondary School
Room #: B107
Last Re-Assessment:

Area (sqft): 1500

PAINT									
System	Item	Good	Poor	Unit	Sample	Sample Description		Amount	Hazard
Mechanical Equipment ¹	Paint	100		%	L0005	White paint on metal AHU		Pb: 0.078 %	Lead (Low)

Parging cement on fitting for radiator piping at north/east perimeter wall at 2' height.
1 - White paint on metal AHU

ALL DATA REPORT

Client: Kprdsb
Location: #225 : Corridor
Survey Date: 2021-01-08

Site: 1885 Sherbrooke Street West,
Peterborough, ON
Floor: G

Building Name: Crestwood Secondary School
Room #:
Last Re-Assessment:

Area (sqft): 300

ASBESTOS															
System	Component	Material	Item	Covering	A*	V*	AP*	Good	Fair	Poor	Unit	Sample	Asbestos Type	Amount	Hazard
Ceiling ¹		Ceiling Tiles (lay-in)			C	Y		300			SF	V0000	Non-Asbestos		None
Duct		Fibreglass													
Duct		Not Insulated													
Floor		Terrazzo						300			SF	V9500	Presumed Asbestos		Presumed Asbestos(NF)
Piping		Fibreglass													
Piping		Not Insulated													
Structure		Not Insulated													
Wall		Masonry													

1 - 24? x 48?, lay-in, fleck and pinhole. 2010 date stamp

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		Condition	
A	Accessible to all building occupants	Good	No visible damage or deterioration
B	Accessible to maintenance and operations staff without a ladder	Fair	Minor, repairable damage, cracking, delamination or deterioration
C	Accessible to maintenance and operations staff with a ladder. Also rarely entered, locked areas	Poor	Irreparable damage or deterioration with exposed and missing material
D	Not normally accessible		

PART 1 GENERAL

1.1 General and Related Work

- .1 Read this Section in conjunction with all drawings and all other Sections so as to comply with the requirements of Division 1 and the General Conditions of the Contract.
- .2 Related work specified elsewhere:
 - Section 02 82 00.01 Asbestos Abatement – Type 1 Procedures
 - Section 02 82 00.02 Asbestos Abatement – Type 2 Procedures
 - Section 02 82 00.03 Asbestos Abatement – Type 3 Procedures
 - Section 02 82 00.04 Asbestos Abatement – Type 2 Glove Bag Method
- .3 Site Conditions identifies all known hazardous building materials within the Project Area. The information provided is for general reference only. The specification fulfils the requirements of Section 30 of the Ontario Occupational Health and Safety Act.
- .4 Unless otherwise shown or specified it is the intent that work performed as per this section will result in the removal and disposal or decontamination of all ACM and all materials which have been contaminated by ACM either during or prior to work of this section.
- .5 Refer to Pinchin Asbestos Work Area drawing by asbestos procedure as follows:
 - .1 AR-100 for Type 1 asbestos work.
 - .2 AR-200 for Type 2 asbestos work.
 - .3 AR-300 for Type 3 asbestos work.
 - .4 AR-400 for Glove Bag asbestos work.
- .6 Refer to drawings and specifications prepared by Moffet & Duncan Architects Inc. for Architectural, Structural, Electrical, and Mechanical drawings for asbestos work coordination and the extent of building materials to be removed under asbestos precautions.
- .7 The Pinchin report “*Revised Hazardous Building Materials Assessment, Crestwood Secondary School, Ontario*” dated May 11, 2021, Pinchin File 285775 form part of this specification and the contract documents.

1.2 Site Conditions

- .1 Refer to Drawings 1 of 2 to 2 of 2 of Pinchin’s Hazardous Building Materials Assessment report for the locations of asbestos-containing materials.

.2 Asbestos:

.1 The following materials have been confirmed to contain asbestos:

- .1 Parging cement, containing chrysotile asbestos, is present on pipe fittings in the following locations:
 - .1 Kitchen 126 (Location 34);
 - .2 Fan Room 124 (Location 49);
 - .3 Fan Room 124A (Location 50);
 - .4 Weight Room B108 (Location 75); and
 - .5 Electrical Shop B107 (Location 92).
- .2 Parging cement, containing chrysotile asbestos, is present on duct seams and pins on fibreglass insulation in the following locations:
 - .1 Mechanical Room (Location 84);
 - .2 Fan Room 124 (Location 49); and
 - .3 Fan Room 124A (Location 50).
- .3 Glued-on asbestos paper, containing chrysotile asbestos, is present on duct seams and pins on fibreglass insulation in the following locations:
 - .1 Fan Room 124 (Location 49); and
 - .2 Fan Room 124A (Location 50).
- .4 Plaster, containing Actinolite/Tremolite asbestos, is present on the ceiling in Fan Room 124 (Location 49).
- .5 Vinyl floor tile and mastic, containing chrysotile asbestos, is present as a floor finish in Electrical Shop B107 (Location 92).
- .6 Caulking, containing chrysotile asbestos, is present on the wall penetrations in the walk-in coolers of Kitchen 126 (Location 34).

.2 The following materials have been presumed to contain asbestos:

- .1 Textile vibration dampers on the ventilation ducting in the following locations:
 - .1 Fan Room 124 (Location 49);
 - .2 Fan Room 124A (Location 50);
 - .3 Weight Room B108 (Location 75);
 - .4 Mezzanine Mechanical Room (Location 84);
 - .5 Automotive Shop B109 (Location 89); and
 - .6 Electrical Shop B107 (Location 92).
- .2 Terrazzo is presumed to contain asbestos and is present in the following locations:
 - .1 Kitchen 126 (Location 34);
 - .2 Custodian Closet 126D (Location 36);
 - .3 Corridor H10 (Location 225).

.3 Lead:

.1 The following paint finishes have been confirmed to contain low concentrations of lead:

- .1 White paint on metal walk-in cooler in Kitchen 126 (Location 34) (0.014%).
- .2 White paint on compressor wood stand in Custodian Closet (Location 36) (0.022%).

- .3 Black paint on metal walk-in cooler in Kitchen 126 (Location 34) (0.011%).
- .4 White paint on metal AHU in Mechanical Room (Location 84) (0.014%).
- .5 White paint on metal AHU in Electrical Shop B107 (Location 92) (0.078%).
- .6 Dark grey paint on metal AHU in Fan Room 124 (Location 49) (0.031%).
- .4 Mercury:
 - .1 The following building materials are presumed to contain mercury:
 - .1 Fluorescent light tubes.
- .5 Silica:
 - .1 The following building materials are presumed, or have been confirmed, to contain silica:
 - .1 Concrete
 - .2 Mortar
 - .3 Masonry
 - .4 Terrazzo
- .6 Mould:
 - .1 Mould growth is present as follows:
 - .1 There is approximately five linear feet of visible mould growth present on jacketing of fibreglass pipe insulation above the walk-in cooler in Kitchen 126 (Location 34).
- .7 Remaining designated substances including arsenic, acrylonitrile, benzene, coke oven emissions, ethylene oxide, isocyanates, vinyl chloride monomer, are not typically found in building materials in a composition/state that is hazardous and are not presumed to be present within the Work Areas.

1.3 Outline of Work

- .1 Coordinate the following items with the Owner's Project Manager and the Construction Manager, including but not limited to: electrical isolations, GFI connection, water connections, bin placement, schedule, disconnects, etc.
- .2 Using procedures prescribed in the Sections identified in Related Work, remove and dispose of the following materials in the following areas:
 - .1 Using Type 1 procedures as specified in Section 02 82 00.01, remove and dispose of the vinyl floor tile in Electrical Shop B107 (Location 92). Manually scrape floor mastic to a thin film (~1,500 square feet).
 - .1 If manually scraping floor mastic is not successful, perform Type 1 procedures remove and dispose of floor mastic using a chemical stripping agent.

- .2 Using Type 1 procedures as specified in Section 02 82 00.01, remove and dispose of grey caulking present above the walk-in cooler around the wall and ceiling penetrations in Kitchen 126 (Location 34) (~15 linear feet).
- .3 Using Type 1 procedures as specified in Section 02 82 00.01, remove and dispose of the textile vibration dampers in the following locations:
 - .1 Fan Room 124 (Location 49) (~20 square feet);
 - .2 Fan Room 124A (Location 50) (~20 square feet);
 - .3 Carpentry Shop B106 (Location 71) (~20 square feet);
 - .4 Weight Room B108 (Location 75) (~20 square feet);
 - .5 Mezzanine Mechanical Room (Location 84) (~20 square feet);
 - .6 Automotive Shop B109 (Location 89) (~20 square feet); and
 - .7 Electrical Shop B107 (Location 92) (~20 square feet).
- .4 Using Type 2 asbestos procedures as specified in Section 02 82 00.02, remove asbestos-containing parging cement pipe insulation if removal is not possible using Glove Bag procedures, in the following locations:
 - .1 Kitchen 126 (Location 34) (3 Each);
 - .2 Fan Room 124 (Location 49) (8 Each);
 - .3 Fan Room 124A (Location 50) (8 Each);
 - .4 Weight Room B108 (Location 75) (8 Each); and
 - .5 Electrical Shop B107 (Location 92) (16 Each).
- .5 Using Glove Bag procedures as specified in Section 02 82 00.04, remove and dispose of the asbestos-containing parging cement pipe insulation in the following locations:
 - .1 Kitchen 126 (Location 34) (3 Each);
 - .2 Fan Room 124 (Location 49) (8 Each);
 - .3 Fan Room 124A (Location 50) (8 Each);
 - .4 Weight Room B108 (Location 75) (8 Each); and
 - .5 Electrical Shop B107 (Location 92) (16 Each).
- .6 Using Type 3 procedures as specified in Section 02 82 00.03, remove and dispose of the asbestos-containing glued-on paper and/or parging cement insulation on duct seams and pins on fibreglass insulation in the following locations:
 - .1 Fan Room 124 (Location 49) (~150 square feet);
 - .2 Fan Room 124A (Location 50) (~100 square feet); and
 - .3 Shop Wing Mechanical Room (Location 84) (~20 square feet).
- .7 Using Type 3 procedures as specified in Section 02 82 00.01, remove and dispose of the asbestos-containing plaster ceiling in the Fan Room 124 (Location 49) (~175 square feet).

1.4 Schedule

- .1 Perform work as directed by the General Contractor.
- .2 Any work disturbing asbestos and lead must be performed while teachers and students aren't present in the building.

1.5 Definitions

- .1 Abatement Consultant: Owner's Representative providing inspection and air monitoring.
- .2 Abatement Contractor: Contractor or sub-contractor performing work of this section.
- .3 Abatement Work Area: Area where work takes place which will, or may, disturb hazardous materials.
- .4 Amended Water: Water with wetting agent added for the purpose of reducing surface tension to allow thorough wetting of materials.
- .5 Asbestos: Any of the fibrous silicates defined in Regulation 278/05 including: actinolite, amosite, anthophyllite, chrysotile, crocidolite and tremolite.
- .6 Asbestos-Containing Material (ACM): Material identified under Site Conditions including any debris, overspray, fallen material and settled dust.
- .7 Authorized Visitors: Building Owner, Abatement Consultant, or designated representative, and persons representing regulatory agencies.
- .8 Competent Worker: A worker who is qualified because of knowledge, training and experience to perform the work, is familiar with Regulation 278/05 and the Occupational Health and Safety Act, and has knowledge of the potential or actual danger to health and safety in the work.
- .9 Contaminated Waste: Material identified under Site Conditions, including fallen material, settled dust, other debris and materials or equipment deemed to be contaminated by the Abatement Consultant.
- .10 Curtained Doorway: Doorway consisting of two (2) overlapping flaps of rip-proof polyethylene arranged to permit ingress and egress from one room to another while permitting minimal air movement between rooms.
- .11 DOP Test: A testing method used to determine the integrity of the Negative Pressure unit or vacuum using a Dispersed Oil Particulate (DOP) or Poly Alpha Olefin (PAO) HEPA filter leak test. This test is to be conducted on site where units are to be installed. Refer to the Environmental Abatement Council of Ontario (EACO) DOP/PAO Testing Guideline 2013 or ANSI/ASME N510-2007.
- .12 Fitting: Individual segments or pieces of a mechanical service line which may include but is not limited to the hangers, tees, elbows, joints, valves, unions, etc.
- .13 Friable Material: Material that when dry can be crumbled, pulverized or powdered by hand pressure and includes such material that is crumbled, pulverized or powdered.
- .14 HEPA: High Efficiency Particulate Aerosol filter that is at least 99.97 percent efficient in collecting a 0.3 micrometre aerosol.

- .15 Lead-Containing: 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.).
- .16 Milestone Inspection: Inspection of the Abatement Work Area at a defined point in the abatement operation.
- .17 Negative Pressure: A reduced pressure within the Abatement Work Area (> 0.02 inches of water column) established by extracting air directly from Abatement Work Area and discharging it to exterior of building.
- .18 Non-Friable Material: Material that when dry cannot be crumbled, pulverized or powdered by hand pressure.
- .19 Occupied Area: Any area of the building or adjoining space outside the Abatement Work Area.
- .20 Personnel: All Contractor's employees, sub-contractors employees, supervisors.
- .21 PCM: Phase Contrast Microscopy.
- .22 Remove: Remove means remove and dispose of (as applicable type of waste) unless followed by other instruction (e.g. remove and turn over to Owner).

1.6 Regulations and Guidelines

- .1 Comply with Federal, Provincial, and local requirements, provided that in any case of conflict among those requirements or with these Specifications, the more stringent requirements shall apply. Work shall be performed under regulations in effect at the time work is performed.
- .2 Where regulations are not present, follow accepted industry standards and applicable Guideline documents.
- .3 Regulations and Guidelines include but are not limited to the following:
 - .1 Ministry of Labour Occupational Health and Safety Act Regulations for Construction Projects including Revised Statutes of Ontario 1990, Chapter 0.1 and Ontario Regulation 278/05.
 - .2 Ministry of the Environment and Climate Change Regulation for the disposal of waste, including R.R.O. 1990, Reg. 347 as amended.
 - .3 Regulation 490/09 Designated Substances.

.4 Environmental Abatement Council of Ontario (EACO), Lead Guideline For Construction, Renovation, Maintenance or Repair, October 2014.

.5 Ministry of Labour, Guideline, Silica on Construction Projects, 2011.

1.7 Quality Assurance

- .1 Removal and handling of hazardous materials is to be performed by persons trained in the methods, procedures and industry practices for Abatement.
- .2 Ensure work proceeds to schedule, meeting all requirements of this Specification.
- .3 Complete work so that at no time airborne dust, visible debris, or water runoff contaminate areas outside the Abatement Work Area.
- .4 Any contamination of surrounding area (indicated by visual inspection or air monitoring) shall necessitate the clean-up of affected area, and in the same manner applicable to an Abatement Work Area at no cost to the Owner.
- .5 All work involving electrical, mechanical, carpentry, glazing, etc., shall be performed by licensed persons experienced and qualified for the work required.

1.8 Supervision

- .1 Provide on site for each work shift, a Shift Superintendent(s), who has authority regarding all aspects related to manpower, equipment and production.
- .2 At all times during work, the Overall or Shift Superintendent(s) must be on site. Failure to comply with this requirement will result in a stoppage of all work, at no cost to the Owner.
- .3 Replace supervisory personnel, with approved replacements, within three (3) working days of a written request from the Owner. Owner reserves the right to request replacement of supervisory personnel without explanation.
- .4 Do not replace supervisory personnel without written approval from the Owner.

1.9 Instruction and Training

- .1 Instruction and training must be provided by a competent person.
- .2 All workers completing Type 1 and 2 asbestos abatement must be trained in compliance with Section 19 of O.Reg. 278/05.
 - .1 For Type 3 asbestos abatement, workers must be trained and certified per Section 20 of O.Reg. 278/05.

1.10 Notification

- .1 Before commencing work, notify orally and in writing, an inspector at the office of the Ontario Ministry of Labour nearest the project site, where required.

- .2 Inform all trades on site of the presence and location of hazardous materials identified in the Contract documents.
- .3 Notify the Owner or Owner's Representative, the Joint Occupational Health and Safety Committee and the Provincial Ministry of Labour, if suspected asbestos-containing materials not identified in the contract documents are discovered during the course of the work. Stop work in these areas immediately.
- .4 Notify Sanitary Landfill site as per O.Reg. 347/90 as amended.

1.11 Submittals

- .1 Submit prior to starting work:
 - .1 Provincial Workers' Compensation Board Clearance Certificate.
 - .2 Insurance certificates.
 - .3 Copy of Company Health and Safety Policy and applicable programs.
 - .4 Ministry of Labour Notice of Project form.
 - .5 Copy of Certificate of Approval for disposal of hazardous materials waste and location of landfill.
 - .6 Pre-removal damage survey of the Abatement Work Area(s), waste transport routes, and bin storage areas.
- .2 Submit the following information regarding personnel prior to starting work:
 - .1 Resumes of the supervisory personnel.
 - .2 Proof in the form of a certificate that supervisory personnel have been certified as supervisors under the Ministry of Training, Colleges and Universities course 253S.
 - .3 Proof in the form of a certificate that workers have been certified under the Ministry of Training, Colleges and Universities course 253W.
 - .4 WHMIS training certificates for all personnel.
 - .5 Certificate proving that each worker on site has been fit tested for the respirator appropriate for the work being performed.
- .3 Submit the following information regarding HEPA filtered devices prior to construction of enclosure or asbestos abatement:
 - .1 Performance data on HEPA filtered vacuums including DOP tests no more than 3 months old.

- .2 Performance data on negative air units including DOP tests which must be no more than 3 months old if the unit is vented outdoors or which must be performed on site immediately prior to initial usage and when HEPA filters are changed if the unit is vented indoors.
- .3 DOP tests to be performed by an independent testing company.
 - .1 DOP testing company is required to submit a detailed technical report of testing protocol, including Introduction, Methodology, Results, Conclusions, and Recommendations, including results of the Air-Aerosol Mixing Uniformity test as per ANSI/ASME N510-2007.
 - .2 DOP testing company must also provide calibration certificates from an independent calibration firm or from the manufacturer of the testing equipment for both the aerosol photometer and the pressure gauge on the aerosol generator dated within 1 calendar year from the on-site testing date.
 - .3 DOP testing company must also provide the National Sanitation Foundation (NSF) certification name and number of the on-site technician performing the testing.
- .4 Proof of calibration of DOP testing equipment.
- .4 Submit the following prior to isolating the work area:
 - .1 Safety Data Sheets for chemicals or material used in the course of the Abatement Project.
- .5 Submit the following upon completion of the work.
 - .1 Manifests, waybills, bills of lading etc. as applicable for each type of waste.

1.12 Inspection

- .1 From commencement of work until completion of clean-up operations, the Abatement Consultant is empowered by the Owner to inspect for compliance with the requirements of governing authorities, adherence to specified procedures and materials, and to inspect for final cleanliness and completion.
- .2 The Abatement Consultant is empowered by the Owner to order a shutdown of work when leakage of asbestos from the controlled work area has occurred or is likely to occur.
- .3 Any deviation from the requirements of the Specifications or governing authorities that is not approved in writing may result in a stoppage of work, at no cost to the Owner.
- .4 Additional labour or materials expended by the Contractor to rectify unsatisfactory conditions and to provide performance to the level specified shall be at no additional cost to the Owner.
- .5 Inspection and air monitoring performed as a result of Contractor's failure to perform satisfactorily regarding quality, safety, or schedule, shall be back-charged to the Contractor.

- .6 Facilitate inspection and provide access as necessary. Make good work disturbed by inspection and testing at no cost to the Owner.
- .7 Refer to the Sections identified in Related Work for specified milestone inspections which are to take place at defined points throughout the abatement operation specific to each phase or work area.
- .8 Provide 24 hours written notice to the Abatement Consultant of any request for scheduling of milestone inspections or transportation of waste through Occupied Areas.
- .9 The following Milestone Inspections may take place, at the Owner's cost, as outlined in each related specification section OR which will be confirmed at the initial start-up meeting:
 - .1 Milestone Inspection - Clean Site Preparation
 - .1 Inspection of preparations and set-up prior to contaminated work in the Abatement Work Area.
 - .2 Milestone Inspection – Bulk Removal Inspection
 - .1 Inspection during asbestos removal, monitoring removal methods, site deficiencies, performing occupied air monitoring, etc.
 - .3 Milestone Inspection - Visual Clearance
 - .1 Inspection of Abatement Work Area after completion of all abatement, but prior to application of lock-down agents or dismantling of enclosure.
 - .4 Milestone Inspection – Clearance Sampling
 - .1 Air monitoring performed following removal of asbestos and application of slow drying sealer to ensure fibre levels inside the Type 3 enclosure(s) are within the acceptable limits. The number of samples to be collected and analysed are based on the requirements of O.Reg. 278/05.
- .10 Do not proceed with next phase of work until written approval of each milestone is received from the Abatement Consultant.

1.13 Air Monitoring - Asbestos

- .1 Air monitoring will be performed using Phase Contrast Microscopy (PCM) following the National Institute for Occupational Safety and Health Method 7400.
- .2 Co-operate in the collection of air samples, including providing workers to wear sample pumps for up to full-shift periods. Contractor will be responsible for the cost of testing equipment repairs or resampling resulting from the actions of the Contractor's forces.
- .3 Results of PCM samples at or exceeding 0.05 fibres per cubic centimeter of air (fibre/cc) or greater, outside an Abatement Work Area, or from within the Abatement Work Area during or following Glove Bag Work, will indicate asbestos contamination of these areas. Respond as follows:

- .1 Suspend work within the adjoining Abatement Work Area until written authorization to resume work has been received from the Abatement Consultant.
 - .2 Isolate and clean area in the same manner applicable to the Abatement Work Area.
 - .3 Maintain work area isolation, and repeat clean-up operations until visual inspection and air monitoring results are at a level equal to that specified.
 - .4 At the discretion of the Abatement Consultant provide additional negative air units at locations specified in response to elevated fibre levels being detected in the Clean Change Room or Occupied Areas.
- .4 Results of PCM samples at or greater than 0.01 fibres per cubic centimeter of air (fibre/cc), collected within the Abatement Work Area enclosure after the site has passed a visual inspection, and an acceptable coat of lock-down agent has been applied, will indicate asbestos contamination of these areas. Respond as follows:
- .1 Maintain work area isolation and re-clean entire work area. Then apply another acceptable coat of lock-down agent to exposed surfaces throughout the work area.
 - .2 Repeat above measures until visually inspected and air monitoring results are at a level equal to that specified
- .5 Additional labour or materials expended by the Contractor to rectify unsatisfactory conditions and to provide performance to the level specified shall be at no additional cost to the Owner.
- .6 Cost of additional inspection and sampling performed as a result of elevated fibre levels in areas outside the Abatement Work Area or from within the work area following completion of work, will be back-charged to the Contractor.

1.14 Worker Protection

- .1 Instruct workers before allowing entry to the Abatement Work Area. Instruction shall include training in use of respirators, dress, showering, entry and exiting from an Abatement Work Area, and all other aspects of work procedures and protective measures.
- .2 Workers shall not eat, drink, chew gum or tobacco, vape or smoke in the Abatement Work Area.
- .3 Workers shall be fully protected at all times when possibility of disturbance of hazardous materials exists.
- .4 Provide soap, towels and facilities for washing of hands and face, which shall be used by all personnel when leaving the Abatement Work Area.
- .5 Respiratory Protection:

- .1 Refer to each particular Section of the Specification for specified type of respiratory equipment specific to each phase or work area.
- .2 Respirators shall be:
 - .1 Certified by the National Institute of Occupational Safety and Health (NIOSH) or other testing agency acceptable to the Ministry of Labour.
 - .2 Fitted so that there is an effective seal between the respirator and the worker's face. Ensure that no person required to enter an Abatement Work Area has facial hair which affects the seal between respirator and face.
 - .3 Assigned to a worker for their exclusive use.
 - .4 Maintained in accordance with manufacturer's specifications.
 - .5 Cleaned, disinfected and inspected by a competent person after use on each shift, or more often if required.
 - .6 Repaired or have damaged or deteriorated parts replaced.
 - .7 Stored in a clean and sanitary location.
 - .8 Provided with new filters as necessary, according to manufacturer's instructions.
 - .9 Worn by personnel who have been fit checked by qualitative or quantitative fit-testing.
 - .10 Instruction on proper use of respirators must be provided by a competent person as defined by the Occupational Health and Safety Act.
- .3 Provide protective clothing, to all personnel which:
 - .1 Is made of a material that does not readily retain nor permit penetration of asbestos fibres or lead/silica dust.
 - .2 Consists of head covering and full body covering that fits snugly at the ankles, wrists and neck.
 - .3 Once coveralls are worn, treat and dispose of as contaminated waste.
 - .4 Is replaced or repaired if torn or ripped.
- .4 Use hard hats, safety footwear and other protective equipment and apparel required by applicable construction safety regulations.

1.15 Visitor Protection

- .1 Provide clean protective clothing and equipment to Authorized Visitors.
- .2 Instruct Authorized Visitors in the use of protective clothing and Abatement Work Area entry and exit procedures.
- .3 Authorized visitors are required to be fit tested on respirators, prior to entering Abatement Work Area.
 - .1 Respirator worn must be compliant with Section 13 and Table 2 of O.Reg. 278/05.

1.16 Signage

- .1 Asbestos Abatement Signs: Post signs at access points to the Abatement Work Area, stating at minimum, the following:

- .1 There is an asbestos dust hazard.
- .2 Access to the work area is restricted to persons wearing protective clothing and equipment.
- .2 Vehicles, Bins and Asbestos Waste Containers: Post signs on both sides of every vehicle used for the transportation of asbestos waste and on every asbestos waste container. Signs must display thereon in large, easily legible letters that contrast in colour with the background the word “CAUTION” in letters not less than ten centimetres in height and the words:
 - .1 CONTAINS ASBESTOS FIBRES
 - .2 Avoid Creating Dust and Spillage
 - .3 Asbestos May be Harmful To Your Health
 - .4 Wear Approved Protective Equipment.

1.17 Differential Pressure Monitoring

- .1 Provide and install differential pressure monitors as specified in each section.
- .2 Replace damaged or non-functional equipment at the request of the Abatement Consultant.
- .3 Record at minimum twice daily, and when damage to the enclosure is identified and repaired, the following information:
 - .1 Name of inspector.
 - .2 Date and time.
 - .3 Pressure reading.
 - .4 Repairs completed, if applicable.
- .4 Maintain specified differential pressure.
- .5 Stop contaminated work and take corrective action if pressure differential drops below the specified level. Notify the Abatement Consultant immediately.

1.18 Waste and Material Handling

- .1 Waste bins must be placed on grade.
- .2 All bins for hazardous materials must be covered and locked when waste transfer is not being performed.
- .3 Ensure redundant non-ACM, rubble, debris, etc. removed during contaminated work are treated, packaged, transported and disposed of as appropriate waste.
- .4 Clean, wash and apply Post Removal Sealant to metal waste prior to removal from Abatement Work Area. Recycle metals.

- .5 Clean, wash and apply Post Removal Sealant to non-porous materials prior to disposal as clean waste. Obtain prior written approval from the Abatement Consultant for each individual type of material.
- .6 Clean and wash equipment prior to removal from Abatement Work Area if removed prior to completion.
- .7 Place all equipment, tools and unused materials that cannot be cleaned in Abatement Waste Containers.
- .8 As work progresses, and at regular intervals, transport the sealed and labelled waste containers from the Abatement Work Area to waste bin.
- .9 Place items in bins according to waste classification. Place asbestos waste, lead waste, metals, non-asbestos waste, etc. in separate bins.
- .10 Removal of waste containers and decontaminated tools and materials from the Abatement Work Area shall be performed as follows:
 - .1 Remove any visible contamination from the surface of non-porous or cleanable waste being removed from the Abatement Work Area. If the item can be cleaned, remove it from the site as clean waste.
 - .2 Place waste or item in Waste Container and seal closed.
 - .3 Wet wipe outside of Waste Container.
 - .4 Within Decontamination Facility, Transfer Room or at the perimeter of the Abatement Work Area, place in second Waste Container. Seal closed.
 - .5 Remove waste containers and transport to appropriate bin.
- .11 Transport waste and materials via the predetermined routes and exits. Arrange waste transfer route with Owner. Use a closed, covered cart to transport through Occupied Areas.
- .12 Provide workers transporting waste with means to access full personal protective equipment and all tools required to properly clean up spilled material in the case of a rupture of a Waste Container.
- .13 Pick-up and drop off of garbage bin shall be at pre-approved times, and must not interfere with the Owners operations.
- .14 Transport hazardous waste to landfill or waste transfer station licensed by the provincial Ministry of the Environment.
- .15 Cooperate with the provincial Ministry of the Environment inspectors and immediately carry out instructions for remedial work at dump to maintain environment, at no additional cost to the Owner.

1.19 Re-establishment of Objects and Systems

- .1 Re-establish objects and items relocated by the Contractor's workforce to facilitate work.
- .2 Re-establish electrical, communication, HVAC and other services previously disconnected or otherwise isolated to accommodate work by this Section.
- .3 Make good at completion of work, all damage not identified in pre-removal survey.

PART 2 PRODUCTS AND FACILITIES

2.1 Materials and Equipment

- .1 Refer to the Sections identified in Related Work for specified materials, equipment or facilities specific to each phase or work area.
- .2 Materials and equipment must be in good condition and free of debris and fibrous materials. Disposable items must be of new materials only.
- .3 Airless Sprayer: AC powered pressure washer that allows wetting agent to mix with water, uses no air or compressed air, and has a nozzle to regulate power and pressure.
- .4 Amended Water: Water with wetting agent added for purpose of reducing surface tension to allow thorough wetting of materials.
- .5 Asbestos Waste Container: A container acceptable to disposal site, Ministry of the Environment, and Ministry of Labour, comprised of the following:
 - .1 Dust tight.
 - .2 Suitable for the type of waste.
 - .3 Impervious to asbestos.
 - .4 Identified as asbestos waste.
- .6 Differential Pressure Monitor: a high precision instrument for measuring and controlling pressure differences in the low range, between the Abatement Work Area and Occupied Area. Calibrate regularly to manufacturer's instructions.
- .7 Discharge Ducting: Polyethylene Tubing. Reinforced with wire. Diameter to equal negative pressure machine discharge. Not to be longer than required, or so long that negative pressure is compromised.
- .8 Ground Fault Panel: Electrical panel as follows:
 - .1 Ground fault circuit interrupters of sufficient capacity to power temporary electrical equipment and lights in Asbestos Work Area.
 - .2 Interrupters to have a 5 mA ground fault protection.

- .3 Necessary accessories including main switch disconnect, ground fault interrupter lights, test switch to ensure unit is working, and reset switch.
- .4 Openings sealed to prevent moisture or dust penetration.
- .5 Inspected by the Electrical Safety Authority.
- .6 Panel uses CSA approved parts and been constructed, inspected and installed by a licensed electrician.
- .7 Provide one Ground Fault Panel for each 5,000 square feet (500 square metres) of Abatement Work Area.
- .9 HEPA Vacuum: Vacuum with necessary fittings, tools and attachments. Discharged air must pass through a HEPA filter.
- .10 Hose: Leak-proof, minimum bursting strength of 500 PSI or greater if required, abrasion resistant covering, reinforcing, and machined-brass couplings. Maintained and tested. Hose to be temperature resistant if it is to carry domestic hot water.
- .11 Polyethylene Sheeting: 6 mil (0.15 mm) minimum thickness unless otherwise specified, in sheet size to minimize joints.: 6 mil (0.15 mm) minimum thickness unless otherwise specified, in sheet size to minimize joints.
- .12 Post Removal Sealant (or Lockdown): Sealant that when applied to surfaces serves the function of trapping residual asbestos fibres or other dust. Product must have flame spread and smoke development ratings both less than 50. Product shall leave no stain when dry. Post Removal Sealant shall be compatible with replacement insulation or fireproofing where required and capable of withstanding service temperature of substrate. Apply to manufacturer's instructions.
- .13 Protective Clothing: Disposable coveralls complete with head covering and full body covering that fits snugly at the ankles, wrists and neck.
- .14 Rip-Proof Polyethylene Sheeting: 8 mil (0.20 mm) fabric made up from 5 mil (0.13 mm) weave and two (2) layers of 1.5 mil (0.05 mm) poly laminate or approved equal. In sheet size to minimize on-site seams and overlaps.
- .15 Shower Hose: Water lines for supply of hot & cold water to shower facilities to be rated for use at 200 PSI (1380 kPa) or twice the working pressure whichever is greater. Supply lines to be continuous and free of fittings, joints or couplings.
- .16 Sprayer: Garden type portable manual sprayer or water hose with spray attachment if suitable.
- .17 Tape: Duct tape or tape suitable for sealing polyethylene to surfaces under both dry and wet conditions in the presence of Amended Water.
- .18 Wetting Agent: Non-sudsing surfactant added to water to reduce surface tension and increase wetting ability.

PART 3 EXECUTION

- .1 Refer to the Sections identified in Related Work for specified procedures for work area preparation, maintenance, site dismantlement, application of lock-down agent and all other procedures for the safe handling, removal and clean-up of hazardous materials specific to each phase or work area.

END OF SECTION

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PART 1 GENERAL

1.1 General and Related Work

- .1 Read this Section in conjunction with all drawings and all other Sections so as to comply with the requirements of Division 1 and the General Conditions of the Contract.
- .2 Requirements specified elsewhere:
 - .1 Section 02 81 00 Hazardous Materials – General Provisions

1.2 Outline of Work

- .1 Refer to Section 02 81 00 Hazardous Materials – General Provisions for the Outline of Work.
- .2 Refer to Drawings AR-100 for the extent of the Type 1 Abatement Work Areas.
- .3 The intent of this Section is to provide safe work practices and procedures to govern the handling, removal, clean-up and disposal of asbestos-containing materials following Type 1 procedures, and Pinchin and Owner specific requirements.

1.3 Personal Protection

- .1 Protect all personnel at all times when possibility of disturbance of ACM exists.
 - .1 Provide non-powered half-face respirators with P100 high efficiency (HEPA) cartridge filters when requested by personnel.
 - .2 When requested by personnel, provide protective clothing.
- .2 Provide protective clothing, to all personnel entering the Abatement Work Area.
- .3 Wear hard hats, safety shoes and other personal protective equipment required by applicable construction safety regulations.

1.4 Inspections

- .1 The following Milestone Inspections are to be scheduled:
 - .1 Milestone Inspection - Visual Clearance

PART 2 PRODUCTS AND FACILITIES

- .1 Refer to Section 02 81 00.

PART 3 EXECUTION

3.1 Site Preparation

- .1 Moving of equipment, tools, supplies, and stored materials that can be performed without disturbing ACM will be performed by others.
- .2 Remove visible dust and friable material from all surfaces in the work area including those to be worked on, using HEPA Vacuums or wet wiping.
- .3 Install polyethylene drop sheets in the Asbestos Type 1 work area in the walk-in cooler bellow the grey caulking scheduled for removal.
- .4 Install signage in clearly visible locations and in sufficient numbers to adequately warn of an asbestos dust hazard.
- .5 Isolate, at panel, and disconnect existing power supply to Abatement Work Area. Power supply to remaining areas of building must not be disrupted during work of this section.

- .1 Lock-out/tag-out power at electrical panels.
- .2 Mark/tag any items within or passing through the Abatement Work Area that are to remain live including but not limited to cable, conduit, wire, fixtures, equipment panels, etc.
- .6 Provide power from ground fault interrupt circuits.
- .7 Provide amended water for wetting ACM, and adequate method of wetting (garden sprayers, airless sprayers, etc.).

3.2 Maintenance of Abatement Work Area

- .1 Inspect polyethylene sheeting and ensure it is effectively sealed and taped. Repair damage and remedy defects immediately.
- .2 Inspect electrical panels and ensure locks and tags are on panels prior to entering the Abatement Work Area.
- .3 Maintain Abatement Work Area in tidy condition.
- .4 Remove any standing water on polyethylene/floor at the end of every shift.
- .5 Turn off water supply to any hoses and reduce pressure in hose, prior to leaving the Abatement Work Area at end of shift.

3.3 Asbestos Removal - General

- .1 Do not use powered tools or non-hand-held tools.
- .2 Do not use compressed air to clean or remove dust or debris.
- .3 Do not break, cut, drill, abrade, grind, sand or vibrate ACM if it cannot be wetted. Type 2 procedures would be required if the material cannot be wetted due to hazard or damage.
- .4 Wet ACM prior to work and keep ACM wet throughout the removal process.
- .5 Frequently and at regular intervals during the work, clean up dust and waste using HEPA vacuums and/or wet sweeping or mopping.
- .6 Frequently and at regular intervals, place all waste in asbestos waste containers.
- .7 Immediately upon completion of work, clean area with HEPA vacuum and/or wet sweeping or mopping.

3.4 Asbestos Removal - Vinyl Asbestos Tile

- .1 Wedge a heavy duty scraper in seam of two adjoining tiles and gradually force edge of one tile up and away from floor. Do not break off pieces of tile, but continue to force balance of tile up.
- .2 Place tile, without breaking into smaller pieces, into Asbestos Waste Container.
- .3 Force scraper through tightly adhered areas by striking scraper handle with a hammer.
- .4 Heat tile thoroughly with a hot air gun until heat penetrates through tile and softens adhesive in areas where scraper will not remove tile.
- .5 Scrape up adhesive remaining on floor with a hand scraper until only a thin smooth film remains.
- .6 Use a hot air gun where deposits are heavy or difficult to scrape.
- .7 Deposit scrapings into asbestos waste disposal bag.
- .8 HEPA vacuum floor on completion of work in area.

3.5 Asbestos Removal – Mastic

- .1 Apply mastic remover per manufacture's instructions.
- .2 Let mastic removers to sit until mastic softens.
- .3 Use long handled scrapper or squeegee to remove mastic and mastic remover. Place waste into an asbestos waste container.
- .4 Reapply mastic remover as required.
- .5 Mop or power wash concrete floor slab with clean water. Let dry.
- .6 Confirm no residual mastic is present per manufacturers instructions.

3.6 Asbestos Removal - Removal of Non-Friable Asbestos Caulking

- .1 Wet all material to be disturbed.
- .2 Use only non-powered hand-held tools to remove ACM.
- .3 Scrape to remove material adhered to substrate.
- .4 Place removed ACM directly into an asbestos waste container.

3.7 Asbestos Removal - Removal of Non-Friable Textile Asbestos Materials

- .1 Wet all material to be disturbed.
- .2 Undo fasteners if necessary to remove material.
- .3 Break material only if unavoidable, and wet material if broken during work.
- .4 Use only non-powered hand-held tools to remove ACM.
- .5 Place removed ACM directly into an asbestos waste container.

3.8 Abatement Work Area Dismantling

- .1 Wash or HEPA vacuum equipment and tools used in contaminated Abatement Work Area to remove all asbestos contamination, or place in Asbestos Waste Containers prior to being removed from Abatement Work Area.
- .2 Place tools and equipment used in contaminated work site but not cleaned in polyethylene bags prior to removal from Abatement Work Area.
- .3 Clean polyethylene drop sheets which with HEPA vacuum or wet cleaning methods at completion of work.
- .4 Wet drop sheets and polyethylene sheeting.
- .5 Carefully roll polyethylene sheeting and drop sheets toward the centre. As polyethylene is rolled away, immediately remove visible debris beneath with a HEPA vacuum.
- .6 Remove remaining polyethylene sheeting and tape.
- .7 Place polyethylene sheeting, drop sheets, tape, disposal clothing and other contaminated waste in asbestos waste containers, wet wipe and place in second asbestos waste container.

3.9 Waste and Material Handling

- .1 Refer to Section 02 81 00.

END OF SECTION

PART 1 GENERAL

1.1 General and Related Work

- .1 Read this Section in conjunction with all drawings and all other Sections so as to comply with the requirements of Division 1 and the General Conditions of the Contract.
- .2 Requirements specified elsewhere:
 - .1 Section 02 81 00 Hazardous Materials – General Provisions

1.2 Outline of Work

- .1 Refer to Section 02 81 00 Hazardous Materials – General Provisions for the Outline of Work.
- .2 Refer to Drawings AR-200 for the extent of the Abatement Work Areas.
- .3 The intent of this Section is to provide safe work practices and procedures to govern the handling, removal, clean-up and disposal of asbestos-containing materials following Type 2 procedures, and Pinchin and Owner specific requirements.

1.3 Personal Protection

- .1 Protect all personnel at all times when possibility of disturbance of ACM exists.
- .2 Provide the following minimum respiratory protection to all personnel:
 - .1 Full face respirators with P100 high efficiency (HEPA) cartridge filters, for:
 - .1 Removal of all or part of a ceiling if asbestos is likely lying on the surface.
 - .2 Use of a HEPA filtered power tool on non-friable ACM if the material is not wetted.
 - .2 Non-powered half-face respirators with P100 high efficiency (HEPA) cartridge filters.
- .3 Provide protective clothing, to all personnel entering the Abatement Work Area.
- .4 Wear hard hats, safety shoes and other personal protective equipment required by applicable construction safety regulations.

1.4 Inspections

- .1 The following Milestone Inspections are to be scheduled:
 - .1 Milestone Inspection - Clean Site Preparation
 - .2 Milestone Inspection – Bulk Removal Inspection
 - .3 Milestone Inspection - Visual Clearance
 - .4 Milestone Inspection – Clearance Sampling

PART 2 PRODUCTS AND FACILITIES

- .1 Refer to Section 02 81 00.

2.2 Hoarding Walls

- .1 Type A Hoarding Wall: One layer of rip-proof polyethylene sheeting installed floor to ceiling, secured with telescopic poles, clips, or other suitable methods.
- .2 Windows: Install sufficient transparent windows area in hoarding walls to allow

observation of entire work area from outside the enclosure where existing solid walls do not make up the perimeter.

2.3 Curtained Doorways

- .1 Construct as follows:
 - .1 Install two flap doors, full width and height of door opening at all doors to Abatement Work Area and both ends of Transfer Room.
 - .2 Construct each flap door of two layers of polyethylene sheeting with all edges reinforced with tape. Use wood strapping to securely fasten flap doors to head and alternate jambs.
 - .3 Install weights attached to bottom edge of each door flap.
 - .4 Provide direction arrows on flaps to indicate opening.

PART 3 EXECUTION

3.1 Site Preparation - General

- .1 Moving of equipment, tools, supplies, and stored materials that can be performed without disturbing ACM will be performed by others.
- .2 Remove visible dust and friable material from all surfaces in the work area including those to be worked on, using HEPA Vacuums or wet wiping.
- .3 Provide power from ground fault interrupt circuits.
- .4 Provide amended water for wetting ACM, and adequate method of wetting (garden sprayers, airless sprayers, etc.).

3.2 Site Preparation –Enclosure Required

- .1 Install polyethylene enclosure complete with Windows at Abatement Work Areas for the following work:
 - .1 Removal of friable asbestos-containing materials (less than 1 square metre).
 - .2 Removal of a false ceiling (or part of) where asbestos-containing material is presumed or known to be present on the surface.
- .2 Seal openings in floor using tape, caulking, polyethylene, etc. Floor openings are to be sealed independently prior to installation of floor polyethylene.
- .3 Install polyethylene sheeting on floors of Abatement Work Area. Use sufficient layers to provide adequate protection for carpeting and equipment.
 - .1 Minimum requirement over carpet is one layer of 6 mil polyethylene under one layer of rip-proof polyethylene.
 - .2 Cover floors first so that polyethylene on walls is overlapped by at least 305 mm.
- .4 Construct Type A Hoarding Walls between Abatement Work Area perimeter and occupied areas.
- .5 Install polyethylene sheeting at openings in walls (as required) and seal.
- .6 Install 6 mil polyethylene sheeting on walls within the Abatement Work Area, including existing walls that make up, or are within, the Abatement Work Area.
- .7 Provide a completely sealed polyethylene top for free standing enclosures.
- .8 Extend to underside of ceiling system, enclosures for access into ceilings. Enclosure may be supported from the ceiling system if ceiling can support the polyethylene.

- .9 Install Curtained Doorways.
- .10 Install one layer of 6 mil polyethylene sheeting so as to protect all equipment and finishes in the Abatement Work Area that may be damaged. Items to remain include but are not limited to:
 - .1 Millwork.
 - .2 Doors.
 - .3 Bulkheads.
 - .4 Toilet Partitions.
 - .5 Plumbing fixtures.
 - .6 Electrical Equipment.
 - .7 Mechanical Equipment.
 - .8 Kitchen Equipment.
- .11 Install temporary lighting in enclosure to a level that will provide for safe and efficient use of work area - minimum 550 LUX.
- .12 Establish negative pressure in Abatement Work Areas as follows:
 - .1 Use HEPA Vacuum.
 - .2 Insert vacuum hose into enclosure, leave HEPA vacuum outside enclosure. Provide enough hose to reach all areas of enclosure.
 - .3 Operate HEPA vacuum continuously at all times when ACM may be disturbed.
- .13 Place required tools to complete the abatement with the Abatement Work Area.
- .14 Install Signage in clearly visible locations and in sufficient numbers to adequately warn of an asbestos dust hazard.

3.3 Maintenance of Abatement Work Area

- .1 Inspect polyethylene sheeting and ensure it is effectively sealed and taped. Repair damage and remedy defects immediately.
- .2 Inspect electrical panels and ensure locks and tags are on panels prior to entering the Abatement Work Area.
- .3 Inspect HEPA filtered negative pressure machines including discharge ducting at the beginning and end of each working period. Inspection must be performed by competent person.
- .4 Maintain Abatement Work Area in tidy condition.
- .5 Remove standing water on polyethylene/floor at the end of every shift.
- .6 Turn off water supply to any hoses and reduce pressure in hose, prior to leaving the Abatement Work Area at end of shift.

3.4 Asbestos Removal - General

- .1 Do not use compressed air to clean or remove dust or debris.
- .2 Frequently and at regular intervals during the work, clean up dust and waste using HEPA vacuums and/or wet sweeping or mopping.
- .3 Frequently and at regular intervals, place all waste in asbestos waste containers.
- .4 Immediately upon completion of work, clean area with HEPA vacuum and/or wet

sweeping or mopping.

3.5 Asbestos Removal – Thermal Systems Insulation (less than 1 Square Metre)

- .1 Construct an enclosure around Abatement Work Area and use the procedures described above under *Site Preparation – Enclosure Required*.
- .2 Adequately wet exterior of the ACM with amended water to suppress dust.
- .3 Remove asbestos-containing mechanical insulations in layers, maintaining all exposed surfaces of insulation in a wet condition.
- .4 Remove wetted ACM directly into waste containers. Do not allow ACM to fall to the floor of the Abatement Work Area.
- .5 Clean all surfaces from which ACM has been removed with scouring pads, vacuuming or wet-sponging to remove all visible material after completion of removal of ACM.
- .6 Remove visible dust and debris.
- .7 HEPA vacuum or wet clean entire Abatement Work Area, including any surfaces not covered with polyethylene sheeting. Any materials removed to access ACM that are to be re-used, and any abatement equipment, must be wet cleaned or HEPA vacuumed prior to completion.
- .8 Apply Post Removal Sealant to all surfaces within the Abatement Work Area including those from which ACM has been removed.

3.6 Application of Post Removal Sealant

- .1 Apply one coat of Post Removal Sealant with an airless sprayer, in accordance with Manufacturer's Instructions, to cover all surfaces on all items in the Abatement Work Area, including but not limited to polyethylene, ACM substrate, structural steel, and surfaces scheduled for demolition.
- .2 Do not apply post removal sealant to materials that will be damaged by its application.

3.7 Air Clearance Monitoring

- .1 Site must be dry prior to Air Clearance Monitoring.
- .2 The number of Air Clearance Monitoring samples will be as follows:
 - .1 1 sample for each Type 2 work area.
- .3 Restrict access to Abatement Work Area prior to Milestone Inspection – Clearance Sampling.
- .4 The HEPA filtered negative pressure machines shall be in operation during clearance air monitoring.
- .5 In the presence of the Abatement Consultant, immediately prior to air clearance monitoring, use a leaf blower to dislodge loose fibre.
 - .1 Direct leaf blower against walls, ceilings, floors, and other surfaces.
 - .2 Perform this for at least five minutes per 1,000 sq. ft. of Abatement Work Area.
- .6 PCM samples will be collected as per Air Monitoring Section.

3.8 Abatement Work Area Dismantling

- .1 Wash or HEPA vacuum equipment and tools used in contaminated Abatement Work Area to remove all asbestos contamination, or place in Asbestos Waste Containers prior

to being removed from Abatement Work Area.

- .2 Place tools and equipment used in contaminated work site but not cleaned in polyethylene bags prior to removal from Abatement Work Area.
- .3 Clean polyethylene sheeting and drop sheets which with HEPA vacuum or wet cleaning methods at completion of work.
- .4 Wet drop sheets and polyethylene sheeting.
- .5 Carefully roll polyethylene sheeting and drop sheets toward the centre of enclosure. As polyethylene is rolled away, immediately remove visible debris beneath with a HEPA vacuum.
- .6 Remove remaining polyethylene sheeting and tape, and dispose of as asbestos waste.
- .7 Place polyethylene sheeting, drop sheets, tape, disposal clothing and other contaminated waste in asbestos waste containers, wet wipe and place in second asbestos waste container.
- .8 Remove remaining site isolation, seals, tape, etc.
- .9 Remove seals, tape, Signage etc.
- .10 Immediately upon shutting down negative air units, seal air inlet grill and exhaust vent with polyethylene and tape.
- .11 Seal openings in HEPA vacuums.
- .12 Remove HEPA filtered negative pressure machines and discharge ducting or HEPA vacuums.
- .13 Remove temporary lights.
- .14 Remove ground fault panels.
- .15 Place contaminated materials including polyethylene sheeting, drop sheets, seals, tape, disposable coveralls, and other contaminated waste in asbestos waste containers.

3.9 Waste and Material Handling

- .1 Refer to Section 02 81 00.

3.10 Re-Establishment of Items

- .1 Upon completion of work:
 - .1 Clean, mop and vacuum Abatement Work Area.

END OF SECTION

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PART 1 GENERAL

1.1 General and Related Work

- .1 Read this Section in conjunction with all drawings and all other Sections so as to comply with the requirements of Division 1 and the General Conditions of the Contract.
- .2 Requirements specified elsewhere:
 - .1 Section 02 81 00 Hazardous Materials – General Provisions

1.2 Outline of Work

- .1 Refer to Section 02 81 00 Hazardous Materials – General Provisions for the Outline of Work.
- .2 Refer to Drawings AR 300 for the extent of the Abatement Work Areas.
- .3 Without disturbing asbestos-containing materials, remove and turn over to Owner the following materials/equipment in the Abatement Work Area:
 - .1 Exit signs.
 - .2 Light fixtures, lamps and ballasts.
 - .3 Doors and door hardware.
 - .4 Toilet Partitions.
 - .5 Plumbing fixtures.
 - .6 Electrical Equipment.
 - .7 Mechanical Equipment.
- .4 Without disturbing asbestos-containing materials, remove and dispose the following materials as clean waste prior to asbestos removal work:
- .5 The intent of this Section is to provide safe work practices and procedures to govern the handling, removal, clean-up and disposal of asbestos-containing materials following Type 3 procedures, and Pinchin and Owner specific requirements.

1.3 Personal Protection

- .1 Protect all personnel at all times when possibility of disturbance of ACM exists.
- .2 Provide the following respiratory protection to all personnel:
 - .1 Full Face Air Purifying Respirators with P100 high efficiency (HEPA) cartridge filters during projects when performing wet abatement of sprayed applied surfacing materials containing chrysotile asbestos, or wet abatement of other non-surfacing asbestos-containing material specified in this section.
 - .2 Non-powered half-face respirators with P100 high efficiency (HEPA) cartridge filters for:
 - .1 Dismantling of Type 3 (High Risk) enclosures, using Type 2 (Moderate Risk) Procedures.
- .3 Provide protective clothing, to all personnel entering the Abatement Work Area.
- .4 Wear hard hats, safety shoes and other personal protective equipment required by applicable construction safety regulations.

1.4 Differential Pressure Monitoring

- .1 Install differential pressure monitor at a location chosen by the Abatement Consultant.

- .2 Co-operate with the Abatement Consultant in collection of pressure monitoring data.
- .3 Maintain specified differential pressure at monitoring location. Negative air pressure is to be -0.02 inches of water, relative to the area outside the enclosed area.

1.5 Inspections

- .1 The following Milestone Inspections are to be scheduled:
 - .1 Milestone Inspection - Clean Site Preparation
 - .2 Milestone Inspection – Bulk Removal Inspection
 - .3 Milestone Inspection - Visual Clearance
 - .4 Milestone Inspection – Clearance Sampling

PART 2 PRODUCTS AND FACILITIES

2.1 Materials and Equipment

- .1 Refer to Section 02 81 00.

2.2 Hoarding Walls

- .1 Type A Hoarding Wall: One layer of rip-proof polyethylene sheeting installed floor to ceiling, secured with telescopic poles, clips, or other suitable methods.
- .2 Type B Hoarding Wall: 38 mm x 89 mm wood or metal studs at 400 mm o/c with continuous sill and top plate, covered with one layer of rip-proof polyethylene sheeting on each side of wall.
- .3 Windows: Install sufficient transparent windows in hoarding walls to allow observation of entire work area from outside the enclosure where existing solid walls do not make up the perimeter.

2.3 Decontamination Facilities

- .1 Workers' Decontamination Facility: A decontamination facility comprised of three linked rooms, Contaminated Change Room, a Shower Room, and a Clean Change Room.
 - .1 Rooms, Occupied Areas and Abatement Work Areas, shall be separated by curtained doorways at each door.
- .2 Contaminated Change Room: Room between Shower Room and Abatement Work Area.
 - .1 Locate on contaminated side of Shower Room.
 - .2 Install asbestos waste container for asbestos contaminated protective clothing.
 - .3 Install storage facilities for any personal protective equipment to be reused in Abatement Work Area including boots, hard hats, etc., but excluding respirators.
 - .4 Install hooks and shelves as required for personal protective equipment.
 - .5 Minimum size of generally 2 m x 2 m. Increase size accordingly to accommodate number of workers.
- .3 Shower Room: Room between Clean Change Room and Contaminated Change Room.
 - .1 Install one walk through shower unit for every six workers.
 - .2 Install constant supply of hot and cold water, controllable at each shower. Water supply must be sufficient to provide water at a minimum temperature of 40 degrees Celsius (maximum 50 degrees) in a volume required for all workers to properly decontaminate.

- .1 Install individual hot and cold shut-off valves on water supply located on clean side of Shower Room. Connect shower to these valves.
 - .2 Install individual controls inside the shower to regulate water flow and temperature.
 - .3 Install rigid piping or Shower Hose with watertight connections for supply and drains.
 - .4 Install a sealed drip pan under and around the showers, 150 mm deep.
 - .5 Install sump pumps, sufficient for volume of waste shower water from showers and drip pan. Direct waste shower water to sanitary drains.
 - .6 Install ground fault protected power switch on clean side of shower for sump pumps, or timed for shut off.
 - .7 Provide adequate quantity of soap, shampoo, clean towels.
 - .8 Install an Asbestos Waste Container for disposal of used respirator filters, on the contaminated side of the Shower Room.
- .4 Clean Change Room: A room between the Shower Room and Occupied Areas.
 - .1 Install hooks and shelves on clean side of shower in clean Change Room for storage of respirators.
 - .2 Install lockers or hangers for workers' street clothes and personal belongings.
 - .3 Install hose bib on domestic cold water pipe for connection on clean side of Abatement Work Area.
 - .4 Install electric hot water tank for showers in decontamination facility.
 - .5 Provide ground fault protected power supply to hot water tanks, sump pump, battery chargers.
 - .6 Install a fire extinguisher, mount to wall.
 - .7 Minimum size of generally 2m x 2m. Increase size accordingly to accommodate number of workers.
- .5 Construction of Decontamination Facilities
 - .1 Install floor protection as follows:
 - .1 Install one layer of rip-proof polyethylene sheeting over two layers of 6 mil polyethylene sheeting beneath entire decontamination facility.
 - .2 Turn 600 mm of polyethylene up the sides of the decontamination facility and overlap with the polyethylene sheeting covering the walls.
 - .3 Install plywood with taped and caulked joints between layers of 6 mil polyethylene where required to protect surfaces from water damage (e.g. carpet).
 - .2 Install walls as follows:
 - .1 Around all rooms, between all rooms, at entrance to Abatement Work Area and at entrance to Occupied Area.
 - .2 Install 38 x 89 mm wood framing at 610 mm o/c with continuous top and sill plates.
 - .3 Install one layer rip-proof polyethylene sheeting on interior walls of Decontamination Facility.
 - .4 Install one layer rip-proof polyethylene sheeting both sides on interior dividing walls of Decontamination Facility.

- .5 Install one layer rip-proof polyethylene sheeting over one layer of 6 mil polyethylene sheeting on walls exposed to the Abatement Work Area.
- .6 For perimeter walls exposed to the Abatement Work Area, install 13 mm plywood or OSB caulked and sealed at joints, beneath one layer of 6 mil and one layer of rip-proof polyethylene sheeting, on Abatement Work Area side of framing.
- .7 Install one layer rip-proof polyethylene sheeting over one layer of 6 mil polyethylene sheeting on walls exposed to the Occupied Area.
- .8 For perimeter walls exposed to the Occupied Area, install 13 mm plywood or OSB caulked and sealed at joints, over polyethylene sheeting, on Occupied Area side of framing. Paint with 2 coats white latex.
- .3 Install roof as follows:
 - .1 Install joists. Size of joists is to be determined by clear span. Consult Provincial Building Code. For clear spans up to 2850 mm use SPF Select 38 x 140 mm wood joist at 400 mm o/c with continuous 38 x 140 mm wood headers, and install strapping beneath joists.
 - .2 At the Contaminated Change Room and where roof is exposed to the Abatement Work Area, install 19 mm plywood or OSB over joists. Caulk and tape joints and install one layer rip-proof polyethylene sheeting over 2 layers of 6 mil polyethylene sheeting.
 - .3 Where roof is not exposed to the Abatement Work Area, install one layer rip-proof polyethylene sheeting over joists.
 - .4 Turn 600 mm of polyethylene down the sides over polyethylene on the perimeter walls.
 - .5 At underside of joists in all rooms, install one layer of polyethylene sheeting.
 - .6 Minimum interior clear height 2000 mm to underside of joist.
- .6 Curtained Doorways
 - .1 Construct as follows:
 - .1 Install two flap doors, full width and height of door opening at all doors between chambers, facilities and Abatement Work Area.
 - .2 Construct each flap door of two layers of polyethylene sheeting with all edges reinforced with tape. Use wood strapping to securely fasten flap doors to head and alternate jambs.
 - .3 Install weights attached to bottom edge of each door flap.
 - .4 Provide direction arrows on flaps to indicate opening.

PART 3 EXECUTION

3.1 Clean Site Preparation

- .1 Moving of equipment, tools, supplies, and stored materials that can be performed without disturbing ACM will be performed by others.
- .2 Remove visible dust and friable material from all surfaces in the work area including those to be worked on, using HEPA Vacuums or wet wiping using Type 2 (Moderate Risk) Procedures.
- .3 Without disturbing asbestos-containing materials:

- .1 Remove specified items and turn-over to Owner.
- .4 Install Hoarding Walls between Abatement Work Area and Occupied Area.
- .5 Install Decontamination facilities.
- .6 Install one layer of rip-proof polyethylene sheeting over two layers of 6 mil polyethylene sheeting so as to protect all equipment and finishes in the Abatement Work Area that may be damaged. Items to remain include but are not limited to:
 - .1 Millwork.
 - .2 Doors.
 - .3 Bulkheads.
 - .4 Toilet Partitions.
 - .5 Plumbing fixtures.
 - .6 Electrical Equipment.
 - .7 Mechanical Equipment.
 - .8 Kitchen Equipment.
 - .9 Protect pneumatic control lines located in Abatement Work Area. Notify Abatement Consultant if lines are or become damaged.
- .7 Seal openings in walls below ceiling level using polyethylene, tape, caulking, etc. including but not limited to windows, doors, vents, diffusers, etc.
- .8 Seal openings in ceiling, using polyethylene, tape, caulking, etc. including diffusers, grills, etc.
- .9 Install one layer of rip-proof polyethylene sheeting over two layers of 6 mil polyethylene sheeting, on floor surfaces in Abatement Work Area.
 - .1 Install additional layers of rip-proof polyethylene and/or plywood to protect carpeted floor surfaces.
 - .2 Extend floor protection a minimum of 300 mm up all vertical surfaces in the Abatement Work Area.
- .10 On walls within and forming the perimeter of the Abatement Work Area install two layers of 6 mil polyethylene sheeting.
 - .1 At junction of floor and wall surface overlap floor polyethylene with wall polyethylene by a minimum of 300 mm at each layer. One layer of wall polyethylene must always overlap the top layer of floor polyethylene.
- .11 Establish negative pressure in Abatement Work Areas as follows:
 - .1 Discharge HEPA filtered negative pressure machines as follows:
 - .1 To building exterior.
 - .2 Use polyethylene discharge ducting or metal reinforced polyethylene discharge ducting in locations where the ducting must be protected from damage or collapse.
 - .3 Install and make airtight all negative air discharge ducting.
 - .4 Discharge ducting is not to be longer than required, and to be straight, so that the length of the ducting does not reduce the flow from negative pressure machines.
- .12 Install Ground Fault Panel.

- .13 Install temporary lighting in all work areas at levels that will provide for a safe and efficient use of the work area.
- .14 Isolate, at panel, and disconnect existing power supply to Abatement Work Area. Power supply to remaining areas of building must not be disrupted during work of this section.
 - .1 Lock-out/tag-out power at electrical panels.
 - .2 Mark/tag any items within or passing through the Abatement Work Area that are to remain live including but not limited to cable, conduit, wire, fixtures, equipment panels, etc.
- .15 Install hose bib on domestic cold water pipe for connection of hoses for wetting.
 - .1 Install hoses with watertight connections and airless sprayers to wet asbestos-containing materials.
- .16 Seal and protect induction units with one layer of 6 mil polyethylene sheeting.
- .17 Perform clean demolition of non-asbestos materials as specified.
- .18 Notify Abatement consultant Milestone Inspection - Clean Site Preparation. Obtain written approval for this Milestone Inspection before proceeding.
- .19 Install signage in clearly visible locations and in sufficient numbers to adequately warn of an asbestos dust hazard.
- .20 Post Ministry of Labour Notice of Project.

3.2 Contaminated Perimeter Preparation

- .1 Perform the following using Type 3 (High Risk) procedures including using the required personal protective equipment specified.
 - .1 Remove ceiling including grids, support and channels, or other obstructions around perimeter of Abatement Work Area. Remove ceilings in sections equal to the containment preparation work that can be performed in one shift.
 - .2 To complete:
 - .1 Remove top course of block at masonry walls if ACM is present above wall. HEPA vacuum to remove any debris on top of wall and in cavity. Immediately install one layer of rip-proof polyethylene over one layer of 6 mil polyethylene sheeting extending from below ceiling to top of wall, and over top to cover cavity. Do not allow asbestos-containing material to fall down block cavities.
 - .2 Install upper perimeter seal from front of wall to deck above using one layer of rip-proof polyethylene sheeting. Seal completely.
 - .3 Install Type A Hoarding Wall at upper perimeter of Abatement Work Area from top of perimeter wall to deck.
 - .3 Seal any remaining holes in existing perimeter walls, columns, deck, etc. exposed by removal of tile at perimeter of Abatement Work Area.
 - .4 Notify Abatement Consultant to the need for Milestone Inspection - Contaminated Perimeter Preparation.

3.3 Contaminated Site Preparation

- .1 Perform the following using Type 3 (High Risk) procedures including using the required personal protective equipment specified.
 - .1 Remove lenses from light fixtures.

- .2 Remove lamps from light fixtures. Lamps are to be recycled. Do not dispose of fluorescent lamps.
- .3 Remove light fixtures and associated electrical supply cable back to the junction box.
- .4 Remove heat shields from light fixtures.
- .5 Remove diffusers.
- .6 Remove flex duct back to rigid ducts.
- .7 Seal openings in dormant rigid ductwork with 2 layers of rip-proof poly. Cap openings in live ducts with equal gauge metal and duct sealant.
- .8 Remove ceiling mounted items specified to be turned over to Owner and remove associated electrical supply cable back to the junction box.
- .9 Remove remaining ceiling mounted items specified to be removed, and associated electrical supply cable back to the junction box.
- .10 Remove remaining plaster and lath ceilings including grid, channels, hangers and supports.
- .11 Cut hangers as close to deck as possible.
- .12 Reinstall temporary lighting previously supported by ceiling system.
- .13 Temporarily support all existing electrical and mechanical services and items supported by the ceiling systems, that are not scheduled to be removed.
- .14 Clean and protect electrical systems in the Abatement Work Area with polyethylene and tape. Include all communication, coaxial, triaxial, fire and public address systems, wiring, conduit, speakers, heat and smoke detectors, alarms, exit lights, junction boxes, etc.
 - .1 Mark/tag any items within or passing through the Abatement Work Area that are to remain live.
- .15 Clean and seal holes or penetrations in deck, ducts, etc. when exposed by ceiling removal.
- .16 Remove column enclosures to the extent specified.
 - .1 Caulk joint and any cracks in the slab at base of column with 2 hour fire rated caulking.
 - .2 Install layers of polyethylene sheeting to match floor adjacent.
- .17 Notify Abatement Consultant to the need for Milestone Inspection - Contaminated Perimeter Preparation.

3.4 Maintenance Of Contaminated Abatement Work Area

- .1 Inspect Abatement Work Area at the beginning and end of each working period and once on each day work does not take place. Inspection must be performed by competent person.
- .2 Inspect HEPA filtered negative pressure machines including discharge ducting at the beginning and end of each working period. Inspection must be performed by competent person.
- .3 Perform Differential Pressure Monitoring on a frequent basis and record pressure at start and end of shift at a minimum.
- .4 Inspect polyethylene sheeting and ensure it is effectively sealed and taped. Repair damage and remedy defects immediately.

- .5 Inspect electrical panels and ensure locks and tags are on panels prior to entering the Abatement Work Area.
- .6 Maintain Abatement Work Area in tidy condition.
- .7 Remove waste and debris frequently.
- .8 Remove standing water on polyethylene/floor at the end of every shift.
- .9 Turn off water supply to hoses and reduce pressure in hose, prior to leaving the Abatement Work Area at end of shift.
- .10 Turn off water supply to showers, at the end of every shift.
- .11 Ensure shower pans are pumped out at the end of every use and shift.

3.5 Wet Removal

- .1 Do not use compressed air to clean or remove dust or debris.
- .2 Remove and dispose of remaining non-asbestos items before, during or after wet removal.
- .3 Spray asbestos-containing sprayed or trowelled material with Amended Water using airless spray equipment prior to removal. Saturate ACM to prevent release of airborne fibres during removal.
- .4 Remove asbestos-containing sprayed or trowelled material specified to be removed, clean substrate.
 - .1 Fully saturated ACM may be scraped directly into waste containers or may be allowed to fall to floor.
 - .2 ACM cannot be allowed to fall from one level to the next.
- .5 Spray asbestos-containing pipe insulations with Amended Water using airless spray equipment.
- .6 Remove pipe insulations specified to be removed and clean substrate. Maintain exposed surfaces of insulation or lagging in a wet condition.
 - .1 Full saturation of insulation will not be required if material is immediately bagged and not allowed to fall to floor.
 - .2 ACM cannot be allowed to fall from one level to the next.
- .7 Spray asbestos-containing duct and mechanical equipment insulations with Amended Water using airless spray equipment.
- .8 Remove exterior duct and mechanical equipment insulations specified to be removed and clean substrate. Maintain exposed surfaces of insulation in a wet condition.
 - .1 Full saturation of insulation will not be required if material is immediately bagged and not allowed to fall to floor.
 - .2 ACM cannot be allowed to fall from one level to the next.
- .9 Remove obstructions as required to remove the ACM.
 - .1 Notify Abatement Consultant if item is not specified to be removed and inhibits removal of ACM.
 - .2 Do not demolish any existing walls etc. that form the perimeter of the Abatement Work Area without prior written permission from Abatement Consultant.

- .10 All dislodged ACM shall be maintained in wet state until placed in asbestos waste containers for disposal.
- .11 As work progresses, and at regular intervals, place waste in asbestos waste containers and remove from the Abatement Work Area.
- .12 After completion of gross asbestos removal work, perform the following:
 - .1 Wet clean surfaces from which ACM has been removed with stiff bristle brushes, vacuums, wet-sponges etc. to remove all visible residue and asbestos-containing materials.
 - .2 Wet clean surfaces which ACM has fallen on using stiff bristle brushes, vacuums, wet-sponges etc. to remove all visible residue and asbestos-containing materials
 - .3 Wet clean other surfaces in the Abatement Work Area, including the decontamination facilities, scaffolding, equipment, polyethylene sheeting on floor and walls surfaces etc., ducts and similar items not covered with polyethylene sheeting.
 - .4 Remove wash water as contaminated waste.
 - .5 Remove waste.
 - .6 Level of cleanliness must be acceptable to Abatement Consultant.
 - .7 Remove and dispose of the pre-filters from all negative air units as asbestos-contaminated waste.
- .13 Notify Abatement Consultant to the need for Milestone Inspection - Visual Clearance.

3.6 Waste and Material Handling

- .1 Refer to Section 02 81 00.

3.7 Application of Post Removal Sealant

- .1 Wet Removal
 - .1 Obtain Abatement Consultant's written permission to proceed.
 - .2 Apply one coat of Post Removal Sealant with an airless sprayer, in accordance with Manufacturer's Instructions, to cover all surfaces on all items in the Abatement Work Area, including but not limited to polyethylene, ACM substrate, structural steel, and surfaces scheduled for demolition.
 - .1 Do not apply post removal sealant to materials that will be damaged by its application.
 - .3 Notify Abatement Consultant to the need for Milestone Inspection – Clearance Sampling.

3.8 Air Clearance Monitoring

- .1 Site must be dry prior to Air Clearance Monitoring.
- .2 The number of Air Clearance Monitoring samples will be as follows:
 - .1 2 samples for less than 10 square metres.
 - .2 3 samples for 10 to 500 square metres.
 - .3 5 samples for more than 500 square metres.
- .3 Prior to air clearance monitoring, install clean 20-inch fans for air circulation during Air Clearance Monitoring.
 - .1 At least one fan per 10,000 cubic feet of space in Abatement Work Area.

- .2 Install in centre of Abatement Work Area and space evenly.
- .3 The fan exhaust shall be directed upwards or toward the ceiling.
- .4 The fans shall be operated on the lowest speed setting.
- .4 Restrict access to Abatement Work Area and operate negative air units for a 12 hour period prior to Milestone Inspection – Clearance Sampling.
- .5 The HEPA filtered negative pressure machines shall be in operation during clearance air monitoring.
- .6 In the presence of the Abatement Consultant, immediately prior to air clearance monitoring, use a leaf blower to dislodge loose fibre.
 - .1 Direct leaf blower against walls, ceilings, floors, and other surfaces.
 - .2 Perform this for at least five minutes per 1,000 sq. ft. of Abatement Work Area.
- .7 PCM samples will be collected as per Air Monitoring Section.

3.9 Abatement Work Area Dismantling

- .1 Use Type 2 worker precautions during dismantling.
- .2 Operate negative air units during dismantling.
- .3 Polyethylene, tape, cleaning material, etc. to be treated as asbestos waste.
- .4 Wash remaining equipment and tools used in contaminated Abatement Work Area to remove all asbestos contamination, or place in Asbestos Waste Containers prior to being removed from Abatement Work Area.
- .5 Clean Abatement Work Area, Decontamination Facilities.
- .6 Remove upper seals, and seals over tops of walls, on deck, at columns, etc. within the Abatement Work Area.
- .7 Remove polyethylene sheeting.
- .8 Remove water hoses and shut off at source.
- .9 Remove Signs, Hoarding Walls, Decontamination Facilities.
- .10 Seal vacuum hoses and fittings, flexible ductwork and all tools used in contaminated work site in 6 mil polyethylene bags prior to removal from Work Area.
- .11 Remove temporary lights.
- .12 Remove negative air unit prefilters. Dispose of as asbestos contaminated waste.
- .13 Remove HEPA filtered negative pressure machines and discharge ducting.
- .14 Immediately upon shutting down negative air units, seal air inlet grill and exhaust vent with polyethylene and tape.

3.10 Re-Establishment of Items

- .1 Upon completion of work:
 - .1 Remove and disconnect Ground fault Panel, tags and locks from electrical panels and re-energize equipment and items.
 - .2 Remove hose bibs installed and repair pipe.
 - .3 Remove negative air discharge panel and reinstall glazing to match existing.

END OF SECTION

PART 1 GENERAL

1.1 General and Related Work

- .1 Read this Section in conjunction with all drawings and all other Sections so as to comply with the requirements of Division 1 and the General Conditions of the Contract.
- .2 Requirements specified elsewhere:
 - .1 Section 02 81 00 Hazardous Materials – General Provisions

1.2 Outline of Work

- .1 Refer to Section 02 81 00 Hazardous Materials – General Provisions for the Outline of Work.
- .2 Refer to Drawings AR-400 for the extent of the Abatement Work Areas.
- .3 The intent of this Section is to provide safe work practices and procedures to govern the handling, removal, clean-up and disposal of asbestos-containing materials following Glove Bag procedures, and Pinchin and Owner specific requirements.
- .4 If for reasons of pipe temperature, geometry or access, Glove Bag procedures cannot be used, remove and dispose of asbestos-containing insulations as per Section 02 82 00.02 for less than 1 square meter.

1.3 Personal Protection

- .1 Protect all personnel at all times when possibility of disturbance of ACM exists.
- .2 Provide the following minimum respiratory protection to all personnel:
 - .1 Non-powered half-face respirators with P100 high efficiency (HEPA) cartridge filters.
- .3 Provide protective clothing, to all personnel entering the Abatement Work Area.
- .4 Wear hard hats, safety shoes and other personal protective equipment required by applicable construction safety regulations.

1.4 Inspections

- .1 The following Milestone Inspections are to be scheduled:
 - .1 Milestone Inspection - Clean Site Preparation
 - .2 Milestone Inspection – Bulk Removal Inspection
 - .3 Milestone Inspection - Visual Clearance
 - .4 Milestone Inspection – Clearance Sampling

PART 2 PRODUCTS AND FACILITIES

2.1 Materials and Equipment

- .1 Refer to Section 02 81 00.
- .2 Glove Bag: Prefabricated bag which provides a completely sealed envelope surrounding a given section of piping to permit the removal of asbestos-containing insulation from within the bag while maintaining the integrity of the bag and preventing the spread of airborne asbestos fibres. The glove bag shall be equipped with,
 - .1 sleeves and gloves that are permanently sealed to the body of the bag to allow the

- worker to access and deal with the insulation and maintain a sealed enclosure throughout the work period,
- .2 valves or openings to allow insertion of a vacuum hose and the nozzle of a water sprayer while maintaining the seal to the pipe, duct or similar structure,
- .3 a tool pouch with a drain,
- .4 a seamless bottom and a means of sealing off the lower portion of the bag, and
- .5 a high strength double throw zipper and removable straps, if the bag is to be moved during the removal operation.

- .3 Securing Straps: For some types of Glove Bag, reusable nylon straps at least 25mm wide with metal tightening buckle for sealing ends of bags around pipe and/or insulation.

PART 3 EXECUTION

3.1 Site Preparation - General

- .1 Moving of equipment, tools, supplies, and stored materials that can be performed without disturbing ACM will be performed by others.
- .2 Install caution tape around work area where existing walls are not present.
- .3 Install Signage in clearly visible locations and in sufficient numbers to adequately warn of an asbestos dust hazard.
- .4 Remove visible dust and friable material from all surfaces in the work area including those to be worked on, using HEPA Vacuums or wet wiping.
- .5 Cover walls, floors, finishes, millwork, equipment and furnishings below the pipe to be worked on in the Abatement Work Area with polyethylene sheets before disturbing ACM. Drop sheets shall extend a minimum of 1,800 mm from pipe.
- .6 Use existing lighting or install temporary lighting to a level that will provide for safe and efficient use of work area - minimum 550 LUX.
- .7 Provide Amended Water for wetting ACM, in garden sprayers. Provide one garden sprayer for each worker.
- .8 Do not use compressed air to clean or remove dust or debris when completing work of this section.
- .9 Place HEPA Vacuum in Abatement Work Area for each worker.
- .10 Place required tools to complete the abatement within the Abatement Work Area.
- .11 Post Notice of Project, where required by O.Reg. 278/05.

3.2 Maintenance of Abatement Work Area

- .1 Maintain Abatement Work Area in tidy condition.

3.3 Glove Bag Removal

- .1 Do not use Glove Bags on hot pipes that may damage Glove Bag. Refer to manufacturer's limitations.
- .2 Prior to use of Glove Bag on damaged or unjacketed insulation:
 - .1 Spray any areas of damaged insulation jacketing with mist of Amended Water.
 - .2 Tape over damaged insulation to provide temporary repair.
 - .3 Mist areas of insulation with no jacketing and wrap with polyethylene sheeting

- and seal with tape.
- .3 Place any tools necessary to remove insulation in tool pouch built into Glove Bag.
- .4 Inspect the Glove Bag for damage and defects immediately before it is attached to the pipe.
 - .1 If damage or defects are observed, dispose of Glove Bag.
- .5 Install Glove Bag as per manufacturer's instructions.
- .6 Remove insulation from pipe as per manufacturer's directions.
 - .1 Volume and weight of insulation must not exceed capacity of the Glove Bag or supports.
 - .2 Arrange insulation in the Glove Bag to maximize use of the Glove Bag.
- .7 Only glove bags designed to be moved may be re-used on other sections of pipe or moved down same section of pipe (e.g. Safe-T-Strip).
- .8 At regular intervals during its use, if damage or defects are observed during the use of the Glove Bag, which cannot be readily repaired with tape and not affect the integrity or strength of the glove bag.
 - .1 Discontinue use of Glove Bag.
 - .2 Wash inner surface of Glove Bag.
 - .3 Wet insulation.
 - .4 Pull an Asbestos Waste Container over Glove Bag before removing from pipe.
 - .5 Remove Glove Bag and Asbestos Waste Container, seal with tape.
 - .6 Place in a second Asbestos Waste Container and seal with tape.
 - .7 Clean immediate area with a HEPA Vacuum prior to resuming work.
- .9 To remove bag after completion of insulation removal operation:
 - .1 Wash inner surface of Glove Bag.
 - .2 Wash and place all tools in one hand (glove), pull hand out inverted, twist to create a separate pouch, tape inverted hand at two separate locations 25 mm apart so as to seal pouch.
 - .1 Remove inverted hand and tools by cutting between the two tape seals.
 - .2 Place inverted hand pouch and tools into the next clean Glove Bag to be used or into a water bucket, open pouch underwater and clean tools.
 - .3 Wet surface of insulation in lower section of bag and any exposed end of asbestos insulation remaining on pipe with Amended Water.
 - .4 Insert nozzle of HEPA filtered vacuum cleaner into bag through valve and evacuate air from bag.
 - .5 Seal valve cover on valve Glove Bags.
 - .6 Seal closure strip if equipped with one. Twist bag at tapered point and secure with tape.
 - .7 Pull an Asbestos Waste Container over Glove Bag before removing from pipe.
 - .1 Undo straps and unzipper, or cut upper portion of single-use Glove Bag.
 - .2 Seal Asbestos Waste Container with tape.
 - .8 Ensure pipe is clean of all residue after removal of Glove Bag. If necessary, after

removal of each section of asbestos, vacuum all surfaces of pipe, using HEPA vacuum or wipe with wet cloth.

- .10 Seal all surfaces of freshly-exposed pipe with Post Removal Sealer.

3.4 Air Clearance Monitoring

- .1 Site must be dry prior to Air Clearance Monitoring.
- .2 The number of Air Clearance Monitoring samples will be as follows:
 - .1 1 sample for each Glove Bag work area.
- .3 Restrict access to Abatement Work Area prior to Milestone Inspection – Clearance Sampling.
- .4 In the presence of the Abatement Consultant, immediately prior to air clearance monitoring, use a leaf blower to dislodge loose fibre.
 - .1 Direct leaf blower against walls, ceilings, floors, and other surfaces.
 - .2 Perform this for at least five minutes per 1,000 sq. ft. of Abatement Work Area.
- .5 PCM samples will be collected as per Air Monitoring Section.

3.5 Clean-Up and Dismantling

- .1 Clean and remove from Abatement Work Area:
 - .1 Equipment and tools.
 - .2 Temporary lighting if used.
 - .3 Polyethylene seals from HVAC systems.
- .2 Place polyethylene sheeting, drop sheets, seals, tape, clothing and other contaminated waste in asbestos waste containers, wet wipe and place in second asbestos waste container.
- .3 Clean Abatement Work Area with HEPA vacuums or wet wiping/mopping.
- .4 Seal openings in HEPA vacuums.
- .5 Proceed with the dismantlement of all barricades, etc. following receipt of authorization to proceed from the Asbestos Abatement Consultant.

3.6 Waste and Material Handling

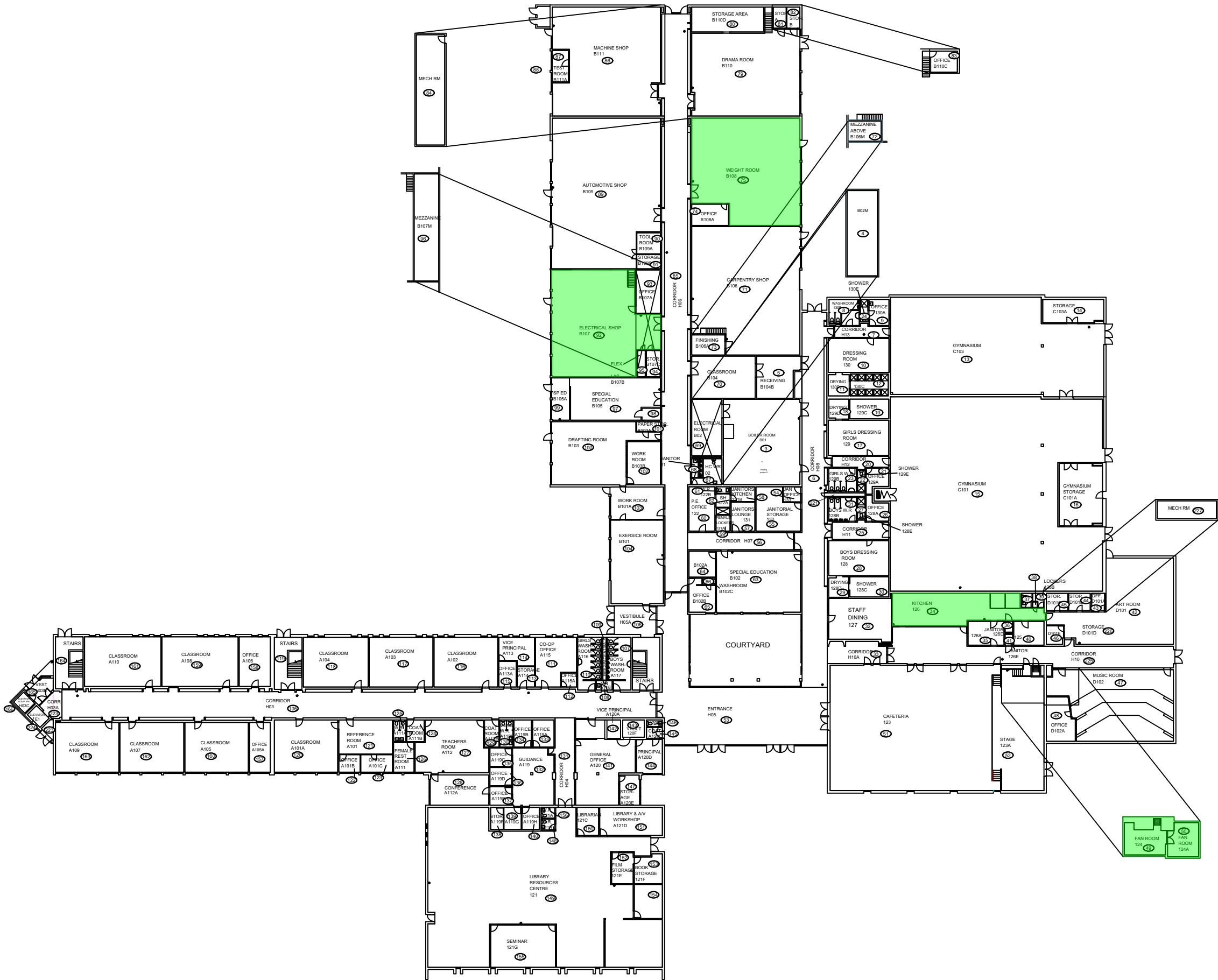
- .1 Refer to Section 02 81 00.

3.7 Re-Establishment of Items

- .1 Upon completion of work:
 - .1 Clean and vacuum Abatement Work Area.

END OF SECTION

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LEGEND

- TYPE 2 ASBESTOS WORK AREA
- PINCHIN LOCATION NUMBER



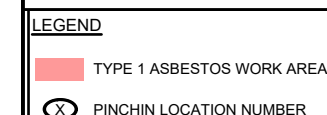
PROJECT NAME:
TYPE 2 ASBESTOS
WORK AREAS

CLIENT NAME:
KAWARTHA PINE RIDGE
DISTRICT SCHOOL BOARD

PROJECT LOCATION:
CRESTWOOD SECONDARY SCHOOL
1885 SHERBROOKE STREET WEST
PETERBOROUGH, ONTARIO

FIGURE NAME:
GROUND FLOOR

PROJECT NUMBER: 285775	SCALE: NOT TO SCALE
DRAWN BY: SD	REVIEWED BY: CF
DATE: 06/05/2021	FIGURE NUMBER: AR-200



PROJECT NAME: TYPE 1 ASBESTOS WORK AREAS

CLIENT NAME: KAWARTHA PINE RIDGE DISTRICT SCHOOL BOARD

PROJECT LOCATION:
CRESTWOOD SECONDARY SCHOOL
1885 SHERBROOKE STREET WEST
PETERBOROUGH, ONTARIO

FIGURE NAME:
GROUND FLOOR

PROJECT NUMBER:
285775

SCALE:
NOT TO SCALE

DRAWN BY: S

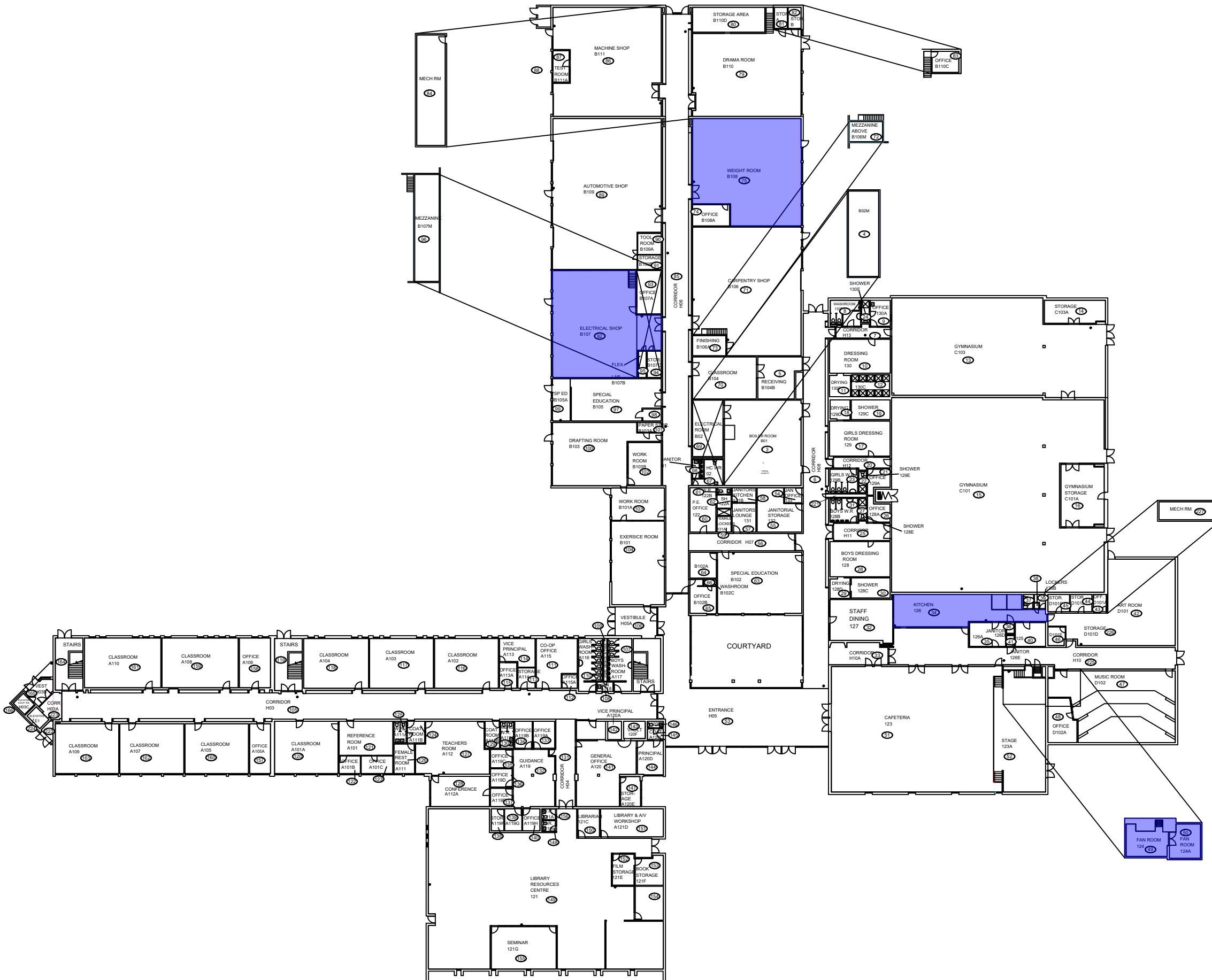
REVIEWED BY:	CF
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DATE: 06/05/2021

FIGURE NUMBER:
AR-100



LEGEND	
	TYPE 3 ASBESTOS WORK AREA
	PINCHIN LOCATION NUMBER
PROJECT NAME: TYPE 3 ASBESTOS WORK AREAS	
CLIENT NAME: KAWARTHA PINE RIDGE DISTRICT SCHOOL BOARD	
PROJECT LOCATION: CRESTWOOD SECONDARY SCHOOL 1885 SHERBROOKE STREET WEST PETERBOROUGH, ONTARIO	
FIGURE NAME: GROUND FLOOR	
PROJECT NUMBER: 285775	SCALE: NOT TO SCALE
DRAWN BY: SD	REVIEWED BY: CF
DATE: 06/05/2021	FIGURE NUMBER: AR-300



LEGEND

- GLOVE BAG ASBESTOS WORK AREA
- X PINCHIN LOCATION NUMBER



PROJECT NAME: GLOVE BAG ASBESTOS WORK AREAS	
CLIENT NAME: KAWARTHA PINE RIDGE DISTRICT SCHOOL BOARD	
PROJECT LOCATION: CRESTWOOD SECONDARY SCHOOL 1885 SHERBROOKE STREET WEST PETERBOROUGH, ONTARIO	
FIGURE NAME: GROUND FLOOR	
PROJECT NUMBER: 285775	SCALE: NOT TO SCALE
DRAWN BY: SD	REVIEWED BY: CF
DATE: 06/05/2021	FIGURE NUMBER: AR-400