



FINAL

Asbestos Reassessment

McMaster University Medical
Centre (MUMC)
1200 Main Street West, Hamilton,
Ontario

Prepared for:

Hamilton Health Sciences

1200 Main Street West
Hamilton, Ontario, L8N 3Z5

Attention: Corey LeGris
Hazardous Materials Specialist

January 14, 2019

Pinchin File: 217420.030



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EXECUTIVE SUMMARY

Hamilton Health Sciences (Client) retained Pinchin Ltd. (Pinchin) to conduct an asbestos building materials assessment at McMaster University Medical Centre (MUMC), 1200 Main Street West, Hamilton, Ontario. The assessment was performed from August 13 to August 15, 2018.

The objectives of the assessment were to document the locations of asbestos building materials, evaluate their condition and develop corrective action plans as required for the purposes of long term management. The results of this assessment are not intended for construction, renovation, demolition or project tendering purposes.

The assessed area consisted of all accessible areas of the building. Findings from shafts and interstitial spaces are included, but these spaces were only accessed sporadically for this reassessment.

SUMMARY OF FINDINGS

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

- Sprayed fireproofing, chrysotile asbestos;
- Texture finishes, chrysotile asbestos ;
- Pipe insulation, chrysotile asbestos;
- Ductwork insulation, chrysotile asbestos;
- Mechanical equipment insulation, chrysotile and amosite asbestos;
- Acoustic ceiling tiles, chrysotile and amosite asbestos;
- Drywall joint compound, chrysotile asbestos;
- Asbestos cement products, unknown asbestos type;
- Vinyl sheet flooring, chrysotile asbestos;
- Vinyl floor tiles, mastic, and levelling compound, chrysotile asbestos;
- Firestopping, chrysotile asbestos;
- Caulking, chrysotile asbestos;
- Bakelite countertops, unknown asbestos type;
- Mastic on ducts and sinks, chrysotile asbestos; and
- Paper heat shields, chrysotile asbestos.



SUMMARY OF RECOMMENDATIONS

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

1. Continue to apply the policies and procedures as outlined in the building's Asbestos Management Program (AMP).
2. Perform a reassessment of asbestos materials on an annual basis.
3. Perform a pre-construction assessment and remove all ACM prior to alteration or maintenance work if ACM may be disturbed by the work.
4. Follow appropriate safe work procedures when handling or disturbing asbestos.
5. Remediate the materials as described in Section 4.2.

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

Hamilton Health Sciences (Client) retained Pinchin Ltd. (Pinchin) to conduct an asbestos building materials assessment at McMaster University Medical Centre (MUMC), 1200 Main Street West, Hamilton, Ontario.

The assessment was performed by Leslie Cantar, B.Eng. Mgt., Senior Project Technologist from August 13 to 15, 2018. The surveyor was unaccompanied during the assessment. The building was occupied at the time of the assessment.

The objectives of the assessment were to document the locations of asbestos building materials, evaluate their condition and develop corrective action plans as required. This assessment is only to be used for the purposes of long term management and routine maintenance. The results of this assessment are not to be used for construction, renovation, demolition or project tendering purposes.

1.1 Scope of Assessment

The assessment was performed to establish the location and type of asbestos building materials incorporated in the structure and its finishes. The assessed area consisted of all parts of the building.

2.0 BACKGROUND INFORMATION

2.1 Building Description

Item	Details
Building Use	Medical Centre and University
Number of Floors/Levels	5 occupied levels with interstitial spaces between, a mechanical penthouse and two levels below grade
Year of Construction	1972
Structure	Structural steel, concrete
Exterior Cladding	Pre-cast concrete, glass curtain wall, drywall soffits
HVAC	Forced-air and radiant heating
Roof	Built-up roofing
Flooring	Vinyl tile, vinyl sheet flooring, wood, carpet, rubber, poured concrete, and ceramic tiles
Interior Walls	Drywall, concrete block, poured concrete, glass curtain wall, and plaster
Ceilings	Drywall, plaster, and acoustic ceiling tiles



2.2 Existing Reports

Pinchin was provided with and instructed to rely upon, the following reports:

- Asbestos-Containing Materials Reassessment - MUMC, April 20, 2016, Prepared By ECOH, Project No. 16262.

Pinchin most recently prepared the following reassessment report which was used for reference:

- “Asbestos Building Materials Reassessment – MUMC”, dated June 30, 2015 (Pinchin File: 100581.001).

2.3 Inaccessible Locations

The following rooms or areas of the building were not accessible to the surveyor during the original and previous reassessments and are therefore not included in the report:

Floor	Number or Name of Inaccessible Rooms
1 st Floor	Nuclear Medicine Rooms. 1P10B, 1P20 – 1P22, 1P10B, Animal Quarters 1U, Anatomy Laboratories 1R
2 nd Floor	Room 2F100, Stairwell adjacent to Shaft 36
3 rd Floor	Rooms 3W16, 3W17, 3A1, 3G87, 3N11B, 3C7

Rooms which were not accessed during the assessment have been labelled on the drawings in Appendix I.

3.0 FINDINGS

The following section summarizes the findings of the assessment and provides a general description of the asbestos materials identified and their locations. For details on quantities and locations of asbestos materials; refer to the drawings in Appendix I and the data tables in Appendix III.

Existing sampling data from the previous assessments was relied upon.

Materials listed as exclusions in the original assessment report remain as exclusions. See Section 3.2.

The sample numbers referenced below refer to the analytical reports in Appendix II. Project numbers have been included where applicable to distinguish sample numbers from various previous projects.

Sample numbers where “HHS” is present before a sample number indicates that the sample results were provided by HHS.

The drawings in Appendix I indicate the location of exposed friable and non-friable asbestos-containing materials in four separate layers: floor, wall, ceiling and other. The flooring layer includes vinyl floor tiles

and vinyl sheet flooring, the wall layer includes drywall compound, the ceiling layer includes ceiling tiles or drywall compound, and the other layer includes items such as: firestopping, pipe insulation, fireproofing, Transite, mechanical insulation, etc. Asbestos-containing materials concealed above solid ceilings, within pipe chases and sporadically above ceiling tiles are not indicated on drawings.

3.1 McMaster University Medical Centre (MUMC)

3.1.1 Spray-Applied Fireproofing and Thermal Insulation

Cementitious sprayed fireproofing, containing chrysotile asbestos, is present on structural steel beams and framing (trusses, cross-bracing, columns, etc.) throughout the majority of building. This material was identified by the trade name “Monokote MK3” and historically contained 6-10% asbestos added during application which is consistent with sample results (46653.004 sample 001). Sprayed fireproofing is a friable building material regardless of whether it is encapsulated. The material is also present on corrugated metal deck in the Level 6 penthouse and randomly in other areas. The sprayed fireproofing has been encapsulated (encased), with a surface coating material, in all exposed areas of the building (approximately 90% of the building), excluding the following areas:

- Service shafts where asbestos-containing fireproofing remains (Shafts 36, 43, 45, 48, 56, 63 and 68);
- Areas of the Level 6 Penthouse;
- Majority of 5M interstitial space;
- M1Q2 south/east Shaft 55 large I-beam;
- M1Q2 between Shafts 45 & 46 (debris on ceilings suspected);
- M2Q3 (debris suspected on ceilings above Ewart Angus Centre); and
- Interstitial spaces where mechanical/electrical equipment abuts structural members.

Where fireproofing is present above the double drywall ceilings above lay-in ceiling systems, the material between the top layer of drywall and the bottom flange of the beam above has not been encapsulated. Sprayed fireproofing is considered damaged where it is delaminating or where debris is present within the interstitial spaces; remaining fireproofing is in good condition.

Sprayed fireproofing overspray is present on all items in proximity to the asbestos-containing fireproofing and the majority of systems and fixtures, including but not limited to: conduits, supports, pipe systems, mechanical insulation, ducts, pipes, controls, walls, mechanical equipment, corrugated metal deck in the interstitial spaces. The overspray on the corrugated metal deck within Levels M1 to M4 has been encapsulated.

The fireproofing within the glass shafts was previously identified as non-asbestos. Sampling performed by HHS in August 2013 indicates that the material contains chrysotile asbestos in the base layer (HHS sample S02a, EMC Lab Sample No. A11456-4, collected in Shaft 89 and others). It is assumed that previous sample results which indicated the material to be non-asbestos were based on samples containing primarily the non-asbestos finish coat. Asbestos-containing cementitious fireproofing (hard coat) is present on the steel structure within glass shafts throughout the building. This fireproofing was known by the trade name "Pyrok" and consists of an asbestos-containing base coat covered with a hard non-asbestos finish coat which acts to effectively encapsulate the asbestos-containing base layer. All fireproofing is considered friable and is in good condition.

Asbestos-containing sprayed fireproofing is assumed to be present in the following areas, which include but are not limited to:

- Behind precast panels at perimeter walls
- Concealed locations (above solid ceilings, within column enclosures, etc.)
- Structural junctions
- Below and on glass fibre insulation in soffits (except M2Q2 and M1Q1)

Asbestos-containing sprayed fireproofing debris is present in the following areas:

- On horizontal surfaces, including but not limited to: ducts, conduits, flanges, pipes, glass fibre batts, etc., within each shaft penetration of the Penthouse
- Throughout level 5M.

Non-asbestos sprayed fireproofing has been applied to structural items in various areas throughout the building. A summary of these areas is as follows:

- Shafts (33, 34, 35, 37, 38, 44, 46, 47, 53, 54, 55, 57, 58, 64, 67, 73, 74, 75, 76, 77 & 78), total of 24 shafts, (abated from Level 1 to 4 and ACM fireproofing remains above Level 4 and residually in abated areas)
- Elevator lobbies from service elevator to interstitial spaces (green tinted Retro-guard)
- Shipping/Receiving Offices on 1M
- Garbage Dock
- Stores
- Pharmacy
- General Stores (Level 1) (Retro-guard)
- Shipping Loading Dock (Level 1)

Non-asbestos sprayed fibrous thermal insulation is present on the poured concrete deck within the northeast corner of the Blue Parking Garage (46653.004 samples 011A-E).

As per O. Reg. 278/05 (Section 12 (4) 3), ducts in a building with asbestos-containing sprayed fireproofing are to be presumed to be contaminated by asbestos. Dust inside ductwork has been tested in representative locations in the building and is not an asbestos-containing material. Ducts are to be removed following the Varied Type 3 procedures as outlined in the HHS Asbestos Management Program (AMP).



Encapsulated asbestos-containing sprayed fireproofing on structural steel, Level 2M Interstitial.

3.1.2 *Texture Finishes (Acoustic/Decorative)*

Sprayed texture finish, containing chrysotile asbestos (46653.004 sample 012A), is present on the drywall bulkhead within the southeast corner of the Yellow Parking Garage. Texture finish is a friable material, painted and ranges from damaged to good condition.

Sprayed texture finish, containing chrysotile asbestos, is present on the drywall ceiling of the parking level corridor from Elevator 22, adjacent to the King Street Exit (samples 2018-0017A-C). Texture finish is a friable material, painted and in good condition.

Overspray from the asbestos-containing texture coat is assumed present above the ceiling at light fixture openings, on the deck, ducts and within junction boxes.



Asbestos-containing texture finish, Southeast corner of Yellow Parking Garage.



Asbestos-containing texture finish, Corridor from Elevator 22 to Parking Garage.

3.1.3 Pipe Insulation

Parging cement, containing chrysotile asbestos (46653.004 samples 002 & 005), is present on the majority of insulated pipe fittings (elbows, valves, tees, hangers etc.) throughout the building. Parging cement is a friable insulation, jacketed with canvas or cheese cloth and is in good condition in the majority of the building. Some of the fittings in the MM Level are not jacketed and are considered to be in fair condition.

The majority of parged fittings in laboratory sinks (where they remain) are labelled as asbestos or non-asbestos containing.

The majority of asbestos-containing pipe insulations associated with the air handling units in the Level 6 Penthouse have been removed (chilled / hot water supplies and returns). Remaining units which have high pressure steam lines are insulated with asbestos-containing parging cement and fibreglass insulation.

Tar, containing chrysotile asbestos (46653.004 sample 004A), is present on pipe fittings (elbows, valves, tees, etc.) on the chilled water and domestic water systems within the MM Level. Tar is non-friable material, unjacketed and in good condition.

Black tar, containing chrysotile asbestos (samples 16262-MUMC-ASB-03B), is present on pipe fittings and straight sections within Shaft 42 and was observed throughout the interstitial spaces. Tar is non-friable and in good condition.

Non-asbestos fibreglass insulation is present on all insulated straight runs of piping throughout the building. Asbestos-containing sprayed fireproofing overspray is present on and/or beneath pipe insulations in areas of sprayed fireproofing.

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



Asbestos-containing parging cement on pipe fitting, Level 6 Mechanical Penthouse.



Asbestos-containing parging cement on pipe fittings, MM Level.

3.1.4 Duct Insulation

Preformed block/parging cement insulation, containing chrysotile asbestos (200249.001 sample 0001A), is present on exhaust duct systems in the interstitial spaces, service shafts, and Level 6 Electrical Substations. Exhausts from the kitchen area were reported to be randomly insulated with insulation containing chrysotile asbestos. In 2014 ECOH collected insulation samples from exhaust ducting associated with Shaft 47 and also found the material to contain chrysotile asbestos (samples 15319-ACM-01A to C). Preformed block and parging cement insulation are friable and in good condition.

Remaining ducts are either uninsulated or insulated with non-asbestos fiberglass (foil-faced or canvas). Asbestos-containing sprayed fireproofing overspray may be present on and/or beneath duct insulations in areas of sprayed fireproofing.

Ductwork in buildings with asbestos-containing sprayed fireproofing is considered contaminated by Regulation 278/05. All ductwork was found to be in good condition. Dust within ducts has been sampled in the past in various locations and determined to be non-asbestos.

Brown/red duct mastic, containing chrysotile asbestos (samples 16262-MUMC-ASB-05A), is present on ductwork within Shaft 42 and was observed throughout the interstitial spaces. Mastic is non-friable and in good condition.

Non-asbestos grey duct mastic (samples 16262-MUMC-ASB-04A to C) is present on ductwork within Shaft 42 and was observed throughout the interstitial spaces.



Asbestos-containing insulation on exhaust ducting, Interstitial.



Asbestos-containing brown/red mastic on ducts, Interstitial.

3.1.5 Mechanical Equipment Insulation

Parging cement, containing chrysotile asbestos (sample 46553.004 008), is present over fibreglass insulation on the two chilled water holding tanks within the MM purple area. Parging cement is a friable insulation, is jacketed with canvas and is in good condition.

Air handling units in the Level 6 Penthouse are partially uninsulated and insulated in limited areas. Asbestos-containing sprayed fireproofing overspray is present on and/or beneath insulations of these units in Level 6 and on uninsulated portions of the units. Transite sheets remain as walking surfaces within the air handling units that were not upgraded as a part of the energy retrofit project.

Exhaust fans and air handling units in the MM Level fan rooms and parking garage fan rooms are uninsulated.

Breeching on the diesel generator exhausts, excluding Unit #8, was reported to be insulated with preformed block insulation containing amosite asbestos (mag block) covered with parging cement containing chrysotile asbestos. Mag block and parging insulation is friable, jacketed with canvas, and is in good condition.

3.1.6 Vermiculite

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

3.1.7 Acoustic Ceiling Tiles

Acoustic ceiling tiles have been previously reported to contain asbestos (amosite, with chrysotile in Ward 4X only). According to previous records, ceiling tiles in the building with a pinkish-red backing are asbestos-containing. All acoustic ceiling tiles are to be treated as asbestos-containing where pinkish-red backing is present or if the pattern on the ceiling tiles is smooth finish with large and small pinholes.

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

Size, Type, Pattern	Locations	Sample Number or Date Code	Asbestos Type
30" x 48", lay-in, small and large pinholes	Throughout, refer to drawings	94333.020 sample 0004A	Amosite
30" x 48", lay-in, uniform small pinholes	Throughout	Samples 2018-0001A-C to 2018-0016A-C	None Detected
24" x 24", lay-in, smooth gypsum board	Level 1 – Williams Café, Central Supply	Gypsum board	None
30" x 48", lay-in, textured with uniform pinholes	Throughout	Reported by HHS as installed post 2000 (date stamps inaccessible)	None
24" x 48", lay-in, pinhole and flecks	Level 1 Rooms 1K11 and 1K12	Reported by HHS as installed post 2000 (date stamps inaccessible)	None

Ceiling tiles are considered to be potentially friable and are in good condition.



Asbestos-containing lay-in ceiling tiles, large and small pinhole pattern, Level 1 Room 1J8.



Non-asbestos lay-in ceiling tiles, uniform pinhole pattern, Level 4 Stairwell 56.

3.1.8 Plaster

Smooth plaster present on walls, ceilings, and decorative ceilings within Lecture Hall 1A6 does not contain asbestos (samples 200199.010 007A-C, 008A-C, and 009A-E).

Rough plaster, containing a small percentage of Libby Amphibole, is present around perimeter walls of Shaft 85 within interstitial space M2 and the east wall of Shaft 85 within interstitial space M3 (217420.001 samples S001A-C). This small concentration (<0.5%) is present as contamination from vermiculite used in the plaster formulation and therefore the plaster is a non-asbestos material.

3.1.9 Drywall Joint Compound

Drywall (gypsum board) is present as a wall and ceiling finish throughout the building and is present on the Level 5 soffits. Previous sampling of drywall showed the drywall joint compound to contain chrysotile asbestos (various samples under 46653.004). Assume all original drywall joint compound to contain chrysotile asbestos unless specific sampling proves otherwise. Drywall joint compound is a non-friable material and ranges from damaged to good condition.

Unfinished (no compound) double drywall ceilings are present above the lay-in ceiling tiles throughout the building.

Asbestos in drywall joint compound was banned in Canada in 1980. Drywall joint compound in various renovation areas (as shown on the drawings) was installed after 1986 (1980 plus a reasonable non-compliance period based on our experience) and is assumed to contain no asbestos.

3.1.10 Asbestos Cement Products (Transite)

Transite board, presumed to contain asbestos based on visual observation, is present within fume hoods throughout the building, the majority of which are present within the third and fourth floor laboratories. It is also present under lab counters and as cabinet liners randomly in lab areas. Transite board is also present within the unabated air handling units in the Level 6 Penthouse and Tower 74 and 76 exhausts. Transite is non-friable and is in good condition.

Transite pipe, presumed to contain asbestos based on visual observation, is present exhaust ducting from the fume hoods. Transite is non-friable and in good condition.

Transite sheets are present within electrical breaker units. Transite is non-friable and in good condition.

Refer to the drawings, "other layer", for locations of Transite fume hoods.



Transite board in air handling unit, Level 6 Mechanical Penthouse.

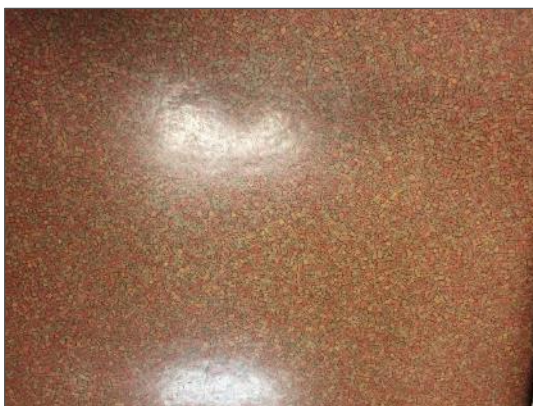


Transite board in typical fume hood, Level 4 Laboratory.

3.1.11 Vinyl Sheet Flooring

Vinyl sheet flooring, containing chrysotile asbestos, is present throughout the building. The table presented in Appendix III describes the appearance of the asbestos-containing vinyl sheet flooring; locations are shown on the drawings. Vinyl sheet flooring is non-friable in place but can become friable during removal. Asbestos present in vinyl sheet flooring is present in the paper backing (underpad) only. Vinyl sheet flooring is a non-friable material in good condition. Refer to the analytical certificates in Appendix II for the sample results for the various patterns.

Vinyl sheet flooring in various areas is presumed to be non-asbestos based on historical knowledge of the type of flooring (rubber).



Asbestos-containing vinyl sheet flooring, red square pattern, Level 4 Area 4BC2.



Asbestos-containing vinyl sheet floor, brown square pattern, Level 3 Room 3U35.

3.1.12 Vinyl Floor Tile and Mastic

Twenty-one distinct types of asbestos-containing vinyl floor tiles (12" x 12") are present throughout the building. The table presented in Appendix III describes the appearance; locations are shown on the drawings "floor layer". All vinyl floor tiles are non-friable materials and in good condition with the exception of the damaged tiles listed below. Refer to the analytical certificates in Appendix II for the sample results for the various patterns.

- Stair 56 between Level 1 and MM (5 square feet).
- Stair 42 between Level 1 and MM (5 square feet).

Although mastic was excluded from previous assessments, when mastic was present on the underside of a vinyl tile sample the mastic was analysed for asbestos content. The results apply to only the areas in which mastic was sampled, and cannot be assumed to be visually similar in areas of similar vinyl floor tile. Mastic, containing chrysotile asbestos, is confirmed present below the vinyl floor tiles in the Main Corridor-Purple, Rooms 1H5, 1A18, 1A2, 1J5, 1RC3, 1PC1, 2N33, and the corridor adjacent to Room 4N22. The mastic is a non-friable material and remains in good condition. Mastic was analysed for asbestos content where it was present on the tiles, however a comprehensive testing program for mastic was not performed.

If the vinyl floor tile mastic contains asbestos, the composite of the materials (floor tiles and mastic) are considered an asbestos-containing material.

Non-asbestos floor tiles are present as follows:

- 12" x 12" grey tiles as in centre stair to Purple Area
- 12" x 12" beige with brown fleck tiles as in the corridor adjacent to Room 2G52, Blue Rooms 4N73, 4N75-75A, 4N84A-86, Purple Rooms 2BW3, 2BW4, corridor adjacent to Red Room 2G52, and Red Rooms 3D1, 4D8, Yellow Rooms 4X1-19, 4Y25-31, 4Z24-31, 4Z32B
- 12" x 12" green with white streaks as in Yellow Room 4W1
- 12" x 12" grey with grey/white flecks as in Yellow 4Y corridors
- 12" x 12" dark grey with grey fleck as in Yellow Room 4Y27
- 12" x 12" teal with black and white fleck as in Yellow Room 4Y34
- 12" x 12" white with grey flecks as in Yellow 4Z corridors.

Vinyl floor tiles in some renovated areas were presumed to be non-asbestos based on historical knowledge of the date of installation. Renovated areas are specified on the drawings.



Asbestos-containing 12" x 12" vinyl floor tiles, dark brown with brown flecks.



Asbestos-containing 12" x 12" vinyl floor tiles, brown with white flecks.



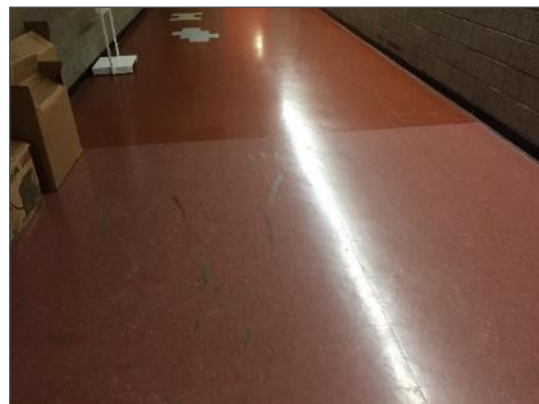
Asbestos-containing 12" x 12" vinyl floor tiles, white with brown flecks.



Asbestos-containing 12" x 12" vinyl floor tiles, green with white flecks.



Asbestos-containing 12" x 12" vinyl floor tiles, beige with brown lines.



Asbestos-containing 12" x 12" vinyl floor tiles, red with white flecks.

3.1.13 Firestopping or Smoke Sealant

Parging cement firestopping, presumed to contain asbestos (previously sampled), is present around pipe penetrations throughout the building, most notably beneath sinks and fume hoods within the third and fourth floor laboratories. The firestopping is a friable material and is in good condition.

White firestopping, presumed to contain asbestos (previously sampled), is present at wall penetrations throughout the mechanical shafts. The firestopping is a non-friable (caulking) material and is in good condition.



Asbestos-containing parging cement firestopping is present at pipe penetrations below laboratory sinks.

3.1.14 Levelling Compound

Levelling compound, containing chrysotile asbestos, was identified underneath non-asbestos linoleum sheet flooring in Room 3G52 (200249.042 sample 0002A sampled July 2017) and is present in Room 2S56 (217420.004 sample S003A, phase a). The material is non-friable and may be present in other locations within the building.

Drywall joint compound, applied as levelling compound, containing chrysotile asbestos, was identified in the Cafeteria at perimeter walls (200249.024 samples S0004A, phase C sampled May 24, 2017).

3.1.15 Sealants, Caulking, and Putty

Grey caulking, containing chrysotile asbestos (200249.042 sample 0004A, phase B and HHS sample S-009(b), December 2015), is present at expansion joints between pre-cast concrete panels on exterior canopies and the building exterior. Caulking is non-friable and in good condition.

Non-asbestos white caulking (samples 16262-MUMC-ASB-01A to C) is present on the exterior windows of Towers 74, 84, and 86.

Non-asbestos black/grey caulking (samples 16262-MUMC-ASB-02A to C) is present on the exterior windows of Towers 74, 84, and 86.

Non-asbestos dark brown window putty (samples 16262-MUMC-ASB-06A to C) is present on interior perimeter windows within Level 1 of Stairwell 42.

Grey putty, containing chrysotile asbestos (sample 200249.053 005A), was previously identified between clear glass window panes and metal frames located at the Reception Area within the west section of the 3Z Area and is presumed present in other locations throughout the building. Putty is non-friable and in good condition.

Non-asbestos beige putty (sample 200249.053 006A-C), was previously identified between wire meshed glass window panes in the 3Z Area.

Black caulking, containing chrysotile asbestos (sample 200199.005 0001A), was previously identified at the door frame to Room 1K11 and is presumed present in other locations throughout the building. Caulking is non-friable and in good condition.

Non-asbestos off-white caulking (sample 200199.005 0002A-C), was previously identified around window frames in Room 1K11.

3.1.16 Roofing Products

The built up roofing materials do not contain asbestos in the 3G Courtyard area (200249.042 samples 0007A-C).

Non-asbestos roofing (based on the date of installation) is present over the Level 6 Mechanical Penthouse.

Remaining built-up roofing has not been assessed and is presumed asbestos-containing.

3.1.17 Other Building Materials

Bakelite counters are present at random in various laboratories throughout the building. Assume Bakelite contains asbestos. This material is non-friable and in good condition.

Asbestos-containing foil-faced paper heat shields were reported to be present within incandescent light fixtures throughout the Fourth Floor Yellow area and are presumed present throughout the building. Assume the paper heat shields to contain a type of asbestos other than chrysotile. Paper heat shields are non-friable but can become friable during removal.

Carpets, and rubber baseboards are present throughout the building. These building materials were applied with non-asbestos adhesive.

Textile gaskets, containing chrysotile asbestos (200199.011 sample 0003A, 200199.048 sample S002A, and 94333.030 sample 0001A), were previously identified along the perimeter of the doors inside flammable cabinets within Laboratory 4N3, Laboratory 4N36, and Room 4N43 and are presumed present in other locations within the building. Textile gaskets are non-friable and in good condition.

Black mastic, containing chrysotile asbestos (ECOH sample 16262-MUMC-ASB-07A), was observed as sink undercoating in Level 4 Lab 4H25 and various other laboratories previously renovated, and is presumed to be present on sinks in laboratories and classrooms throughout the lab areas. Mastic is non-friable and in good condition.

Gold mastic, containing chrysotile asbestos (104637.058 sample 0001A), was observed as sink undercoating in Room 3N49C and is presumed to be present on sinks in laboratories throughout the building. Mastic is non-friable and in good condition.

Non-asbestos off-white undercoating (104637.038 sample 0001A-C) was previously identified on the underside of the stainless steel sink basin in Room 4H30H.



Asbestos-containing textile gaskets on typical flammable storage cabinet, Level 3 Laboratory.



Asbestos-containing black mastic sink undercoating, Level 4 Laboratory.

3.2 Presumed Asbestos Materials

A number of materials which might contain asbestos were not sampled during this assessment due to limitations in scope and methodology. Where present, these materials are presumed to contain asbestos until otherwise proven by sampling and analysis.

Materials presumed to contain asbestos include:

- Roofing, felts and tar
- Concrete floor levelling compound
- Elevator and lift brakes

- Electrical components or wiring within control centers, breakers, motors or lights, insulation on wiring
- Refractory materials and insulations in boilers, incinerators and stacks
- Insulation under metal clad boilers and vessels
- Adhesives and duct mastics
- Caulking
- Paper products
- Soffit and fascia boards
- Mechanical packing, ropes and gaskets
- Fire resistant doors or metal clad finishes
- Stucco, plaster or other cementitious parge coatings
- Vibration dampers on HVAC equipment
- Dust in ductwork

4.0 RECOMMENDATIONS

4.1 General

Perform a detailed intrusive assessment prior to building renovation or demolition operations. The assessment should include destructive testing (i.e. coring and/or removal of building finishes and components), and sampling of other hazardous materials (lead, mercury, PCBs, mould, etc.) and materials not tested in this study (e.g. roofing materials, caulking, mastics).

4.2 Remedial Work

The following remedial work is recommended.

Material, Quantity & Condition, Photo Number	Location	Recommended Procedure
Texture finish, 5 square feet damaged and 10 square feet of debris, Photos 1 & 2	Parking Garage, Southeast Corner of Yellow Parking near Shaft 29	Remove, clean-up, and repair in accordance with Type 2 asbestos abatement procedures
Vinyl floor tiles (12" x 12" dark brown with flecks), 5 square feet loose, Photo 3	Stair 56 between Level 1 and MM	Clean-up/remove in accordance with Type 1 asbestos abatement procedures

Material, Quantity & Condition, Photo Number	Location	Recommended Procedure
Vinyl floor tiles (12" x 12" dark brown with flecks), 5 square feet loose, Photo 4	Stair 42 between Level 1 and MM	Clean-up/remove in accordance with Type 1 asbestos abatement procedures
Drywall joint compound, 5 square feet damaged and 5 square feet of debris, Photo 5	Level 1 Exit Corridor at Shaft 88	Remove, clean-up, and repair in accordance with Type 1 asbestos abatement procedures
Drywall joint compound, 6 square feet damaged, Photo 6	Level 3 Corridor near Courtyard 2 and Shaft 74	Remove, clean-up, and repair in accordance with Type 1 asbestos abatement procedures
Drywall joint compound, 5 square feet damaged, Photo 7	Level 6 near Elevator Machine Room 23	Remove, clean-up, and repair in accordance with Type 1 asbestos abatement procedures
Drywall joint compound, 2 square feet damaged and 1 square foot debris, Photo 8	Level 6 near Glycol Station	Remove, clean-up, and repair in accordance with Type 1 asbestos abatement procedures
Drywall joint compound, 2 square feet damaged and 10 square foot debris, Photo 9	Level 6 near Shaft 52	Remove, clean-up, and repair in accordance with Type 1 asbestos abatement procedures



Photo 1 - Damaged asbestos-containing texture finish on bulkhead, Southeast corner of Yellow Parking.



Photo 2 - Asbestos-containing texture finish debris, Southeast corner of Yellow Parking.



Photo 3 - Damaged asbestos-containing vinyl floor tiles, Stairwell 56 between Level 1 and Level MM.



Photo 4 - Damaged asbestos-containing vinyl floor tiles, Stairwell 42 between Level 1 and Level MM.



Photo 5 - Damaged asbestos-containing drywall joint compound and debris, Level 1 Exit Corridor at Shaft 88.



Photo 6 - Damaged asbestos-containing drywall joint compound, Level 3 near Courtyard 2 and Shaft 74.



Photo 7 - Damaged asbestos-containing drywall joint compound, Level 6 near Elevator Room 23.



Photo 8 - Damaged asbestos-containing drywall joint compound, Level 6 near Glycol Station.



Photo 9 - Damaged asbestos-containing drywall joint compound and debris, Level 6 near Shaft 52.

4.3 On-going Management and Maintenance

The following recommendations are made regarding on-going management and maintenance work involving the asbestos materials identified.

4.3.1 Asbestos

Continue to apply the policies and procedures as outlined in the building's Asbestos Management Program (AMP).

Perform a reassessment of asbestos materials on an annual basis.

Remove asbestos-containing materials (ACM) prior to alteration or maintenance work if ACM may be disturbed by the work. Follow appropriate asbestos precautions for the classification of work being performed.

Update the asbestos inventory report upon completion of any abatement and removal of asbestos-containing materials.

5.0 TERMS AND LIMITATIONS

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

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



6.0 REFERENCES

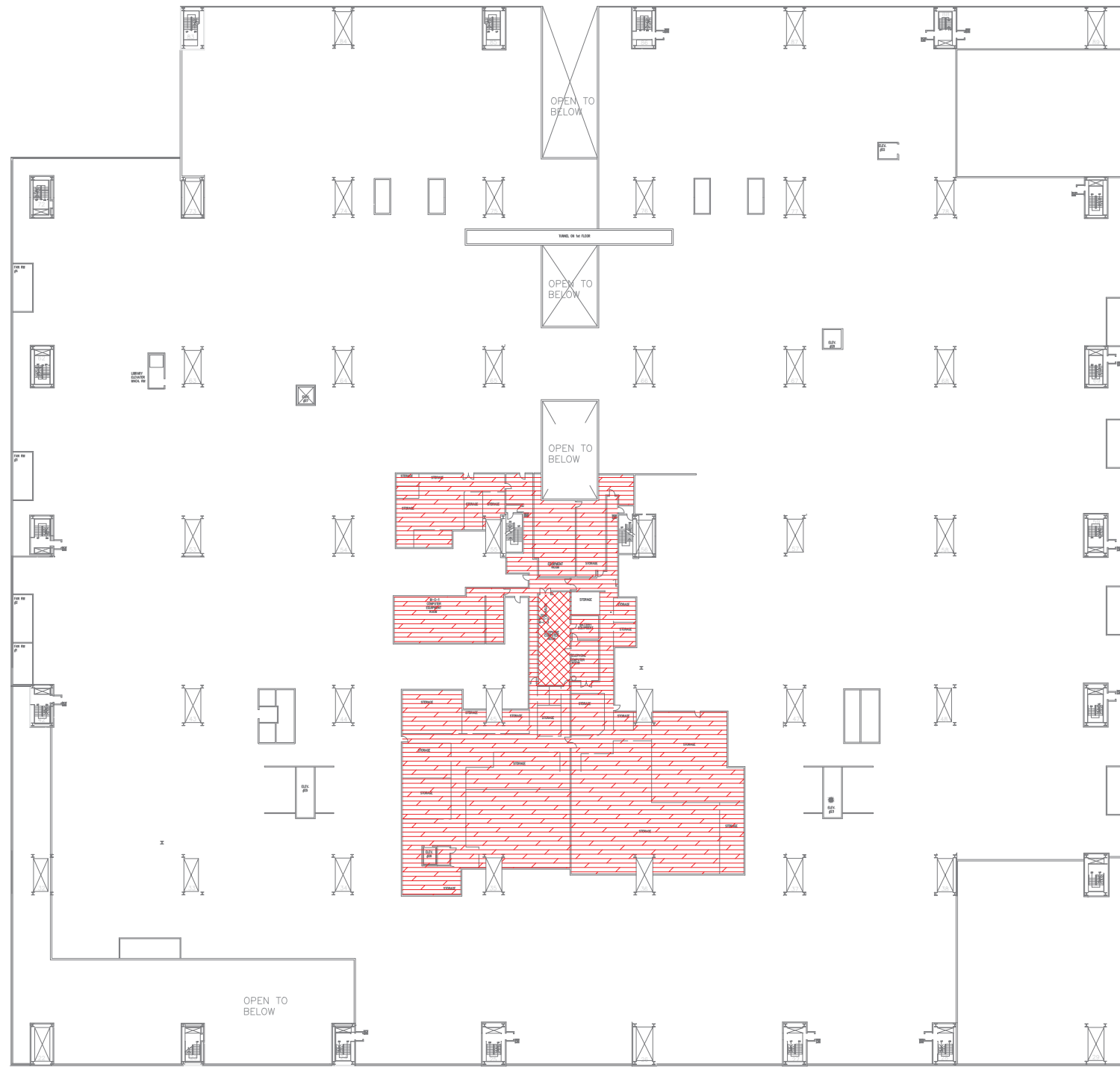
The following legislation and documents were referenced in completing the assessment and this report:

1. Asbestos on Construction Projects and in Buildings and Repair Operations, Ontario Regulation 278/05.
2. Designated Substances, Ontario Regulation 490/09.

\\pinchin.com\ham\Job\217000s\0217420.000 HAMILTONHEALT,Various2018Pr,ASB,CONS\0217420.030
HAMHEALT,2018AsbReassess,VarSit,ASB,CONS\Deliverables\MUMC\217420.030 Final MUMC Asbestos Reassessment Report HHS January 14 2019.docx

Template: Master Report for Asbestos Assessment, Haz, March 27, 2018

APPENDIX I
Drawings



NO.	DATE M/D/Y	REVISIONS	BY
1	1/1/2013	UPDATED	GS
2	2/1/2013	UPDATED	GS
3	3/1/2013	UPDATED	GS
4	4/1/2013	UPDATED	GS
5	5/1/2013	UPDATED	GS
6	6/1/2013	UPDATED	GS
7	7/1/2013	UPDATED	GS
8	11/20/2013	Updated by Pinchin Environmental	
9	5/29/2015	Revised by Pinchin Limited	
10	11/1/2018	Revised by Pinchin Limited	

- LEGEND:
- ACM VINYL FLOOR TILES
 - ACM VINYL SHEET FLOORING
 - NO ACCESS TO ROOM/AREA
 - ACM ABATED AREA AS PER HHS RECORDS
 - ACM DRYWALL JOINT COMPOUND ON WALLS
 - ACM PIPE INSULATION

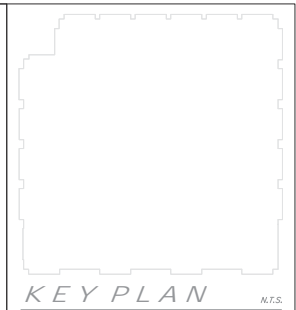
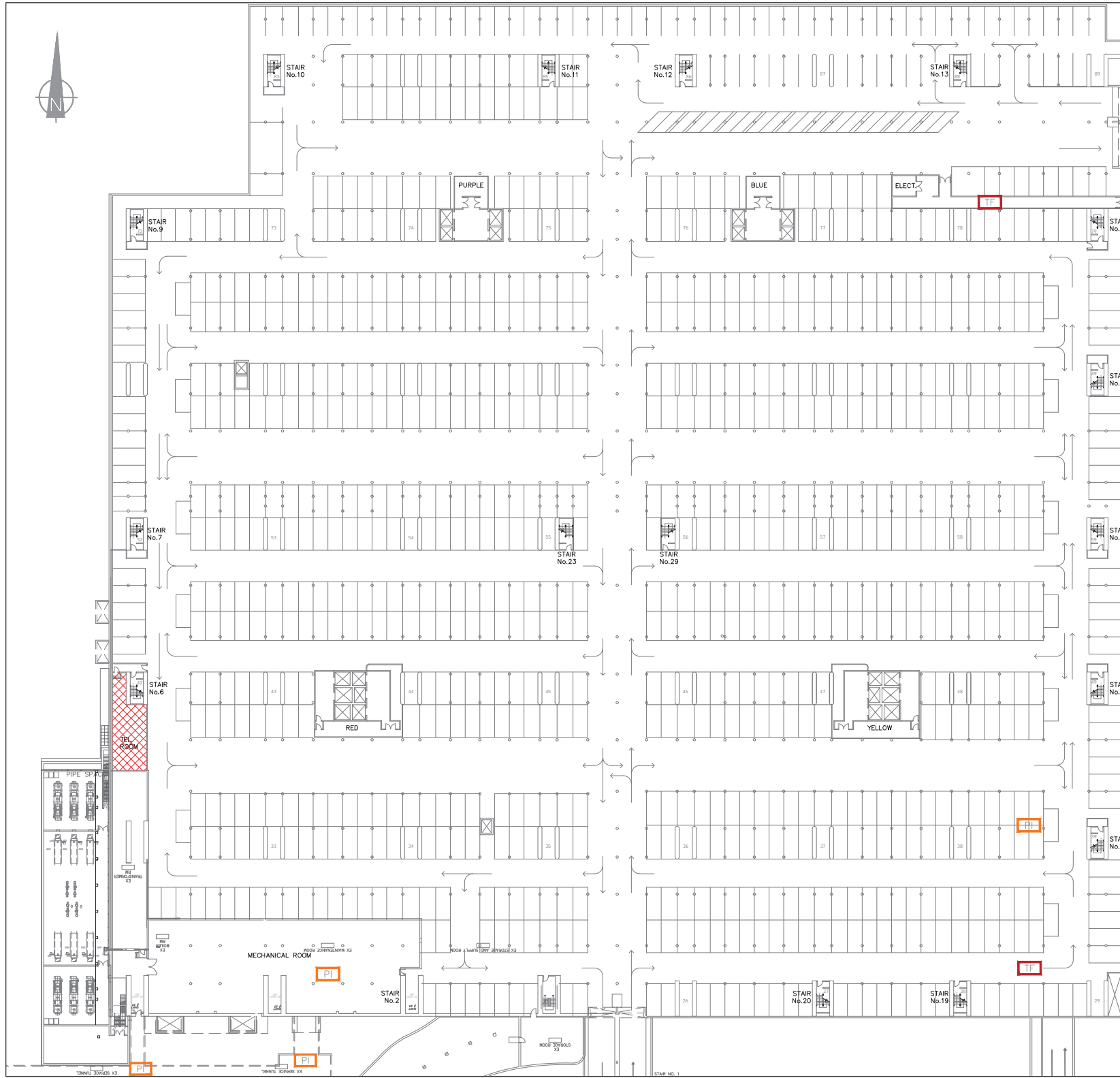
- GENERAL NOTES:
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 - DRAWINGS SHALL BE READ IN CONJUNCTION WITH HHS ASBESTOS MANAGEMENT PLAN AND SURVEYS AVAILABLE ON THE HHS INTRANET, AND HARDCOPY IN THE SITES ENGINEERING DEPT.
 - AREAS WITHOUT A DESIGNATION OF ACM (ASBESTOS CONTAINING MATERIAL) SHALL BE TREATED AS ACM UNTIL PROVEN OTHERWISE.
 - PRIOR TO UNDERTAKING ANY REPAIR RENOVATION OR DEMOLITION, REVIEW THE AMP (ASBESTOS MANAGEMENT PLAN) AND SURVEY PRIOR TO COMMENCEMENT OF WORK.
 - IF YOU SUSPECT A MATERIAL TO BE FREE OF ACM, CONTACT THE ASBESTOS COORDINATOR FOR CONSULTATION.



PROJECT:
MUMC - 1200 MAIN ST. WEST,
HAMILTON ONTARIO, ASBESTOS
MANAGEMENT PLAN AND SURVEY

PROJ. DATE: NOVEMBER 2018	DEPARTMENT: HAZARDOUS MATERIALS
SCALE: N.T.S.	SUPERVISOR: MICHAEL MAIORANA
DRAWN BY: JORDAN BOULOS	FILE NAME: 217420.030 AS-01 MM MUMC
DRAWING No:	

AS-01A



NO.	DATE M/D/Y	REVISIONS	BY
1	1/1/2013	UPDATED	GS
2	2/1/2013	UPDATED	GS
3	3/1/2013	UPDATED	GS
4	4/1/2013	UPDATED	GS
5	5/1/2013	UPDATED	GS
6	6/1/2013	UPDATED	GS
7	7/1/2013	UPDATED	GS
8	11/20/2013	Updated by Pinchin Environmental	
9	5/29/2015	Revised by Pinchin Limited	
10	11/1/2018	Revised by Pinchin Limited	

- LEGEND:
- ACM VINYL FLOOR TILES
 - ACM VINYL SHEET FLOORING
 - NO ACCESS TO ROOM/AREA
 - ACM ABATED AREA AS PER HHS RECORDS
 - ACM PIPE INSULATION
 - ACM TEXTURE FINISH

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*MUMC
SITE*

PROJECT:
MUMC - 1200 MAIN ST. WEST,
HAMILTON ONTARIO, ASBESTOS
MANAGEMENT PLAN AND SURVEY

DRAWING:
LEVEL PARKING
ACM ON LEVEL

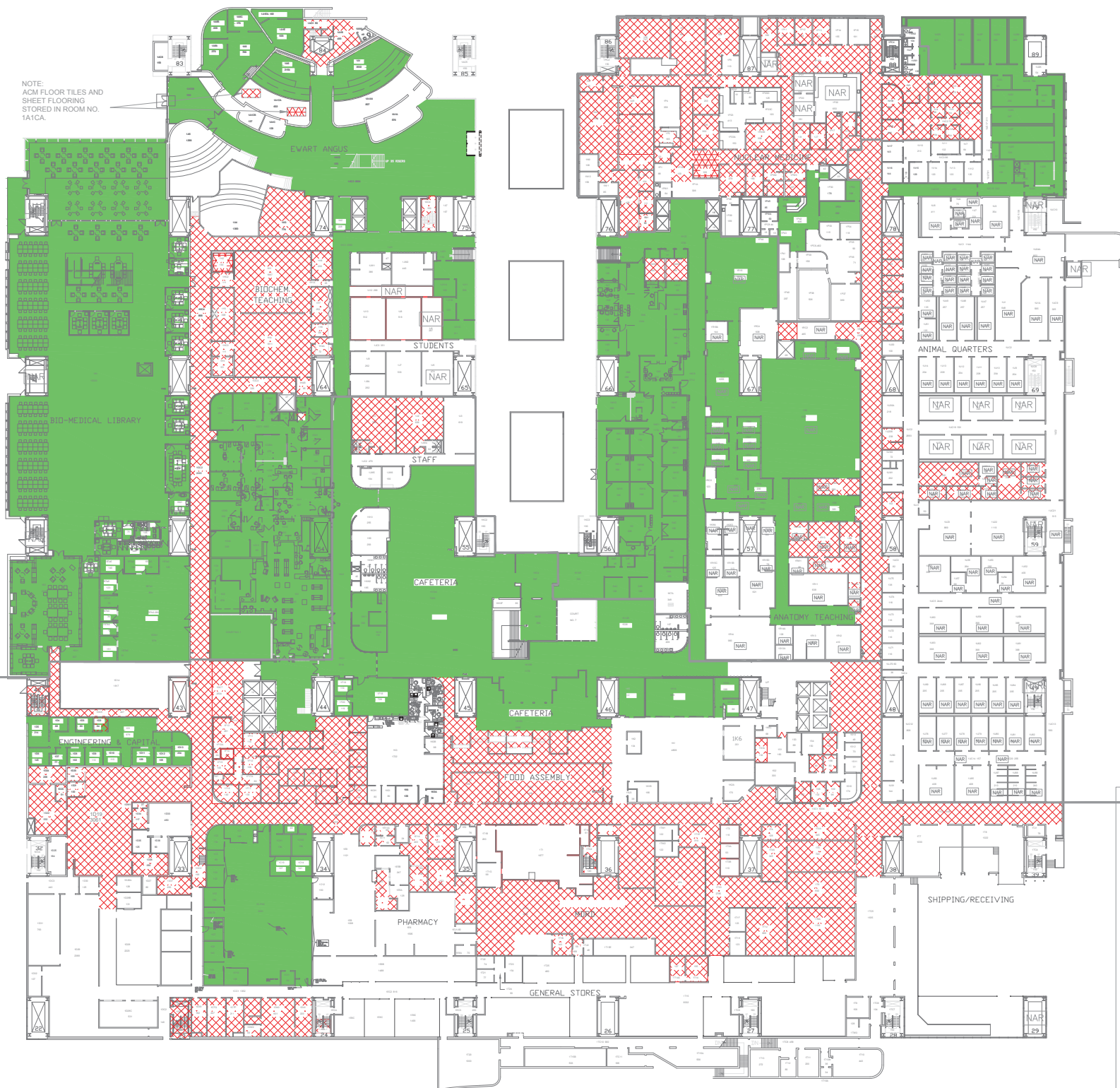
PROJ. DATE: NOVEMBER 2018	DEPARTMENT: HAZARDOUS MATERIALS
SCALE: N.T.S.	SUPERVISOR: MICHAEL MAIORANA
DRAWN BY: JORDAN BOULOS	FILE NO.: 174250330 AS-02 Parking MUMC

AS-02A

SHEET SIZE = ARCH 'D' - 24" x 36" (MPS/PA) - 610mm x 914mm (METRIC)



NOTE:
ACM FLOOR TILES AND
SHEET FLOORING
STORED IN ROOM NO.
1A1CA.



FHS
HHS

KEY PLAN N.T.S.

NO.	DATE M/D/Y	REVISIONS	BY
1	1/1/2013	UPDATED	GS
2	2/1/2013	UPDATED	GS
3	3/1/2013	UPDATED	GS
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6	6/1/2013	UPDATED	GS
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- LEGEND:
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 - ACM VINYL SHEET FLOORING
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MUMC
SITE



PROJECT:
MUMC - 1200 MAIN ST. WEST,
HAMILTON ONTARIO, ASBESTOS
MANAGEMENT PLAN AND SURVEY

DRAWING:
LEVEL 1
ACM ON FLOOR

PROJECT DATE: NOVEMBER 2018	DEPARTMENT: HAZARDOUS MATERIALS
SCALE: N.T.S.	SUPERVISOR: MICHAEL MAIORANA
DRAWN BY: JORDAN BOULOS	FILE NAME: 174201030 AS-03 Floor Level 1 MUMC
DRAWING No.	

AS-03A



KEY PLAN N.T.S.

NO.	DATE	W/D/Y	REVISIONS	BY
1	1/1/2013		UPDATED	GS
2	2/1/2013		UPDATED	GS
3	3/1/2013		UPDATED	GS
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6	6/1/2013		UPDATED	GS
7	7/1/2013		UPDATED	GS
8	11/20/2013		Updated by Pinchin Environmental	
9	5/29/2015		Revised by Pinchin Limited	
10	11/1/2018		Revised by Pinchin Limited	

- LEGEND:**
- ACM DRYWALL JOINT COMPOUND ON WALLS
 - ACM DRYWALL JOINT COMPOUND ON SPECIFIED WALLS
 - NO ACCESS TO ROOM/AREA
 - ACM ABATED AREA AS PER HHS/FHS RECORDS

GENERAL NOTES:

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5. IF YOU SUSPECT A MATERIAL TO BE ACM IN AN AREA SHOWN TO BE FREE OF ACM, CONTACT THE ASBESTOS COORDINATOR FOR CONSULTATION.

*MUMC
SITE*

PROJECT:
MUMC - 1200 MAIN ST. WEST,
HAMILTON ONTARIO, ASBESTOS
MANAGEMENT PLAN AND SURVEY

DRAWING:
LEVEL 1
ACM ON WALLS

PROJ. DATE: NOVEMBER 2018	DEPARTMENT: HAZARDOUS MATERIALS
SCALE: N.T.S.	SUPERVISOR: MICHAEL MAIORANA
DRAWN BY: JORDAN BOULOS	FILE NAME: 174200330 AS-03 Floor Level 1 MUMC
DRAWING No.:	

AS-03B



KEY PLAN N.T.S.

NO.	DATE M/D/Y	REVISIONS	BY
1	1/1/2013	UPDATED	GS
2	2/1/2013	UPDATED	GS
3	3/1/2013	UPDATED	GS
4	4/1/2013	UPDATED	GS
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7	7/1/2013	UPDATED	GS
8	11/20/2013	Updated by Pinchin Environmental	
9	5/29/2015	Revised by Pinchin Limited	
10	11/1/2018	Revised by Pinchin Limited	

- LEGEND:**
- ACM CEILING TILES
 - ACM DRYWALL JOINT COMPOUND ON CEILING
 - NO ACCESS TO ROOM/AREA
 - ACM ABATED AREA AS PER HHS/FHS RECORDS

- GENERAL NOTES:**
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MUMC
SITE

PROJECT:
MUMC - 1200 MAIN ST. WEST, HAMILTON ONTARIO, ASBESTOS MANAGEMENT PLAN AND SURVEY

DRAWING:
LEVEL 1
ACM ON CEILING

PROJ. DATE: NOVEMBER 2018	DEPARTMENT: HAZARDOUS MATERIALS
SCALE: N.T.S.	SUPERVISOR: MICHAEL MAIORANA
DRAWN BY: JORDAN BOULOS	FILE NAME: 174250330 AS-03 Floor Level 1 MUMC
DRAWING No.:	

AS-03C



FHS
HHS

KEY PLAN N.T.S.

NO.	DATE M/D/Y	REVISIONS	BY
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2	2/1/2013	UPDATED	GS
3	3/1/2013	UPDATED	GS
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7	7/1/2013	UPDATED	GS
8	11/20/2013	Updated by Pinchin Environmental	
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10	11/1/2018	Revised by Pinchin Limited	

LEGEND — OTHER

	ACM PIPE INSULATION
	ACM DUCT INSULATION
	ACM MECHANICAL INSULATION
	TYPE 1 ENTRY
	TYPE 2 ENTRY
	TYPE 3 ENTRY
	ACM TEXTURE FINISH
	ACM FIRESTOPPING
	TRANSITE
	NO ACCESS TO ROOM/AREA

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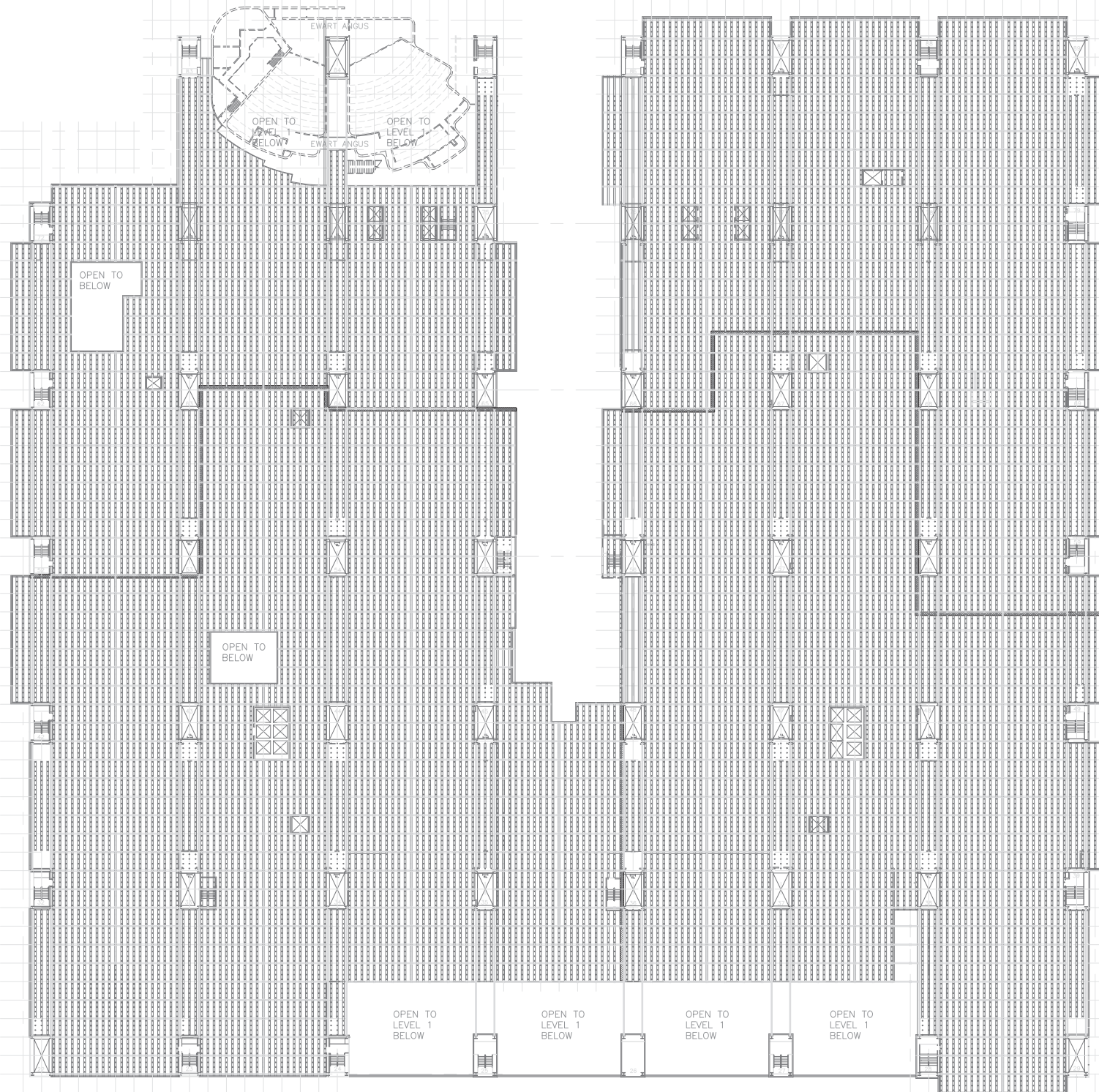
MUMC
SITE

PROJECT:
MUMC — 1200 MAIN ST. WEST,
HAMILTON ONTARIO, ASBESTOS
MANAGEMENT PLAN AND SURVEY

DRAWING:
LEVEL 1
OTHER ACM

PROJECT DATE: NOVEMBER 2018	DEPARTMENT: HAZARDOUS MATERIALS
SCALE: N.T.S.	SUPERVISOR: MICHAEL MAIORANA
DRAWN BY: JORDAN BOULOS	FILE NAME: 174250330 AS-03 Floor Level 1 MUMC
DRAWING No.	

AS-03D



NO.	DATE W/D/Y	REVISIONS	BY
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3	3/1/2013	UPDATED	GS
4	4/1/2013	UPDATED	GS
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7	7/1/2013	UPDATED	GS
8	11/20/2013	Updated by Pinchin Environmental	
9	5/29/2015	Revised by Pinchin Limited	
10	11/1/2018	Revised by Pinchin Limited	

- LEGEND:
- ACM VINYL FLOOR TILES
 - ACM VINYL SHEET FLOORING
 - NO ACCESS TO ROOM/AREA
 - ACM ABATED AREA AS PER HHS RECORDS

- INTERSTITIAL SPACE NOTES:
- ACM PARGED FITTINGS THROUGHOUT
 - ENCASED SPRAYED FIREPROOFING THROUGHOUT
 - ACM SPRAYED FIREPROOFING DEBRIS IS PRESENT BELOW METAL DECKING
 - ACM DRYWALL JOINT COMPOUND PRESENT
 - ACM TAR PRESENT ON PIPES AND MECHANICAL
 - ACM DUCT INSULATION PRESENT

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PROJECT:
MUMC - 1200 MAIN ST. WEST,
HAMILTON ONTARIO, ASBESTOS
MANAGEMENT PLAN AND SURVEY

DRAWING:
LEVEL M1
ACM IN INTERSTITIAL SPACE

PLOT DATE: NOVEMBER 2018 SCALE: N.T.S. DRAWN BY: JORDAN BOULOS DRAWING NO.	DEPARTMENT: HAZARDOUS MATERIALS SUPERVISOR: MICHAEL MAORANA FILE NAME: 217420.030 AS-04 M1 MUMC
--	--

AS-04



FHS | HHS



KEY PLAN N.T.S.

NO.	DATE M/D/Y	REVISIONS	BY
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2	2/1/2013	UPDATED	GS
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 - ACM VINYL SHEET FLOORING
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MUMC
SITE

PROJECT: MUMC - 1200 MAIN ST. WEST, HAMILTON ONTARIO, ASBESTOS MANAGEMENT PLAN AND SURVEY

DRAWING: LEVEL 2 ACM ON FLOOR

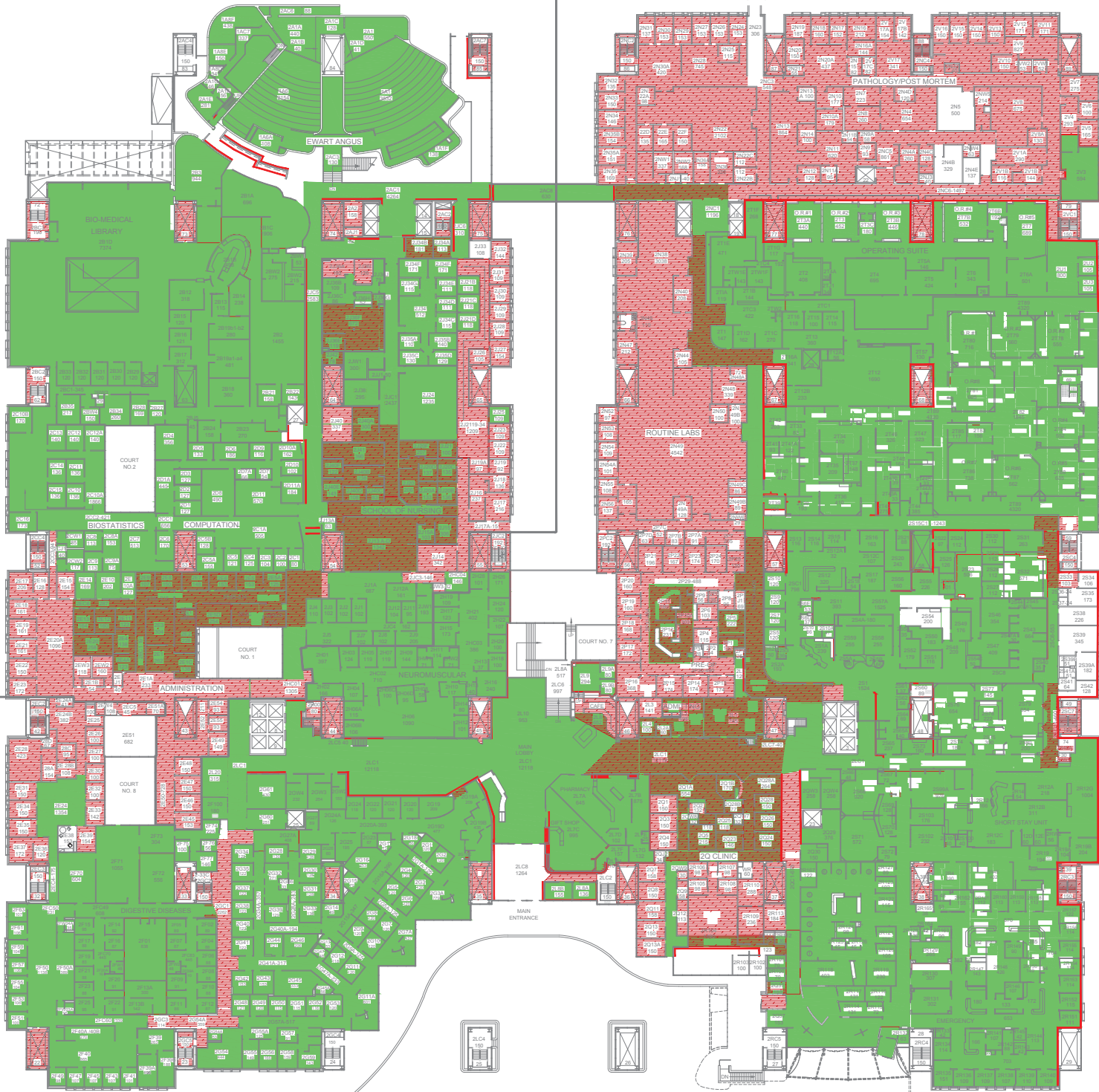
PROJ. DATE: NOVEMBER 2018	DEPARTMENT: HAZARDOUS MATERIALS
SCALE: N.T.S.	SUPERVISOR: MICHAEL MAIORANA
DRAWN BY: JORDAN BOULOS	FILE NAME: P15174250330 AS-05 Floor Level 2 MUMC

AS-05A







FHS HHS

BRIDGE TO MICHAEL DINGROOTE BUILDING



KEY PLAN

NO.	DATE M/D/Y	REVISIONS	BY
1	1/1/2013	UPDATED	GS
2	2/1/2013	UPDATED	GS
3	3/1/2013	UPDATED	GS
4	4/1/2013	UPDATED	GS
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6	6/1/2013	UPDATED	GS
7	7/1/2013	UPDATED	GS
8	11/20/2013	Updated by Pinchin Environmental	
9	5/29/2015	Revised by Pinchin Limited	
10	11/1/2018	Revised by Pinchin Limited	

- LEGEND:
-  ACM DRYWALL JOINT COMPOUND ON WALLS
 -  ACM DRYWALL JOINT COMPOUND ON SPECIFIED WALLS
 -  NO ACCESS TO ROOM/AREA
 -  ACM ABATED AREA AS PER HHS/FHS RECORDS

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MUMC
SITE



PROJECT: MUMC - 1200 MAIN ST. WEST, HAMILTON ONTARIO, ASBESTOS MANAGEMENT PLAN AND SURVEY

DRAWING: LEVEL 2 ACM ON WALLS

PROJECT DATE: NOVEMBER 2018	DEPARTMENT: HAZARDOUS MATERIALS
SCALE: N.T.S.	SUPERVISOR: MICHAEL MAIORANA
DRAWN BY: JORDAN BOULOS	FILE NAME: 174200330 AS-05 Floor Level 2 MUMC

AS-05B

SHEET SIZE = ARCH 'D' - 24" x 36" (MPSHA) - 610mm x 914mm (METRIC)



FHS | HHS

BRIDGE TO
MICHAEL D'EGROOTE
BUILDING

PATHOLOGY/POST MORTEM

EWART ANGUS

ROUTINE LABS

ADMINISTRATION

ZO CLINIC





MAIN ENTRANCE

KEY PLAN

N.T.S.

NO.	DATE	W/D/Y	REVISIONS	BY
1	1/1/2013		UPDATED	GS
2	2/1/2013		UPDATED	GS
3	3/1/2013		UPDATED	GS
4	4/1/2013		UPDATED	GS
5	5/1/2013		UPDATED	GS
6	6/1/2013		UPDATED	GS
7	7/1/2013		UPDATED	GS
8	11/20/2013		Updated by Pinchin Environmental	
9	5/29/2015		Revised by Pinchin Limited	
10	11/1/2018		Revised by Pinchin Limited	

LEGEND:

-  ACM CEILING TILES
-  ACM DRYWALL JOINT COMPOUND ON CEILING
-  NO ACCESS TO ROOM/AREA
-  ACM ABATED AREA AS PER HHS/FHS RECORDS

- GENERAL NOTES:
- DRAWINGS HAVE BEEN CONVERTED FROM A CONTRACTED SOURCE JANUARY 2013 AND WILL BE MAINTAINED BY HHS ENGINEERING STAFF.
 - DRAWINGS SHALL BE READ IN CONJUNCTION WITH HHS ASBESTOS MANAGEMENT PLAN AND SURVEYS AVAILABLE ON THE HHS INTRANET, AND HARDCOPY IN THE SITES ENGINEERING DEPT.
 - AREAS WITHOUT A DESIGNATION OF ACM (ASBESTOS CONTAINING MATERIAL) SHALL BE TREATED AS ACM UNTIL PROVEN OTHERWISE.
 - PRIOR TO UNDERTAKING ANY REPAIR RENOVATION OR DEMOLITION, REVIEW THE AMP (ASBESTOS MANAGEMENT PLAN) AND SURVEY PRIOR TO COMMENCEMENT OF WORK.
 - IF YOU SUSPECT A MATERIAL TO BE ACM IN AN AREA SHOWN TO BE FREE OF ACM, CONTACT THE ASBESTOS COORDINATOR FOR CONSULTATION.

MUMC
SITE



PROJECT:
MUMC - 1200 MAIN ST. WEST,
HAMILTON ONTARIO, ASBESTOS
MANAGEMENT PLAN AND SURVEY

DRAWING:
LEVEL 2
ACM ON CEILING

PROJ. DATE: NOVEMBER 2018 DEPARTMENT: HAZARDOUS MATERIALS
SCALE: N.T.S. SUPERVISOR: MICHAEL MAIORANA
DRAWN BY: JORDAN BOULOS FILE NAME: P12174250350 AS-05 Floor Level 2 MUMC
DRAWING NO:

AS-05C



FHS HHS

BRIDGE TO MICHAEL GOODRICH BUILDING



KEY PLAN N.T.S.

NO.	DATE	W/D/Y	REVISIONS	BY
1	1/1/2013		UPDATED	GS
2	2/1/2013		UPDATED	GS
3	3/1/2013		UPDATED	GS
4	4/1/2013		UPDATED	GS
5	5/1/2013		UPDATED	GS
6	6/1/2013		UPDATED	GS
7	7/1/2013		UPDATED	GS
8	11/20/2013		Updated by Pinchin Environmental	
9	5/29/2015		Revised by Pinchin Limited	
10	11/1/2018		Revised by Pinchin Limited	

LEGEND — OTHER

	ACM PIPE INSULATION
	ACM DUCT INSULATION
	ACM MECHANICAL INSULATION
	TYPE 1 ENTRY
	TYPE 2 ENTRY
	TYPE 3 ENTRY
	ACM TEXTURE FINISH
	ACM FIRESTOPPING
	TRANSITE
	NO ACCESS TO ROOM/AREA
	ACM ABATED AREA AS PER HHS/FHS RECORDS

FHS
HHS

- GENERAL NOTES:
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 - IF YOU SUSPECT A MATERIAL TO BE ACM IN AN AREA SHOWN TO BE FREE OF ACM, CONTACT THE ASBESTOS COORDINATOR FOR CONSULTATION.

MUMC
SITE

PROJECT: MUMC — 1200 MAIN ST. WEST, HAMILTON ONTARIO, ASBESTOS MANAGEMENT PLAN AND SURVEY

DRAWING: LEVEL 2 OTHER ACM

PROJ. DATE: NOVEMBER 2018	DEPARTMENT: HAZARDOUS MATERIALS
SCALE: N.T.S.	SUPERVISOR: MICHAEL MAIORANA
DRAWN BY: JORDAN BOULOS	PL. NO: 17420030 AS-05 Floor Level 2 MUMC

AS-05D



FHS
HHS



KEY PLAN M.T.S.

NO.	DATE	W/D/Y	REVISIONS	BY
1	1/1/2013		UPDATED	GS
2	2/1/2013		UPDATED	GS
3	3/1/2013		UPDATED	GS
4	4/1/2013		UPDATED	GS
5	5/1/2013		UPDATED	GS
6	6/1/2013		UPDATED	GS
7	7/1/2013		UPDATED	GS
8	11/20/2013		Updated by Pinchin Environmental	
9	5/29/2015		Revised by Pinchin Limited	
10	11/1/2018		Revised by Pinchin Limited	

- LEGEND:
- ACM VINYL FLOOR TILES
 - ACM VINYL SHEET FLOORING
 - NO ACCESS TO ROOM/AREA
 - ACM ABATED AREA AS PER HHS/FHS RECORDS

- GENERAL NOTES:
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 - IF YOU SUSPECT A MATERIAL TO BE ACM IN AN AREA SHOWN TO BE FREE OF ACM, CONTACT THE ASBESTOS COORDINATOR FOR CONSULTATION.

MUMC
SITE

PROJECT:
MUMC - 1200 MAIN ST. WEST,
HAMILTON ONTARIO, ASBESTOS
MANAGEMENT PLAN AND SURVEY

DRAWING:
LEVEL 3
ACM ON FLOOR

PROJECT DATE:
NOVEMBER 2018

DEPARTMENT:
HAZARDOUS MATERIALS

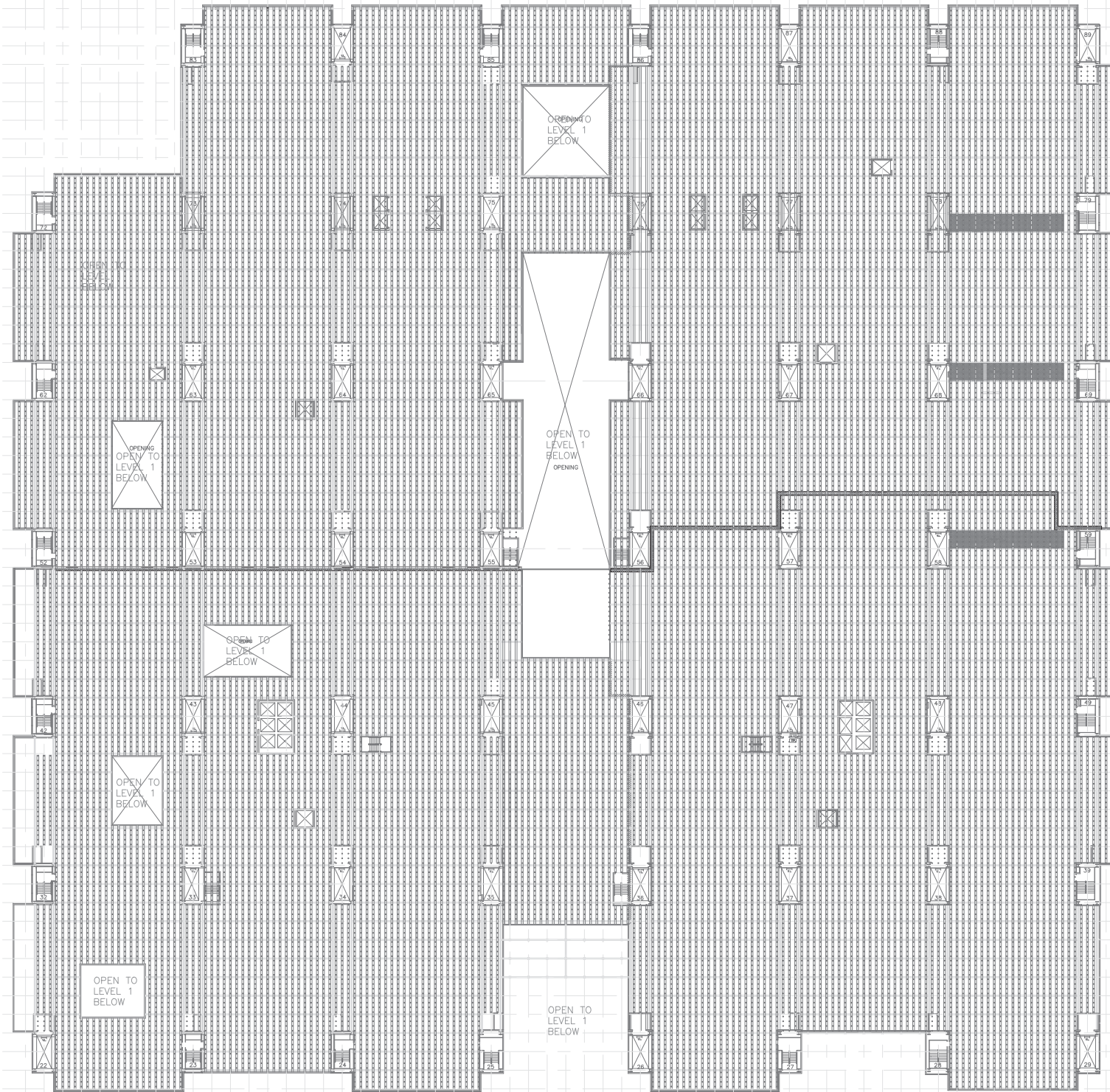
SCALE:
N.T.S.

SUPERVISOR:
MICHAEL MAORANA

DRAWN BY:
JORDAN BOULOS

FILE NO:
1923.030 AS-07 Floor Level 3 MUMC

AS-07A



KEY PLAN M.T.S.

NO.	DATE W/D/Y	REVISIONS	BY
1	1/1/2013	UPDATED	GS
2	2/1/2013	UPDATED	GS
3	3/1/2013	UPDATED	GS
4	4/1/2013	UPDATED	GS
5	5/1/2013	UPDATED	GS
6	6/1/2013	UPDATED	GS
7	7/1/2013	UPDATED	GS
8	11/20/2013	Updated by Pinchin Environmental	
9	5/29/2015	Revised by Pinchin Limited	
10	11/1/2018	Revised by Pinchin Limited	

- LEGEND:
- ACM VINYL FLOOR TILES
 - ACM VINYL SHEET FLOORING
 - NO ACCESS TO ROOM/AREA
 - ACM ABATED AREA AS PER HHS RECORDS

- INTERSTITIAL SPACE NOTES:
1. ACM PARGED FITTINGS THROUGHOUT
 2. ENCASED SPRAYED FIREPROOFING THROUGHOUT
 3. ACM SPRAYED FIREPROOFING DEBRIS IS PRESENT BELOW METAL DECKING
 4. ACM DRYWALL JOINT COMPOUND PRESENT
 5. ACM TAR PRESENT ON PIPES AND MECHANICAL
 6. ACM DUCT INSULATION PRESENT

- GENERAL NOTES:
1. DRAWINGS HAVE BEEN CONVERTED FROM A CONTRACTED SOURCE JANUARY 2013 AND WILL BE MAINTAINED BY HHS ENGINEERING STAFF.
 2. DRAWINGS SHALL BE READ IN CONJUNCTION WITH HHS ASBESTOS MANAGEMENT PLAN AND SURVEYS AVAILABLE ON THE HHS INTRANET, AND HARDCOPY IN THE SITES ENGINEERING DEPT.
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MUMC
SITE



PROJECT:
MUMC - 1200 MAIN ST. WEST,
HAMILTON ONTARIO, ASBESTOS
MANAGEMENT PLAN AND SURVEY

DRAWING:
LEVEL M2
ACM IN INTERSTITIAL SPACE

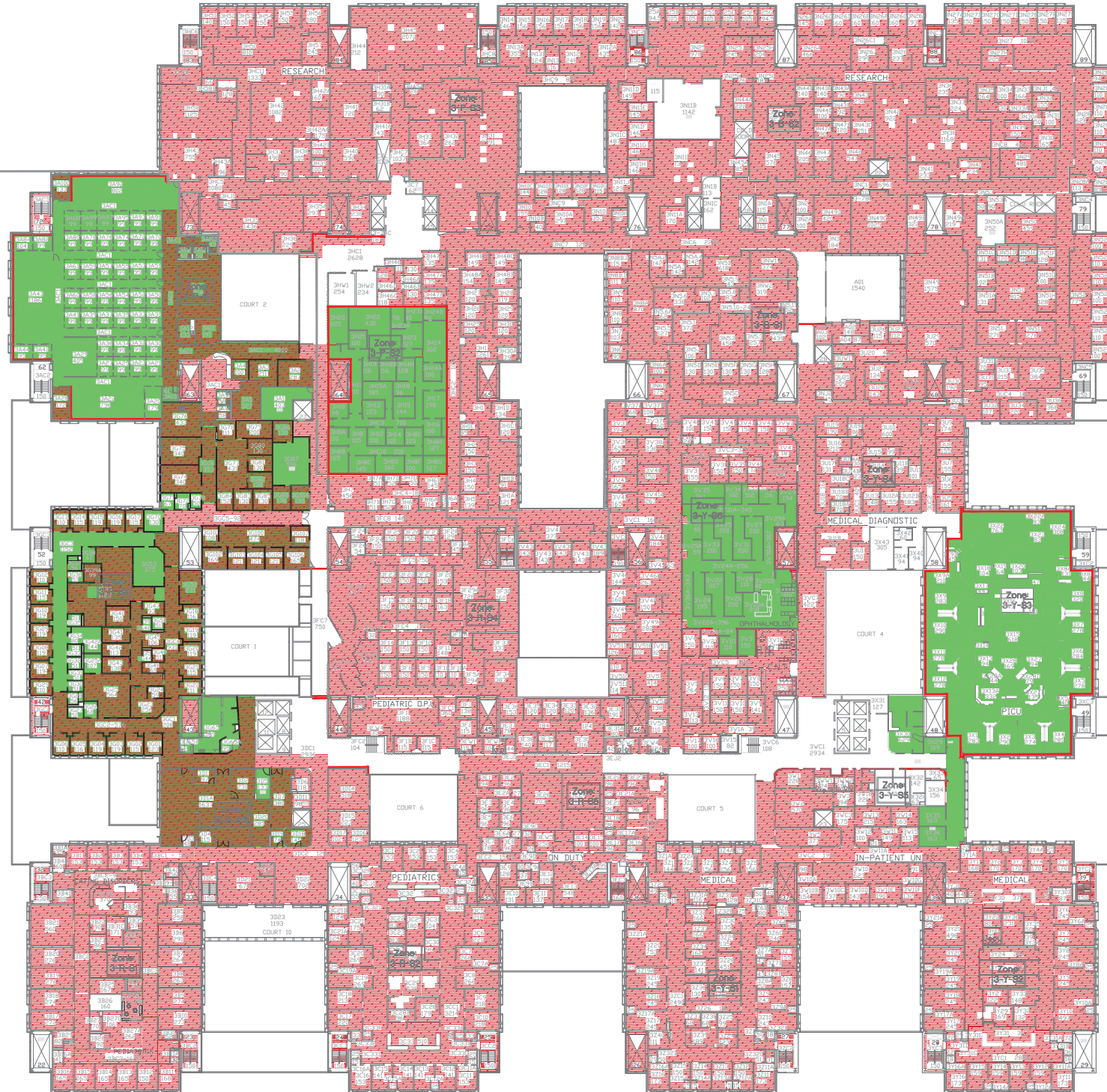
PLDW DATE: NOVEMBER 2018	DEPARTMENT: HAZARDOUS MATERIALS
SCALE: N.T.S.	SUPERVISOR: MICHAEL MAIORANA
DRAWN BY: JORDAN BOULOS	FILE NAME: 217420.030 AS-06 M2 MUMC
DRAWING NO.:	

AS-06



FHS

HHS



FHS

HHS

KEY PLAN M.T.S.

NO.	DATE W/D/Y	REVISIONS	BY
1	1/1/2013	UPDATED	GS
2	2/1/2013	UPDATED	GS
3	3/1/2013	UPDATED	GS
4	4/1/2013	UPDATED	GS
5	5/1/2013	UPDATED	GS
6	6/1/2013	UPDATED	GS
7	7/1/2013	UPDATED	GS
8	11/20/2013	Updated by Pinchin Environmental	
9	5/29/2015	Revised by Pinchin Limited	
10	11/1/2018	Revised by Pinchin Limited	

LEGEND:

- ACM DRYWALL JOINT COMPOUND ON WALLS
- ACM DRYWALL JOINT COMPOUND ON SPECIFIED WALLS
- NO ACCESS TO ROOM/AREA
- ACM ABATED AREAS AS PER HHS/FHS RECORDS

GENERAL NOTES:

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MUMC SITE



PROJECT: MUMC - 1200 MAIN ST. WEST, HAMILTON ONTARIO, ASBESTOS MANAGEMENT PLAN AND SURVEY

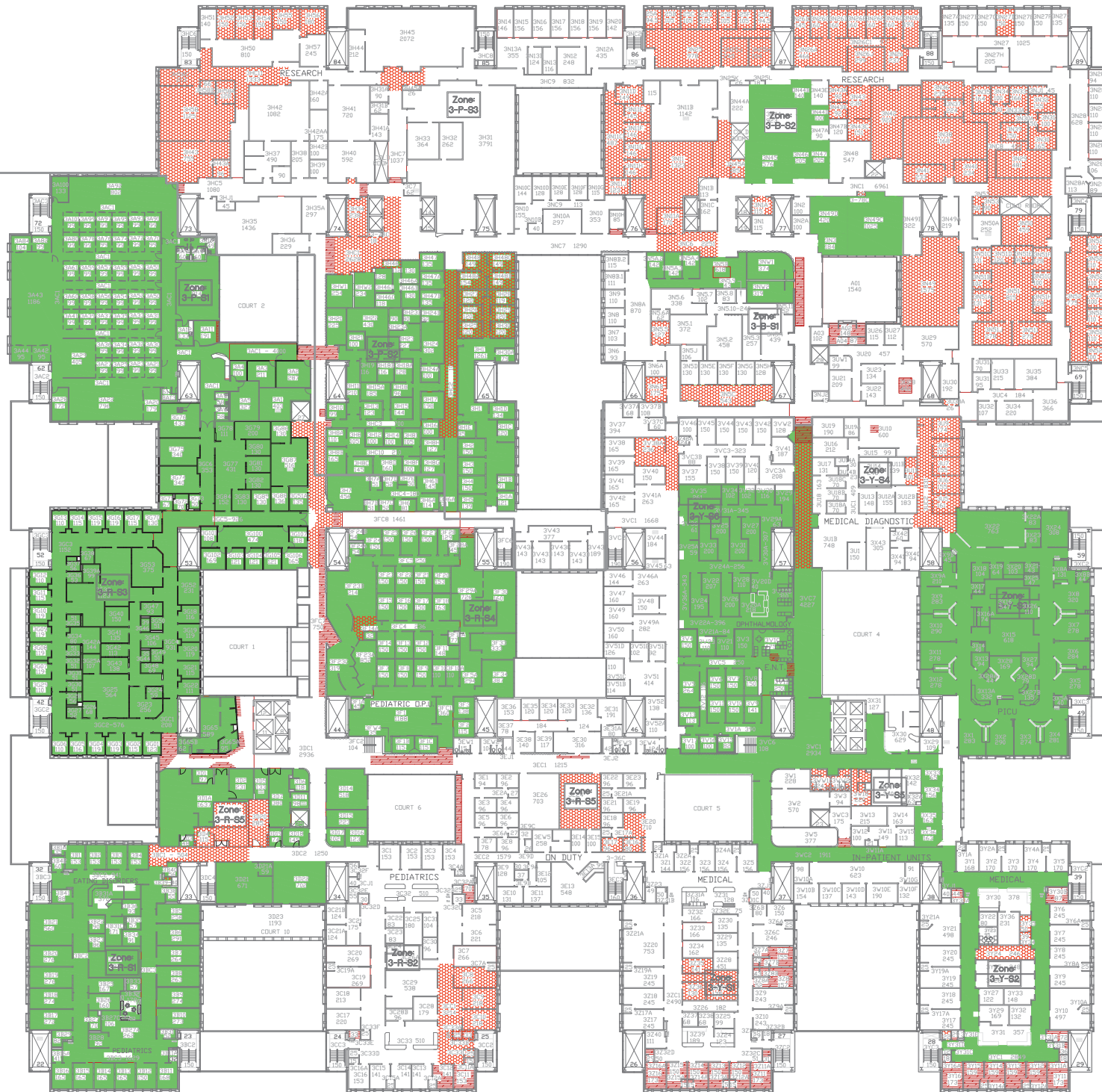
DRAWING: LEVEL 3 ACM ON WALLS

PROJECT DATE: NOVEMBER 2018	DEPARTMENT: HAZARDOUS MATERIALS
SCALE: N.T.S.	SUPERVISOR: MICHAEL MAORANA
DRAWN BY: JORDAN BOULOS	FILE NAME: 121923030 AS-07 Floor Level 3.mxd
DRAWING No.	

AS-07B



FHS
HHS



KEY PLAN

NO.	DATE W/D/Y	REVISIONS	BY
1	1/1/2013	UPDATED	GS
2	2/1/2013	UPDATED	GS
3	3/1/2013	UPDATED	GS
4	4/1/2013	UPDATED	GS
5	5/1/2013	UPDATED	GS
6	6/1/2013	UPDATED	GS
7	7/1/2013	UPDATED	GS
8	11/20/2013	Updated by Pinchin Environmental	
9	5/29/2015	Revised by Pinchin Limited	
10	11/1/2018	Revised by Pinchin Limited	

- LEGEND:
- ACM CEILING TILES
 - ACM DRYWALL JOINT COMPOUND ON CEILING
 - NO ACCESS TO ROOM/AREA
 - ACM ABATED AREA AS PER HHS/FHS RECORDS

FHS
HHS

- GENERAL NOTES:
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MUMC
SITE

PROJECT:
MUMC - 1200 MAIN ST. WEST,
HAMILTON ONTARIO, ASBESTOS
MANAGEMENT PLAN AND SURVEY

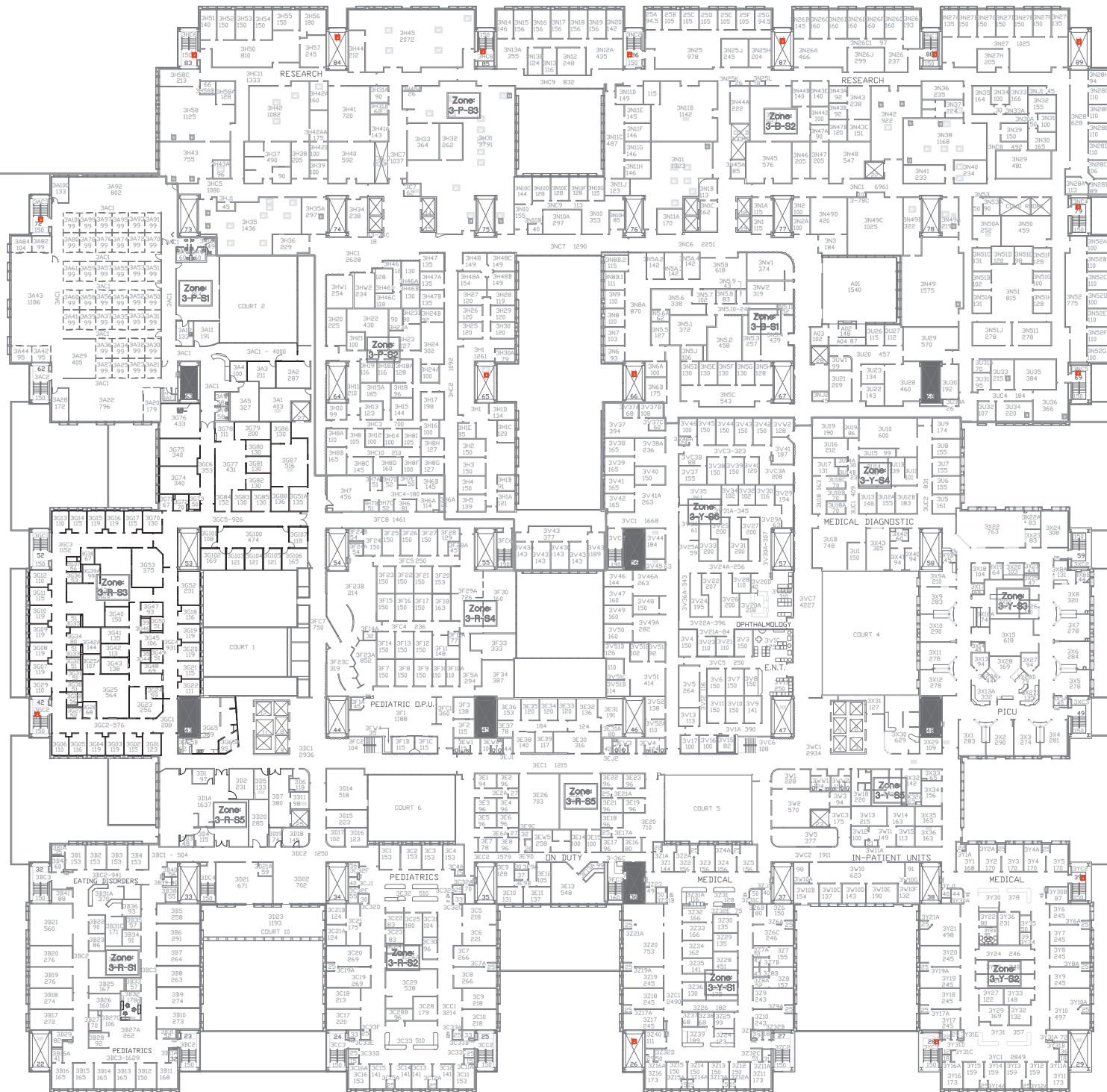
DRAWING:
LEVEL 3
ACM ON CEILING

FILE NAME:
1200030 AS-07 Floor Level
3.MEMO

AS-07C



FHS
HHS



KEY PLAN

NO.	DATE W/D/Y	REVISIONS	BY
1	1/1/2013	UPDATED	GS
2	2/1/2013	UPDATED	GS
3	3/1/2013	UPDATED	GS
4	4/1/2013	UPDATED	GS
5	5/1/2013	UPDATED	GS
6	6/1/2013	UPDATED	GS
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8	11/20/2013	Updated by Pinchin Environmental	
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10	11/1/2018	Revised by Pinchin Limited	

LEGEND - OTHER

	ACM PIPE INSULATION
	ACM DUCT INSULATION
	ACM MECHANICAL INSULATION
	TYPE 1 ENTRY
	TYPE 2 ENTRY
	TYPE 3 ENTRY
	ACM TEXTURE FINISH
	ACM FIRESTOPPING
	TRANSITE
	NO ACCESS TO ROOM/AREA

GENERAL NOTES:

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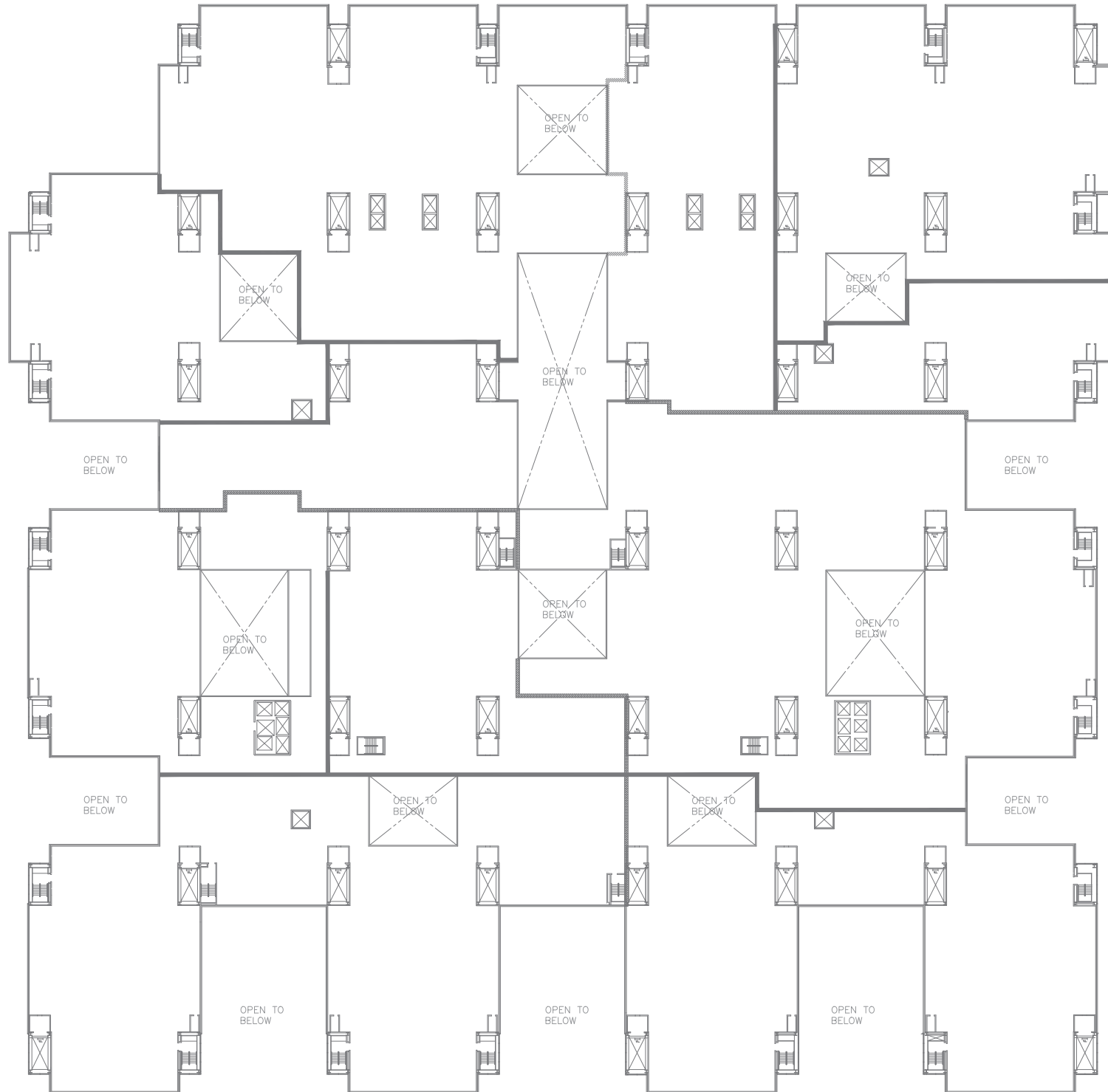
MUMC
SITE

PROJECT:
MUMC - 1200 MAIN ST. WEST, HAMILTON ONTARIO, ASBESTOS MANAGEMENT PLAN AND SURVEY

DRAWING:
LEVEL 3
OTHER ACM

PLOTT DATE: NOVEMBER 2018 SCALE: N.T.S. DRAWN BY: JORDAN BOULOS DRAWING No.	DEPARTMENT: HAZARDOUS MATERIALS SUPERVISOR: MICHAEL MACORANA DATE: 11/20/2018 AS-07 Floor Level 3
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AS-07D



NO.	DATE W/D/Y	REVISIONS	BY
1	1/1/2013	UPDATED	GS
2	2/1/2013	UPDATED	GS
3	3/1/2013	UPDATED	GS
4	4/1/2013	UPDATED	GS
5	5/1/2013	UPDATED	GS
6	6/1/2013	UPDATED	GS
7	7/1/2013	UPDATED	GS
8	11/20/2013	Updated by Pinchin Environmental	
9	5/29/2015	Revised by Pinchin Limited	
10	11/1/2018	Revised by Pinchin Limited	

- LEGEND:
- ACM VINYL FLOOR TILES
 - ACM VINYL SHEET FLOORING
 - NO ACCESS TO ROOM/AREA
 - ACM ABATED AREA AS PER HHS RECORDS

- INTERSTITIAL SPACE NOTES:
- ACM PARGED FITTINGS THROUGHOUT
 - ENCASED SPRAYED FIREPROOFING THROUGHOUT
 - ACM SPRAYED FIREPROOFING DEBRIS IS PRESENT BELOW METAL DECKING
 - ACM DRYWALL JOINT COMPOUND PRESENT
 - ACM TAR PRESENT ON PIPES AND MECHANICAL
 - ACM DUCT INSULATION PRESENT

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PROJECT:
MUMC - 1200 MAIN ST. WEST,
HAMILTON ONTARIO, ASBESTOS
MANAGEMENT PLAN AND SURVEY

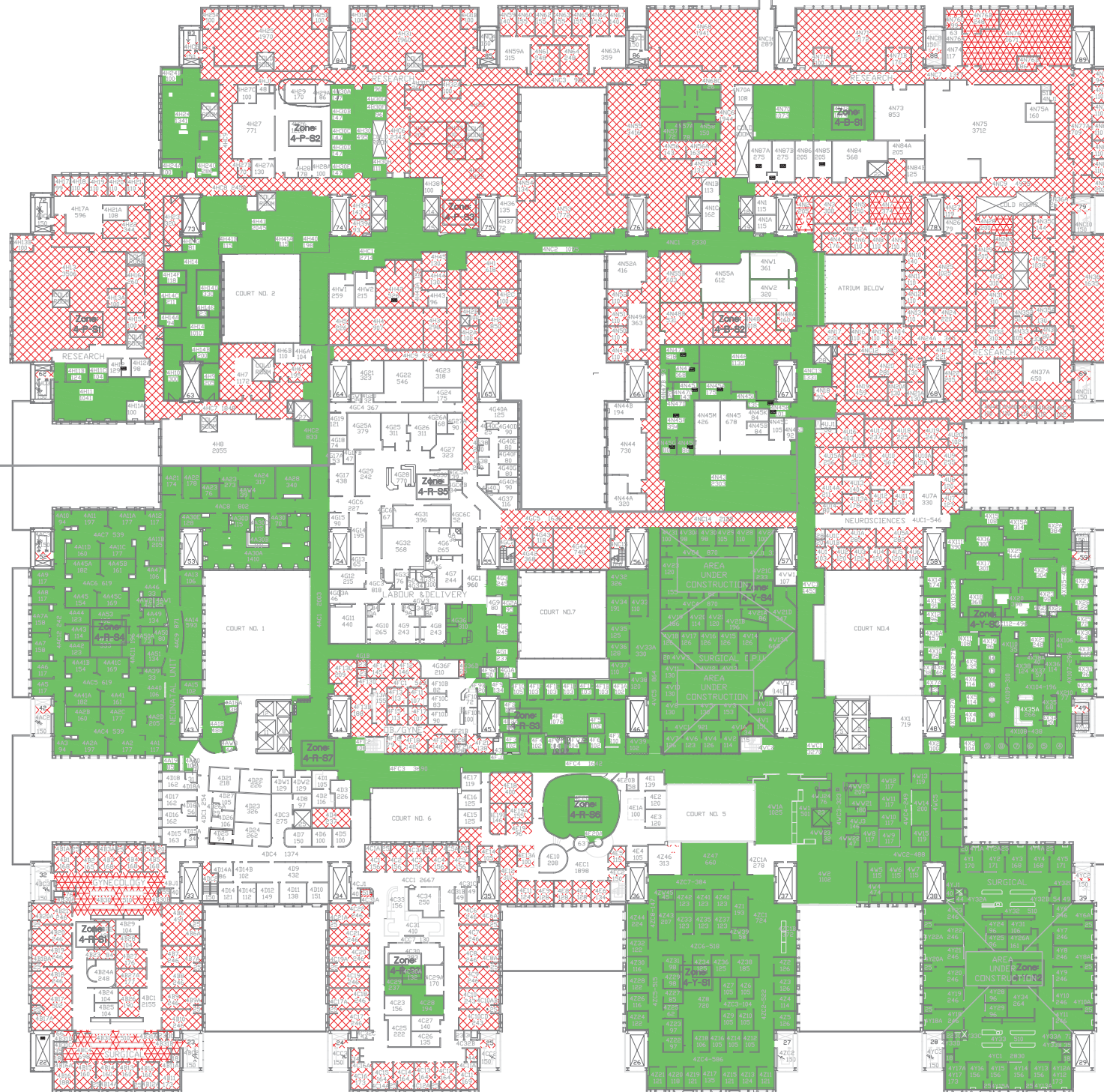
DRAWING:
LEVEL M3
ACM IN INTERSTITIAL SPACE

PLOT DATE: NOVEMBER 2018 SCALE: N.T.S. DRAWN BY: JORDAN BOULOS DRAWING NO.	DEPARTMENT: HAZARDOUS MATERIALS SUPERVISOR: MICHAEL MAORANA FILE NAME: 217420.030 AS-08 M3 MUMC
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AS-08



BRIDGE TO
MICHAEL MAIORANA
BUILDING



FHS

HHS

KEY PLAN N.T.S.

NO.	DATE	W/D/Y	REVISIONS	BY
1	1/1/2013		UPDATED	GS
2	2/1/2013		UPDATED	GS
3	3/1/2013		UPDATED	GS
4	4/1/2013		UPDATED	GS
5	5/1/2013		UPDATED	GS
6	6/1/2013		UPDATED	GS
7	7/1/2013		UPDATED	GS
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LEGEND:

- ACM VINYL FLOOR TILES
- ACM VINYL SHEET FLOORING
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MUMC
SITE



PROJECT:
MUMC - 1200 MAIN ST. WEST,
HAMILTON ONTARIO, ASBESTOS
MANAGEMENT PLAN AND SURVEY

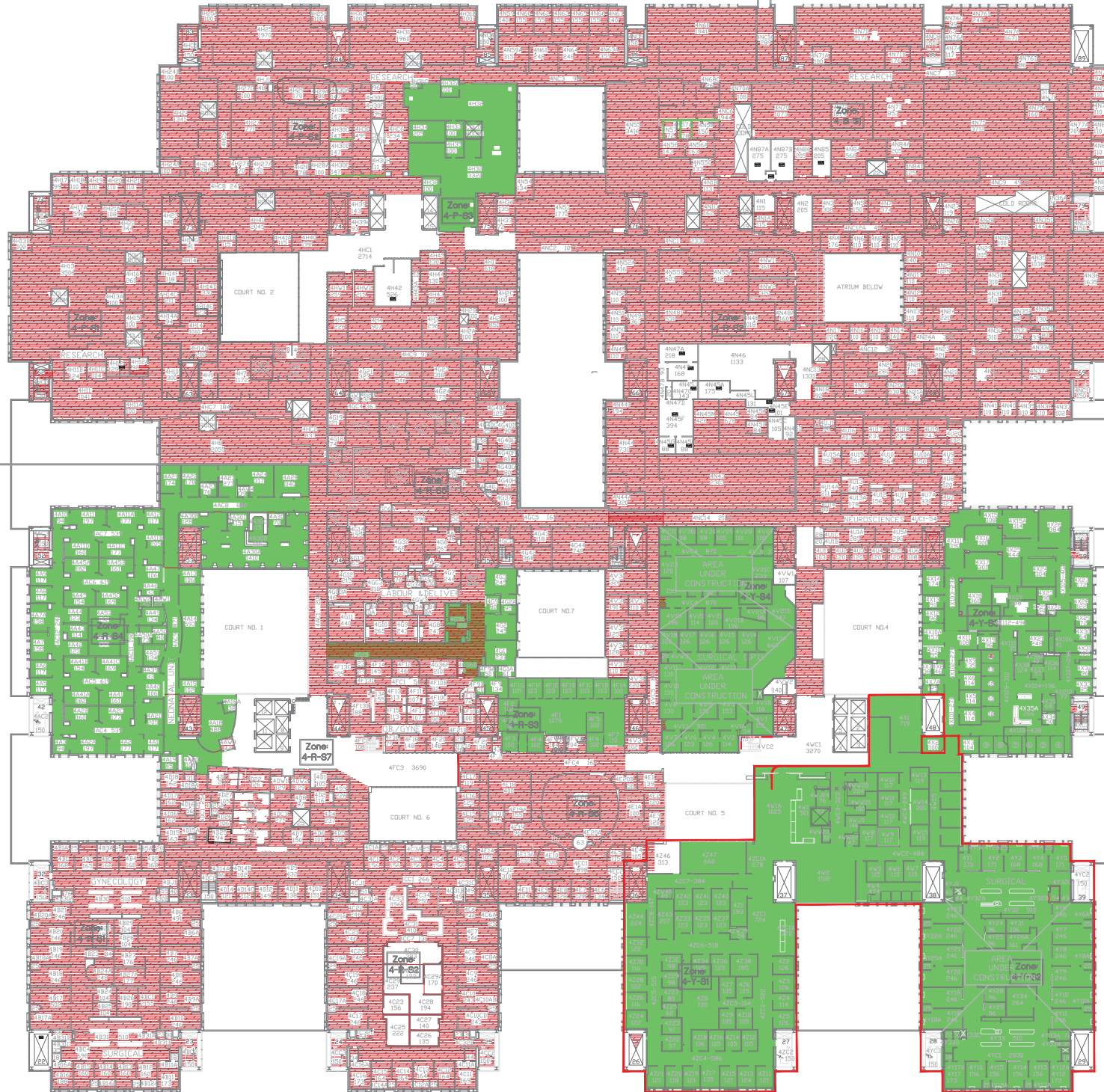
DRAWING:
LEVEL 4
ACM ON FLOOR

PROJECT DATE: NOVEMBER 2018	DEPARTMENT: HAZARDOUS MATERIALS
SCALE: N.T.S.	SUPERVISOR: MICHAEL MAIORANA
DRAWN BY: JORDAN BOULOS	FILE NAME: P1217201030 AS-09 Floor Level 4 MUMC

AS-09A



BRIDGE TO
MICHELLE BERGQVIST
BUILDING



FHS

HHS

KEY PLAN

NO.	DATE W/D/Y	REVISIONS	BY
1	1/1/2013	UPDATED	GS
2	2/1/2013	UPDATED	GS
3	3/1/2013	UPDATED	GS
4	4/1/2013	UPDATED	GS
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8	11/20/2013	Updated by Pinchin Environmental	
9	5/29/2015	Revised by Pinchin Limited	
10	11/1/2018	Revised by Pinchin Limited	

- LEGEND:
- ACM DRYWALL JOINT COMPOUND ON WALLS
 - ACM DRYWALL JOINT COMPOUND ON SPECIFIED WALLS
 - NO ACCESS TO ROOM/AREA
 - ACM ABATED AREA AS PER HHS/FHS RECORDS

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MUMC
SITE

PROJECT:
MUMC - 1200 MAIN ST. WEST,
HAMILTON ONTARIO, ASBESTOS
MANAGEMENT PLAN AND SURVEY

DRAWING:
LEVEL 4
ACM ON WALLS

PROJECT DATE: NOVEMBER 2018	DEPARTMENT: HAZARDOUS MATERIALS
SCALE: N.T.S.	SUPERVISOR: MICHAEL MAORANA
DRAWN BY: JORDAN BOULOS	FILE NO: 19220330 AS-09 Floor Level 4 MUMC

AS-09B



KEY PLAN M.T.S.

NO.	DATE W/D/Y	REVISIONS	BY
1	1/1/2013	UPDATED	GS
2	2/1/2013	UPDATED	GS
3	3/1/2013	UPDATED	GS
4	4/1/2013	UPDATED	GS
5	5/1/2013	UPDATED	GS
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10	11/1/2018	Revised by Pinchin Limited	

- LEGEND:
- ACM CEILING TILES
 - ACM DRYWALL JOINT COMPOUND ON CEILING
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MUMC
SITE

PROJECT:
MUMC - 1200 MAIN ST. WEST,
HAMILTON ONTARIO, ASBESTOS
MANAGEMENT PLAN AND SURVEY

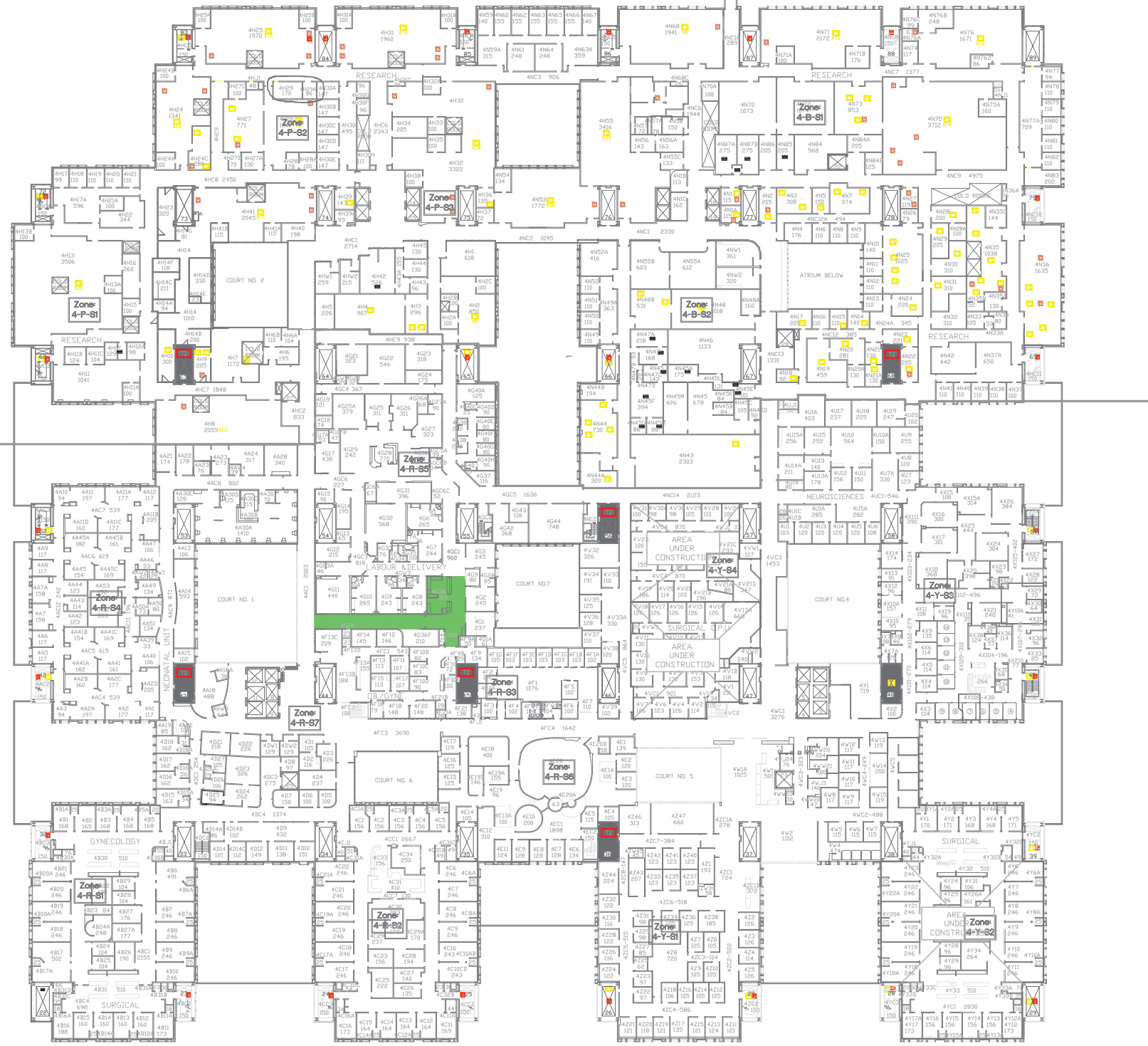
DRAWING:
LEVEL 4
ACM ON CEILING

PROJ. DATE: NOVEMBER 2018 SCALE: N.T.S. DRAWN BY: JORDAN BOULOS DRAWING NO.	DEPARTMENT: HAZARDOUS MATERIALS SUPERVISOR: MICHAEL MACORANA FILE NO.: 11923030 AS-09 Floor Level 2 MUMC
---	--

AS-09C



BRIDGE TO MICHAEL MAJORANA BUILDING



FHS
HHS

KEY PLAN M.T.S.

NO.	DATE W/D/Y	REVISIONS	BY
1	1/1/2013	UPDATED	GS
2	2/1/2013	UPDATED	GS
3	3/1/2013	UPDATED	GS
4	4/1/2013	UPDATED	GS
5	5/1/2013	UPDATED	GS
6	6/1/2013	UPDATED	GS
7	7/1/2013	UPDATED	GS
8	11/20/2013	Updated by Pinchin Environmental	
9	5/29/2015	Revised by Pinchin Limited	
10	11/1/2018	Revised by Pinchin Limited	

LEGEND - OTHER

PI	ACM PIPE INSULATION
DI	ACM DUCT INSULATION
MI	ACM MECHANICAL INSULATION
T1	TYPE 1 ENTRY
T2	TYPE 2 ENTRY
T3	TYPE 3 ENTRY
TF	ACM TEXTURE FINISH
FS	ACM FIRESTOPPING
T	TRANSITE
NAR	NO ACCESS TO ROOM/AREA

MUMC
SITE



PROJECT:
MUMC - 1200 MAIN ST. WEST,
HAMILTON ONTARIO, ASBESTOS
MANAGEMENT PLAN AND SURVEY

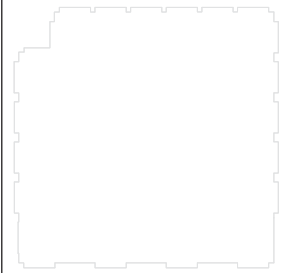
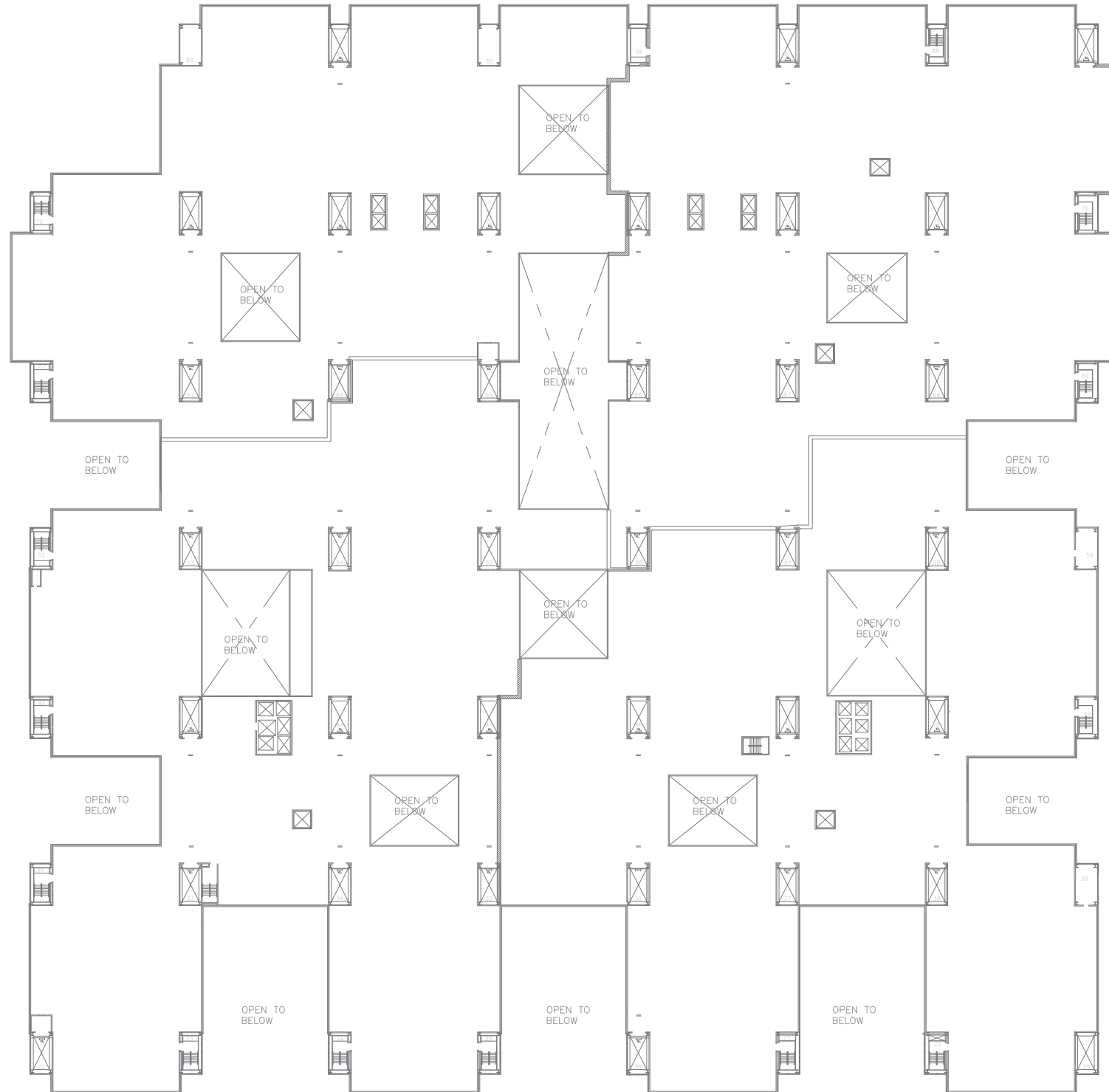
DRAWING:
LEVEL 4
OTHER ACM

PLOT DATE: NOVEMBER 2018 SCALE: N.T.S. DRAWN BY: JORDAN BOULOS DRAWING No.	DEPARTMENT: HAZARDOUS MATERIALS SUPERVISOR: MICHAEL MAJORANA PROJECT NO: 119220330 AS-09 Floor Level 2 MUMC
--	---

AS-09D

GENERAL NOTES:

- DRAWINGS HAVE BEEN CONVERTED FROM A CONTRACTED SOURCE JANUARY 2013 AND WILL BE MAINTAINED BY HHS ENGINEERING STAFF.
- DRAWINGS SHALL BE READ IN CONJUNCTION WITH HHS ASBESTOS MANAGEMENT PLAN AND SURVEYS AVAILABLE ON THE HHS INTRANET, AND HARD COPY IN THE SITES ENGINEERING DEPT.
- AREAS WITHOUT A DESIGNATION OF ACM (ASBESTOS CONTAINING MATERIAL) SHALL BE TREATED AS ACM UNTIL PROVEN OTHERWISE. PRIOR TO UNDERTAKING ANY REPAIR RENOVATION OR DEMOLITION, REVIEW THE AMP (ASBESTOS MANAGEMENT PLAN) AND SURVEY PRIOR TO COMMENCEMENT OF WORK. IF YOU SUSPECT A MATERIAL TO BE ACM IN AN AREA SHOWN TO BE FREE OF ACM, CONTACT THE ASBESTOS COORDINATOR FOR CONSULTATION.



KEY PLAN M.T.S.

NO.	DATE W/D/Y	REVISIONS	BY
1	1/1/2013	UPDATED	GS
2	2/1/2013	UPDATED	GS
3	3/1/2013	UPDATED	GS
4	4/1/2013	UPDATED	GS
5	5/1/2013	UPDATED	GS
6	6/1/2013	UPDATED	GS
7	7/1/2013	UPDATED	GS
8	11/20/2013	Updated by Pinchin Environmental	
9	5/29/2015	Revised by Pinchin Limited	
10	11/1/2018	Revised by Pinchin Limited	

- LEGEND:
- ACM VINYL FLOOR TILES
 - ACM VINYL SHEET FLOORING
 - NO ACCESS TO ROOM/AREA
 - ACM ABATED AREA AS PER HHS RECORDS

- INTERSTITIAL SPACE NOTES:
- ACM PARGED FITTINGS THROUGHOUT
 - ENCASED SPRAYED FIREPROOFING THROUGHOUT
 - ACM SPRAYED FIREPROOFING DEBRIS IS PRESENT BELOW METAL DECKING
 - ACM DRYWALL JOINT COMPOUND PRESENT
 - ACM TAR PRESENT ON PIPES AND MECHANICAL
 - ACM DUCT INSULATION PRESENT

- GENERAL NOTES:
- DRAWINGS HAVE BEEN CONVERTED FROM A CONTRACTED SOURCE JANUARY 2013 AND WILL BE MAINTAINED BY HHS ENGINEERING STAFF.
 - DRAWINGS SHALL BE READ IN CONJUNCTION WITH HHS ASBESTOS MANAGEMENT PLAN AND SURVEYS AVAILABLE ON THE HHS INTRANET, AND HARDCOPY IN THE SITES ENGINEERING DEPT.
 - AREAS WITHOUT A DESIGNATION OF ACM (ASBESTOS CONTAINING MATERIAL) SHALL BE TREATED AS ACM UNTIL PROVEN OTHERWISE.
 - PRIOR TO UNDERTAKING ANY REPAIR RENOVATION OR DEMOLITION, REVIEW THE AMP (ASBESTOS MANAGEMENT PLAN) AND SURVEY PRIOR TO COMMENCEMENT OF WORK.
 - IF YOU SUSPECT A MATERIAL TO BE ACM IN AN AREA SHOWN TO BE FREE OF ACM, CONTACT THE ASBESTOS COORDINATOR FOR CONSULTATION.

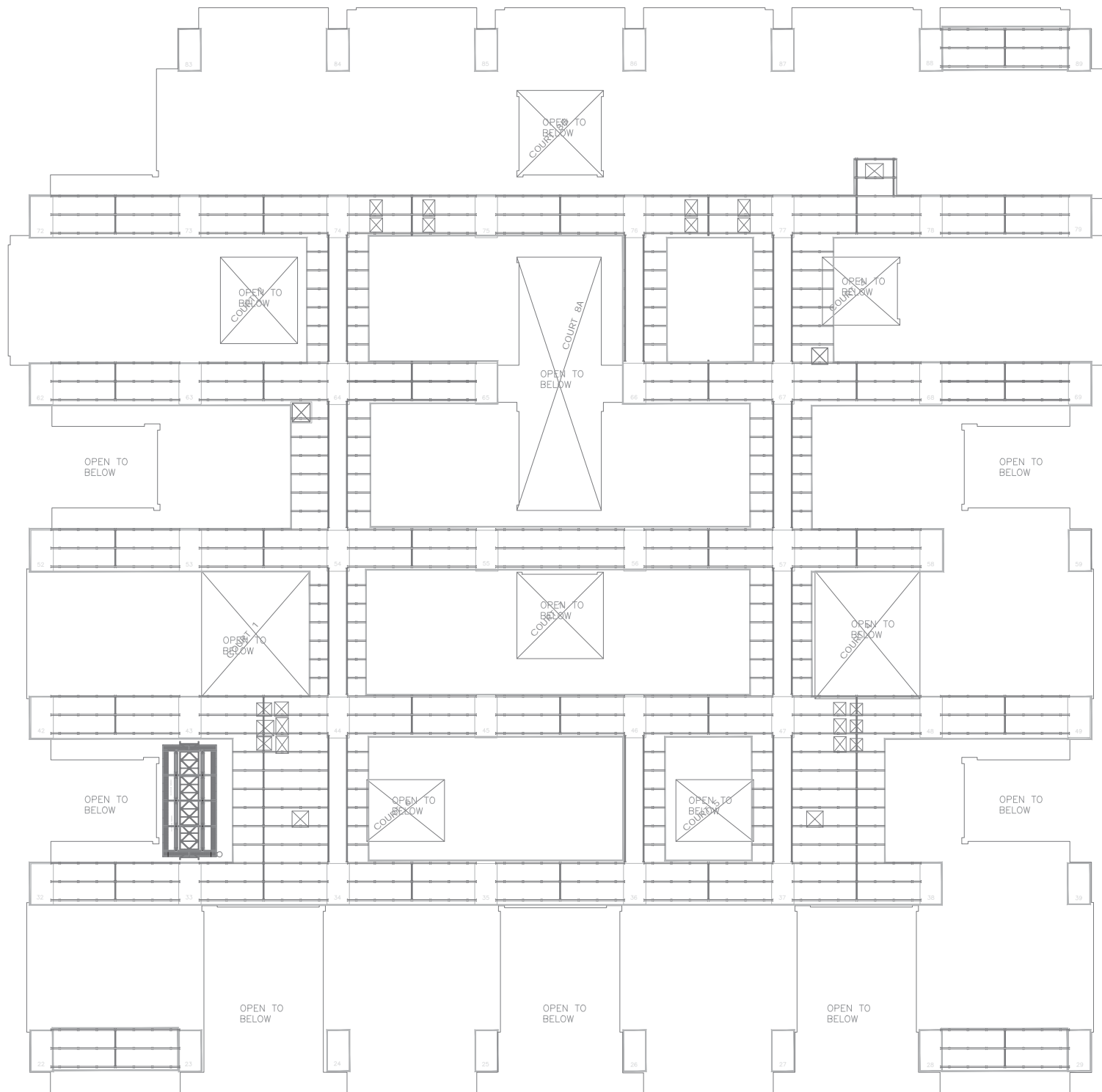


PROJECT:
MUMC - 1200 MAIN ST. WEST,
HAMILTON ONTARIO, ASBESTOS
MANAGEMENT PLAN AND SURVEY

DRAWING:
LEVEL M4
ACM IN INTERSTITIAL SPACE

PLOT DATE: NOVEMBER 2018 SCALE: N.T.S. DRAWN BY: JORDAN BOULOS DRAWING NO.	DEPARTMENT: HAZARDOUS MATERIALS SUPERVISOR: MICHAEL MAORANA FILE NAME: 217420.030 AS-10 M4 MUMC
--	--

AS-10A



KEY PLAN M.T.S.

NO.	DATE W/D/Y	REVISIONS	BY
1	1/1/2013	UPDATED	GS
2	2/1/2013	UPDATED	GS
3	3/1/2013	UPDATED	GS
4	4/1/2013	UPDATED	GS
5	5/1/2013	UPDATED	GS
6	6/1/2013	UPDATED	GS
7	7/1/2013	UPDATED	GS
8	11/20/2013	Updated by Pinchin Environmental	
9	5/29/2015	Revised by Pinchin Limited	
10	11/1/2018	Revised by Pinchin Limited	

LEGEND:

	ACM PIPE INSULATION
	ACM DUCT INSULATION
	ACM MECHANICAL INSULATION
T1	TYPE 2 ENTRY
T2	TYPE 2 ENTRY
T3	TYPE 2 ENTRY
	ACM TEXTURE FINISH
	ACM FIRESTOPPING
	TRANSITE
	NO ACCESS TO ROOM/AREA

LEGEND — WALLS

	ACM DRYWALL JOINT COMPOUND ON WALLS
	ACM DRYWALL JOINT COMPOUND ON SPECIFIED WALLS
	ACM ABATED AREA AS PER HHS RECORDS

LEGEND — CEILING

	ACM CEILING TILES
	ACM DRYWALL JOINT COMPOUND ON CEILING

INTERSTITIAL SPACE NOTES:

1. ACM PARGED FITTINGS THROUGHOUT
2. ENCASED SPRAYED FIREPROOFING THROUGHOUT
3. ACM SPRAYED FIREPROOFING DEBRIS IS PRESENT BELOW METAL DECKING
4. ACM DRYWALL JOINT COMPOUND PRESENT
5. ACM TAR PRESENT ON PIPES AND MECHANICAL
6. ACM DUCT INSULATION PRESENT

GENERAL NOTES:

1. DRAWINGS HAVE BEEN CONVERTED FROM A CONTRACTED SOURCE JANUARY 2013 AND WILL BE MAINTAINED BY HHS ENGINEERING STAFF.
2. DRAWINGS SHALL BE READ IN CONJUNCTION WITH HHS ASBESTOS MANAGEMENT PLAN AND SURVEYS AVAILABLE ON THE HHS INTRANET, AND HARDCOPY IN THE SITES ENGINEERING DEPT.
3. AREAS WITHOUT A DESIGNATION OF ACM (ASBESTOS CONTAINING MATERIAL) SHALL BE TREATED AS ACM UNTIL PROVEN OTHERWISE.
4. PRIOR TO UNDERTAKING ANY REPAIR RENOVATION OR DEMOLITION, REVIEW THE AMP (ASBESTOS MANAGEMENT PLAN) AND SURVEY PRIOR TO COMMENCEMENT OF WORK.
5. IF YOU SUSPECT A MATERIAL TO BE ACM IN AN AREA SHOWN TO BE FREE OF ACM, CONTACT THE ASBESTOS COORDINATOR FOR CONSULTATION.

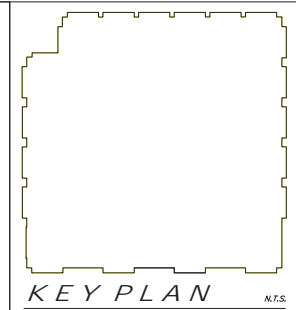
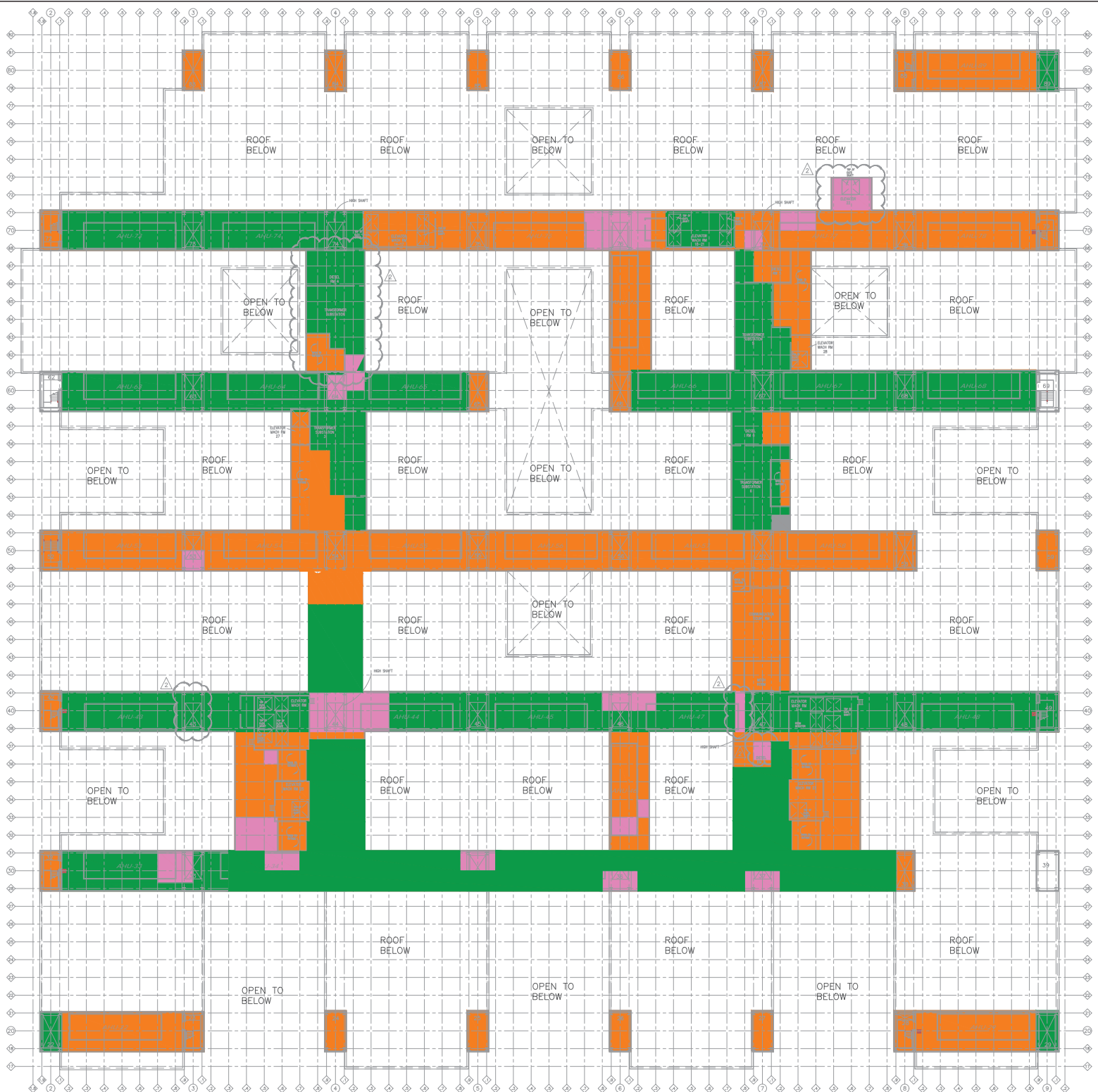


PROJECT:
MUMC — 1200 MAIN ST. WEST,
HAMILTON ONTARIO, ASBESTOS
MANAGEMENT PLAN AND SURVEY

DRAWING:
LEVEL M5
ACM IN INTERSTITIAL SPACE

PROJECT DATE: NOVEMBER 2018	DEPARTMENT: HAZARDOUS MATERIALS
SCALE: N.T.S.	SUPERVISOR: MICHAEL MAIORANA
DRAWN BY: JORDAN BOULOS	FILE NAME: 217420.030 AS-11 M5 MUMC

DRAWING No. **AS-11A**



NO.	DATE W/D/Y	REVISIONS	BY
1	1/1/2013	UPDATED	GS
2	2/1/2013	UPDATED	GS
3	3/1/2013	UPDATED	GS
4	4/1/2013	UPDATED	GS
5	5/1/2013	UPDATED	GS
6	6/1/2013	UPDATED	GS
7	7/1/2013	UPDATED	GS
8	11/20/2013	Updated by Pinchin Environmental	
9	5/29/2015	Revised by Pinchin Limited	
10	11/1/2018	Revised by Pinchin Limited	
	7/12/2012	UPDATED	GS

LEGEND:

- ASBESTOS CONTAINING MATERIAL HAS BEEN REMOVED
- ASBESTOS CONTAINING SPRAYED FIREPROOFING HAS BEEN ENCASED
- EXISTING ASBESTOS CONTAINING MATERIAL

INTERSTITIAL SPACE NOTES:

- ACM PARGED FITTINGS THROUGHOUT
- ENCASED SPRAYED FIREPROOFING THROUGHOUT

GENERAL NOTES:

- DRAWINGS HAVE BEEN CONVERTED FROM A CONTRACTED SOURCE JANUARY 2013 AND WILL BE MAINTAINED BY HHS ENGINEERING STAFF.
- DRAWINGS SHALL BE READ IN CONJUNCTION WITH HHS ASBESTOS MANAGEMENT PLAN AND SURVEYS AVAILABLE ON THE HHS INTRANET, AND HARDCOPY IN THE SITES ENGINEERING DEPT.
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- IF YOU SUSPECT A MATERIAL TO BE ACM IN AN AREA SHOWN TO BE FREE OF ACM, CONTACT THE ASBESTOS COORDINATOR FOR CONSULTATION.

MUMC SITE



PROJECT:
MUMC - 1200 MAIN ST. WEST, HAMILTON ONTARIO, ASBESTOS MANAGEMENT PLAN AND SURVEY

DRAWING:
PENTHOUSE ACM IN INTERSTITIAL SPACE

PLOT DATE: NOVEMBER 2018	DEPARTMENT: HAZARDOUS MATERIALS
SCALE: N.T.S.	SUPERVISOR: MICHAEL MAORANA
DRAWN BY: JORDAN BOULOS	FILE NO: 2018030 AS-12 Penthouse MUMC

AS-12A

APPENDIX II
Asbestos Analytical Certificates



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	McMaster University, 1B7 Reno Area - 1200 Main St W, Hamilton, Ontario		
Project No.:	94333.02		
Prepared For:	L. Cantar / M. Maiorana	Date Received:	November 7, 2014
Lab Reference No.:	b114075 Revised	Date Analyzed:	November 12, 2014
Analyst(s):	B. Hicks	# Samples submitted:	15
		# Phases analyzed:	15

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	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 meets all requirements of ISO/IEC 17025:2005.

This report relates only to the items tested.

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



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: McMaster University, 1B7 Reno Area - 1200 Main St W, Hamilton, Ontario
Project No.: 94333.02
Prepared For: L. Cantar / M. Maiorana

Lab Reference No.: b114075 Revised
Date Analyzed: November 12, 2014

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0001A Black undercoat on metal sink, Office 1B7	Homogeneous, black, soft, sticky material.	Chrysotile 0.5-5%	Tar and other non-fibrous > 75%
0001B Black undercoat on metal sink, Office 1B7			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0001C Black undercoat on metal sink, Office 1B7			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0002A Carpet mastic, Office 1B7 near cabinets	Homogeneous, yellow, soft, sticky material.	None Detected	Cellulose Non-Fibrous Material 0.5-5% > 75%
0002B Carpet mastic, Office 1B7 near sink	2 Phases: a) Homogeneous, yellow, soft, sticky material. b) Homogeneous, off-white, soft, cementitious material.	None Detected None Detected	Non-Fibrous Material Non-Fibrous Material > 75% > 75%
0002C Carpet mastic, Office 1B7 near entrance	Homogeneous, yellow, soft, sticky material.	None Detected	Non-Fibrous Material > 75%
0003A Drywall joint compound on wall, Office 1B7 near cabinets	2 Phases: a) Homogeneous, white, drywall joint compound. b) Homogeneous, off-white, drywall joint compound.	None Detected None Detected	Non-Fibrous Material Non-Fibrous Material > 75% > 75%

REVIEWED BY

ANALYST



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: McMaster University, 1B7 Reno Area - 1200 Main St W, Hamilton, Ontario
Project No.: 94333.02
Prepared For: L. Cantar / M. Maiorana

Lab Reference No.: b114075 Revised
Date Analyzed: November 12, 2014

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0003B Drywall joint compound on wall, Office 1B7 near doors	2 Phases: a) Homogeneous, white, drywall joint compound.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, beige, drywall joint compound.	None Detected	Non-Fibrous Material > 75%
0003C Drywall joint compound on wall, Office 1B7 near sink	2 Phases: a) Homogeneous, white, drywall joint compound.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, off-white, drywall joint compound.	None Detected	Non-Fibrous Material > 75%
0004A 24" x 48" lay-in ceiling tile, large and small pinholes with flat surface, Office 1B7	Homogeneous, beige, layered, compressed, acoustic ceiling tile.	Amosite 0.5-5%	Cellulose 5-10% Man-made Vitreous Fibres 50-75% Perlite 5-10% Other Non-Fibrous 0.5-5%
0004B 24" x 48" lay-in ceiling tile, large and small pinholes with flat surface, Office 1B7			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0004C 24" x 48" lay-in ceiling tile, large and small pinholes with flat surface, Office 1B7			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		

REVIEWED BY

ANALYST



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

Project Name: McMaster University, 1B7 Reno Area - 1200 Main St W, Hamilton, Ontario
Project No.: 94333.02
Prepared For: L. Cantar / M. Maiorana

Lab Reference No.: b114075 Revised
Date Analyzed: November 12, 2014

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0005A Baseboard mastic ONLY on drywall wall, Office 1B7 near doors	Homogeneous, yellow, soft, sticky material.	None Detected	Non-Fibrous Material > 75%
Comments:	Synthetic fibres are present on the surface of this sample. Another phase is present but was not analyzed as requested.		
0005B Baseboard mastic ONLY on drywall wall, Office 1B7 near doors	Homogeneous, yellow, soft, sticky material.	None Detected	Non-Fibrous Material > 75%
Comments:	Synthetic fibres are present on the surface of this sample. Another phase is present but was not analyzed as requested.		
0005C Baseboard mastic ONLY on drywall wall, Office 1B7C	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

ANALYST



Bulk Asbestos Analysis

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



NVLAP Lab Code: 200664-0

Customer: Pinchin Ltd.
11-875 Main St West
Hamilton Ontario L8S 4R9

Attn: David Niemand
Michael Maiorana

Lab Order ID: 1422178

Analysis ID: 1422178_PLM

Date Received: 11/12/2014

Date Reported: 11/12/2014

Project: 94333.021-MUMC 1280 Main Street
West, Hamilton ON

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S001a	Yellow and black mastic, under carpet, 4N49A	5% Chrysotile		95% Other	Black, Yellow Non Fibrous Heterogeneous
1422178PLM_1					Dissolved
S001b	Yellow and black mastic, under carpet, 4N49A	Not Analyzed			
1422178PLM_2					
S001c	Yellow and black mastic, under carpet, 4N49A	Not Analyzed			
1422178PLM_3					

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. 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%.


Byron Stroble (3)

Analyst

Approved Signatory

1422178

Version 1-15-2012

Client:	Pinchin Ltd.	*Instructions: Use Column "B" for your contact info	
Contact:	Michael Maiorana, David Niemand		
Address:	11-875 Main St W, Hamilton, ON	To See an Example Click the bottom Example Tab.	Scientific Analytical Institute
Phone:	905-577-6206		
Fax:	905-577-6207	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" Only Enter your data on the first sheet "Sheet1" Analyze Asbestos Samples to 0.5% as per the Ontario Regulation 278/05.	4604 Dundas Drive Greensboro, NC 27407 Phone: 336.292.3888 Fax: 336.292.3313 Email: lab@sailab.com
Email:	mmaiorana@pinchin.com dniemand@pinchin.com		
Project:	94333.021 - MUMC	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.	
Client Notes:	1280 Main Street West, Hamilton, O PLM EPA 600/R-93/116, Stop Positi		
P.O. #:	94333.021		
Date Submitted:	11/11/2014 0:00		
Analysis:	PLM EPA 600/R-93/116		
TurnAroundTime:	Rush Turnaround		

Sample Number	Data 1 (Lab use only)	Sample Description	Data 2 (Lab use only)
<<			
S001a		Yellow and black mastic, under carpet, 4N49A	
S001b		Yellow and black mastic, under carpet, 4N49A	
S001c		Yellow and black mastic, under carpet, 4N49A	
>>			

Accepted

Rejected

Handwritten signature
11.12
100



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
11-875 Main St West
Hamilton Ontario L8S 4R9

Attn: Jessica Cozzitorto
Michael Maiorana

Lab Order ID: 1516821
Analysis ID: 1516821_PLM
Date Received: 8/28/2015
Date Reported: 8/28/2015

Project: 94333.030 MUMC Room 4N43 Renovation

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
0001a	Gasket, Flammable cabinet, Room 4N43	90% Chrysotile		10% Other	White Fibrous Homogeneous
1516821PLM_1					Teased
0001b	Gasket, Flammable cabinet, Room 4N43	Not Analyzed			
1516821PLM_2					
0001c	Gasket, Flammable cabinet, Room 4N43	Not Analyzed			
1516821PLM_3					
0002a	Carpet mastic, Corridor 1, east of 4N43	None Detected	5% Cellulose	95% Other	Yellow Non Fibrous Homogeneous
1516821PLM_4					Dissolved
0002b	Carpet mastic, Corridor 1, east of 4N43	None Detected	5% Cellulose	95% Other	Yellow Non Fibrous Homogeneous
1516821PLM_5					Dissolved
0002c	Carpet mastic, Corridor 1, east of 4N43	None Detected	5% Cellulose	95% Other	Yellow Non Fibrous Homogeneous
1516821PLM_6					Dissolved

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

Bethany Nichols (6)

Analyst

Approved Signatory

Client:	Pinchin Ltd.	<p>*Instructions: Use Column "B" for your contact info</p> <p>To See an Example Click the bottom Example Tab.</p> <p>Enter samples between "<<" and ">>"</p> <p>Begin Samples with a "<<" above the first sample and end with a ">>" below the last sample.</p> <p>Only Enter your data on the first sheet "Sheet1"</p> <p>Note: Data 1 and Data 2 are optional fields that do not show up on the official report, however they will be included in the electronic data returned to you to facilitate your reintegration of the report data.</p>
Contact:	Jessica Cozzitorto, Michael Maiorana	
Address:	11-875 Main St W, Hamilton, ON	
Phone:	905-577-6206 ext. 1712	
Fax:	905-577-6207	
Email:	jcozzitorto@pinchin.com, mmaiorana@pinchin.com	
Project:	94333.030 MUMC Room 4N43 Renovation	
Client Notes:	PLM EPA 600/R-93/116, Stop Positive Analyze Asbestos Samples to 0.5% as per the Ontario Regulation 278/05.	
P.O. #:	94333.030	
Date Submitted:	8/26/2015 0:00	
Analysis:	PLM EPA 600/R-93/116	
TurnAroundTime:	24 Hr Rush TAT	

1516821 Version 1-15-2012

Invoice to:
Jessica Cozzitorto
jcozzitorto@pinchin.com

Scientific Analytical Institute



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

Sample Number	Data 1 (Lab use only)	Sample Description	Data 2 (Lab use only)
<<			
0001a		Gasket, Flammable cabinet, Room 4N43	
0001b		Gasket, Flammable cabinet, Room 4N43	
0001c		Gasket, Flammable cabinet, Room 4N43	
0002a		Carpet mastic, Corridor 1, east of 4N43	
0002b		Carpet mastic, Corridor 1, east of 4N43	
0002c		Carpet mastic, Corridor 1, east of 4N43	
>>			

Accepted

Rejected

MCCef 8/28 10AM



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	McMaster University, Lab 4N75, 1200 Main Street West, Hamilton, ON		
Project No.:	104637.018		
Prepared For:	J. Cozzitorto / M. Maiorana		
Lab Reference No.:	b123828		
Analyst(s):	A. Williams		
Date Received:	September 30, 2015	# Samples submitted:	6
Date Analyzed:	October 5, 2015	# Phases analyzed:	3

Method of Analysis:

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

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

Provincial Jurisdiction	Regulatory Threshold	Provincial Jurisdiction	Regulatory Threshold
Ontario, British Columbia, Nova Scotia	0.5%	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 meets all requirements of ISO/IEC 17025:2005.

This report relates only to the items tested.

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



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: McMaster University, Lab 4N75, 1200 Main Street West, Hamilton, ON
Project No.: 104637.018
Prepared For: J. Cozzitorto / M. Maiorana

Lab Reference No.: b123828
Date Analyzed: October 5, 2015

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)			
		ASBESTOS		OTHER	
0001A 12"x12" vinyl floor tile, beige, Lab 4N75	2 Phases: a) Homogeneous, beige, 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.	Chrysotile	0.5-5%	Tar and other non- fibrous	> 75%
0001B 12"x12" vinyl floor tile, beige, Lab 4N75				Not Analyzed	
Comments:	Analysis was stopped due to a previous positive result.				
0001C 12"x12" vinyl floor tile, beige, Lab 4N75				Not Analyzed	
Comments:	Analysis was stopped due to a previous positive result.				
0002A Black sink undercoating, Lab 4N75	Homogeneous, black, tar material.	Chrysotile	0.5-5%	Tar and other non- fibrous	> 75%
0002B Black sink undercoating, Lab 4N75				Not Analyzed	
Comments:	Analysis was stopped due to a previous positive result.				
0002C Black sink undercoating, Lab 4N75				Not Analyzed	
Comments:	Analysis was stopped due to a previous positive result.				

REVIEWED BY

ANALYST



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: McMaster University, McMaster University Medical Centre (MUMC)
 4H30, 1200 Main Street West, Hamilton, ON
Project No.: 104637.038
Prepared For: M. Maiorana **Date Received:** February 17, 2016
Lab Reference No.: b127270 **Date Analyzed:** February 24, 2016
Analyst(s): A. Lebar Vertolli/ K. Cockburn
Samples submitted: 3
Phases analyzed: 3

Method of Analysis:

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

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

Provincial Jurisdiction	Regulatory Threshold	Provincial Jurisdiction	Regulatory Threshold
Ontario, British Columbia, Nova Scotia	0.5%	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: McMaster University, McMaster University Medical Centre (MUMC)
4H30, 1200 Main Street West, Hamilton, ON

Project No.: 104637.038

Prepared For: M. Maiorana

Lab Reference No.: b127270

Date Analyzed: February 24, 2016

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0001A white undercoating on sink, Rom 4H30H	Non-homogeneous, off- white and orange, finishing coat.	None Detected	Mica 10-25% Other Non-Fibrous > 75%
0001B white undercoating on sink, Rom 4H30H	Non-homogeneous, off- white and orange, finishing coat.	None Detected	Mica 10-25% Other Non-Fibrous > 75%
0001C white undercoating on sink, Rom 4H30H	Non-homogeneous, off- white and orange, finishing coat.	None Detected	Mica 10-25% Other Non-Fibrous > 75%

REVIEWED BY

ANALYST



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	McMaster University, 1200 Main St W, Hamilton, ON		
Project No.:	104637.058		
Prepared For:	L. Cantar/M. Maiorana	Date Received:	May 11, 2016
Lab Reference No.:	b129908	Date Analyzed:	May 18, 2016
Analyst(s):	K. Bertuzzi	# Samples submitted:	3
		# Phases analyzed:	1

Method of Analysis:

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

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

Provincial Jurisdiction	Regulatory Threshold	Provincial Jurisdiction	Regulatory Threshold
Ontario, British Columbia, Nova Scotia	0.5%	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 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: McMaster University, 1200 Main St W, Hamilton, ON
Project No.: 104637.058
Prepared For: L. Cantar/M. Maiorana

Lab Reference No.: b129908
Date Analyzed: May 18, 2016

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0001A Gold undercoat on sink, Room 3N49C	Homogeneous, gold, soft, mastic.	Chrysotile 0.5-5%	Non-Fibrous Material > 75%
0001B Gold undercoat on sink, Room 3N3			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0001C Gold undercoat on sink, Room 3N3			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		

Reviewed by:

Reporting Analyst:



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	Hamilton Health Sciences, MUMC- 1200 Main Street West, Hamilton, ON		
Project No.:	115166.009		
Prepared For:	L. Cantar	Date Received:	June 21, 2016
Lab Reference No.:	b131050	Date Analyzed:	June 21, 2016
Analyst(s):	A. Lebar Vertolli	# Samples submitted:	3
		# Phases analyzed:	1

Method of Analysis:

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

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

Provincial Jurisdiction	Regulatory Threshold	Provincial Jurisdiction	Regulatory Threshold
Ontario, British Columbia, Nova Scotia	0.5%	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 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: Hamilton Health Sciences, MUMC- 1200 Main Street West, Hamilton, ON
Project No.: 115166.009
Prepared For: L. Cantar

Lab Reference No.: b131050
Date Analyzed: June 21, 2016

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0001A Drywall joint compound on wall at reception, Room 4V18	Homogeneous, beige, drywall joint compound.	Chrysotile 0.5-5%	Non-Fibrous Material > 75%
0001B Drywall joint compound on wall at reception, Room 4V18			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0001C Drywall joint compound on wall at reception, Room 4V18			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		

Reviewed by:

Reporting Analyst:



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: Hamilton Health Sciences, MUMC, 1200 Main Street West, Hamilton, ON
Project No.: 0200249.001
Prepared For: J. Cozzitorto / M. Maiorana
Lab Reference No.: b163789
Analyst(s): N. Barinque
Date Received: January 12, 2017 **# Samples submitted:** 3
Date Analyzed: January 19, 2017 **# Phases analyzed:** 1

Method of Analysis:

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

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

Provincial Jurisdiction	Regulatory Threshold	Provincial Jurisdiction	Regulatory Threshold
Ontario, British Columbia, Nova Scotia	0.5%	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.

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

Project Name: Hamilton Health Sciences, MUMC, 1200 Main Street West, Hamilton, ON
Project No.: 0200249.001
Prepared For: J. Cozzitorto / M. Maiorana

Lab Reference No.: b163789
Date Analyzed: January 19, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0001A Duct insulation on Kitchen Exhaust, M1, Shaft 37	Homogeneous, grey, soft, parging cement.	Chrysotile 50-75%	Non-Fibrous Material 25-50%
0001B Duct insulation on Kitchen Exhaust, M1, Shaft 37			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0001C Duct insulation on Kitchen Exhaust, M1, Shaft 37			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		

Reviewed by:

Reporting Analyst:



Analyzed by: NB
 Reviewed by: KB
 Report Sent by: EL



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

Client Name:	Hamilton Health Sciences	Project Address:	1200 Main Street West, Hamilton, Ontario
Portfolio/Building No:	MUMC	Pinchin File:	200249.001
Submitted by:	Jessica Cozzitorto	Email:	jcozzitorto@pinchin.com
CC Results to:	Michael Maiorana	CC Email:	mmaiorana@pinchin.com
Invoice to:	Jessica Cozzitorto	Invoice Email:	jcozzitorto@pinchin.com
Date Submitted:	January 11 2017	Required by:	January 19 2017
# of Samples:	3	Priority:	5 Day Turnaround
Year of Building Construction (Mandatory Field):			
Do NOT Stop on Positive (Sample Numbers):			
Pinchin Group Company (Mandatory Field):	Pinchin		

To be Completed by Lab Personnel Only:

Lab Reference #:	b163789	Time:	24 hour clock
Received by:	JAN 12 2017 EL	Date:	Month Day Year
Name(s) of Analyst(s):	NB 17.01.19		

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	0001	A	Duct insulation on Kitchen Exhaust, M1, Shaft 37 CH 50-75/
	0001	B	Duct insulation on Kitchen Exhaust, M1, Shaft 37 na
	0001	C	Duct insulation on Kitchen Exhaust, M1, Shaft 37 na



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	McMaster University, MUMC 4N68 Lab, 1280 Main Street West, Hamilton, ON		
Project No.:	0200199.003		
Prepared For:	M. Gibbs / J. Cozzitorto		
Lab Reference No.:	b164439		
Analyst(s):	N. Barinque		
Date Received:	January 26, 2017	# Samples submitted:	6
Date Analyzed:	February 1, 2017	# Phases analyzed:	4

Method of Analysis:

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

Bulk samples are checked visually and scanned under a stereomicroscope. Slides are prepared 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: McMaster University, MUMC 4N68 Lab, 1280 Main Street West, Hamilton, ON
Project No.: 0200199.003
Prepared For: M. Gibbs / J. Cozzitorto

Lab Reference No.: b164439
Date Analyzed: February 1, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)		
		ASBESTOS		OTHER
0001A Tar on Sink / Room 4N68	Homogeneous, black, tar material.	Chrysotile	0.5-5%	Tar and other non-fibrous > 75%
0001B Tar on Sink / Room 4N68				Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.			
0001C Tar on Sink / Room 4N68				Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.			
0002A Gasket on Flammable Cabinet / Room 4N68	Homogeneous, yellow and white, woven gasket material.	None Detected		Man-made Vitreous Fibres > 75% Non-Fibrous Material 5-10%
0002B Gasket on Flammable Cabinet / Room 4N68	Homogeneous, yellow and white, woven gasket material.	None Detected		Man-made Vitreous Fibres > 75% Non-Fibrous Material 5-10%
0002C Gasket on Flammable Cabinet / Room 4N68	Homogeneous, yellow and white, woven gasket material.	None Detected		Man-made Vitreous Fibres > 75% Non-Fibrous Material 5-10%

Reviewed by:

Reporting Analyst:



Analyzed by: NR
 Reviewed by: AC
 Report Sent by: EL



Special Instructions:

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

Client Name:	McMaster University	Project Address:	MUMC 4N68 Lab, 1280 Main Street West, Hamilton, Ontario
Portfolio/Building No:		Pinchin File:	200199.003
Submitted by:	M. Gibbs	Email:	mgibbs@pinchin.com
CC Results to:	J. Cozzitorto	CC Email:	jcozzitorto@pinchin.com
Invoice to:	J. Cozzitorto	Invoice Email:	jcozzitorto@pinchin.com
Date Submitted:	January 25 2017	Required by:	February 1 2017
# of Samples:	6	Priority:	5 Day Turnaround
Year of Building Construction (Mandatory Field):			
Do NOT Stop on Positive (Sample Numbers):			
Pinchin Group Company (Mandatory Field):	Pinchin		

To be Completed by Lab Personnel Only:

Lab Reference #:	1664439	Time:	24 hour clock
Received by:	JAN 26 2017 EL	Date:	Month Day Year
Name(s) of Analyst(s):	NR 17-02-01		

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	0001	A	Tar on Sink / Room 4N68 CH 0.5-5%
	0001	B	Tar on Sink / Room 4N68 —na
	0001	C	Tar on Sink / Room 4N68 —na
	0002	A	Gasket on Flammable Cabinet / Room 4N68 NID
	0002	B	Gasket on Flammable Cabinet / Room 4N68 NID
	0002	C	Gasket on Flammable Cabinet / Room 4N68 ND



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	McMaster University, MUMC Rooms 2J36 and 2J34, 1280 Main Street West, Hamilton, ON		
Project No.:	0200199.002		
Prepared For:	M. Gibbs / J. Cozzitorto	Date Received:	January 26, 2017
		Date Analyzed:	February 1, 2017
Lab Reference No.:	b164436	# Samples submitted:	15
Analyst(s):	S. Capsuyen	# Phases analyzed:	11

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.

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Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: McMaster University, MUMC Rooms 2J36 and 2J34,
 1280 Main Street West, Hamilton, ON
Project No.: 0200199.002
Prepared For: M. Gibbs /
 J. Cozzitorto
Lab Reference No.: b164436
Date Analyzed: February 1, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0001A Floor Mastic / Room 2J36F	Non-homogeneous, black and yellow, soft, sticky material.	Chrysotile 0.5-5%	Tar and other non-fibrous > 75%
Comments:	Synthetic fibres are present on the surface of this sample.		
0001B Floor Mastic / Room 2J36F			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0001C Floor Mastic / Room 2J36F			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0002A Door Caulking / Room 2J34	Homogeneous, off-white, caulking material.	None Detected	Non-Fibrous Material > 75%
0002B Door Caulking / Room 2J34	Homogeneous, off-white, caulking material.	None Detected	Non-Fibrous Material > 75%
Comments:	This sample is small in size.		
0002C Door Caulking / Room 2J34	Homogeneous, off-white, caulking material.	None Detected	Non-Fibrous Material > 75%
0003A Black Window Caulking / Entrance to Room 2J36F	Homogeneous, black, caulking material.	None Detected	Cellulose 0.5-5% Synthetic Fibres 0.5-5% Non-Fibrous Material > 75%
0003B Black Window Caulking / Entrance to Room 2J36F	Homogeneous, black, caulking material.	None Detected	Cellulose 0.5-5% Synthetic Fibres 0.5-5% Non-Fibrous Material > 75%



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

Project Name: McMaster University, MUMC Rooms 2J36 and 2J34,
1280 Main Street West, Hamilton, ON
Project No.: 0200199.002
Prepared For: M. Gibbs /
J. Cozzitorto
Lab Reference No.: b164436
Date Analyzed: February 1, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0003C Black Window Caulking / Entrance to Room 2J36F	Homogeneous, black, caulking material.	None Detected	Cellulose 0.5-5% Synthetic Fibres 0.5-5% Non-Fibrous Material > 75%
0004A White Door Caulking / Entrance to Room 2J36	Non-homogeneous, beige and white, caulking material.	None Detected	Non-Fibrous Material > 75%
0004B White Door Caulking / Entrance to Room 2J36	Non-homogeneous, beige and white, caulking material.	None Detected	Non-Fibrous Material > 75%
0004C White Door Caulking / Entrance to Room 2J36	Non-homogeneous, beige and white, caulking material.	None Detected	Non-Fibrous Material > 75%
0005A Floor Mastic under Carpet / Room 2J36B	Non-homogeneous, black and yellow, soft, sticky material.	Chrysotile 0.5-5%	Tar and other non- fibrous > 75%
Comments:	Synthetic fibres are present on the surface of this sample.		
0005B Floor Mastic under Carpet / Room 2J36B			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0005C Floor Mastic under Carpet / Room 2J36B			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		

Reviewed by:

Reporting Analyst:



Analyzed by: SE
Reviewed by: KPS
Report Sent by: EL

Special Instructions:

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

Client Name:	McMaster University	Project Address:	MUMC Rooms 2J36 and 2J34, 1280 Main Street West, Hamilton, On.
Portfolio/Building No:		Pinchin File:	200199.002
Submitted by:	M. Gibbs	Email:	mgibbs@pinchin.com
CC Results to:	J. Cozzitorto	CC Email:	jcozzitorto@pinchin.com
Invoice to:	J. Cozzitorto	Invoice Email:	jcozzitorto@pinchin.com
Date Submitted:	January 25 2017	Required by:	February 1 2017
# of Samples:	15	Priority:	5 Day Turnaround
Year of Building Construction (Mandatory Field):			
Do NOT Stop on Positive (Sample Numbers):			
Pinchin Group Company (Mandatory Field):	Pinchin		

To be Completed by Lab Personnel Only:

Lab Reference #:	b164-436	Time:	24 hour clock
Received by:	JAN 26 2017 EL	Date:	Month Day Year
Name(s) of Analyst(s):	EL	FEV 1 2017	

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	0001	A	Floor Mastic / Room 2J36F CH0.5-59
	0001	B	Floor Mastic / Room 2J36F NA
	0001	C	Floor Mastic / Room 2J36F NA
	0002	A	Door Caulking / Room 2J34 NO
	0002	B	Door Caulking / Room 2J34 NO
	0002	C	Door Caulking / Room 2J34 NO

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669436 (2 of 2)

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	0003	A	Black Window Caulking / Entrance to Room 2J36F NO
	0003	B	Black Window Caulking / Entrance to Room 2J36F NO
	0003	C	Black Window Caulking / Entrance to Room 2J36F NO
	0004	A	White Door Caulking / Entrance to Room 2J36 NO
	0004	B	White Door Caulking / Entrance to Room 2J36 NO
	0004	C	White Door Caulking / Entrance to Room 2J36 NO
	0005	A	Floor Mastic under Carpet / Room 2J36B CA 2.5-5%
	0005	B	Floor Mastic under Carpet / Room 2J36B NA
	0005	C	Floor Mastic under Carpet / Room 2J36B NA

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Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	McMaster University, MUMC 4V, 1280 Main Street West, Hamilton, Ontario		
Project No.:	0200199.004		
Prepared For:	M. Gibbs / J. Cozzitorto		
Lab Reference No.:	b164438	Date Received:	January 26, 2017
Analyst(s):	T. Ly	Date Analyzed:	February 1, 2017
		# Samples submitted:	3
		# Phases analyzed:	4

Method of Analysis:

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

Bulk samples are checked visually and scanned under a stereomicroscope. Slides are prepared 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.

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



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: McMaster University, MUMC 4V, 1280 Main Street West, Hamilton, Ontario
Project No.: 0200199.004
Prepared For: M. Gibbs / J. Cozzitorto

Lab Reference No.: b164438
Date Analyzed: February 1, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0001A Grey Door Caulking / Entrance Door 4VC5	2 Phases: a) Homogeneous, off-white, drywall joint compound.	Chrysotile	0.5-5% Non-Fibrous Material > 75%
	b) Homogeneous, grey, caulking material.	None Detected	Man-made Vitreous Fibres < 0.5% Non-Fibrous Material > 75%
0001B Grey Door Caulking / Entrance Door 4VC5	2 Phases: a) Homogeneous, off-white, drywall joint compound.	None Detected	Not Analyzed
	b) Homogeneous, grey, caulking material.		Man-made Vitreous Fibres < 0.5% Non-Fibrous Material > 75%
Comments:	Analysis of phase a) was stopped due to a previous positive result.		
0001C Grey Door Caulking / Entrance Door 4VC5	2 Phases: a) Homogeneous, off-white, drywall joint compound.	None Detected	Not Analyzed
	b) Homogeneous, grey, caulking material.		Man-made Vitreous Fibres < 0.5% Non-Fibrous Material > 75%
Comments:	Analysis of phase a) was stopped due to a previous positive result.		

Reviewed by:

Reporting Analyst:



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:	McMaster University	Project Address:	MUMC 1K, 1280 Main Street West, Hamilton, Ontario
Portfolio/Building No:		Pinchin File:	200199.005
Submitted by:	M. Gibbs	Email:	mgibbs@pinchin.com
CC Results to:	J. Cozzitorto	CC Email:	jcozzitorto@pinchin.com
Invoice to:	J. Cozzitorto	Invoice Email:	jcozzitorto@pinchin.com
Date Submitted:	January 25 2017	Required by:	February 1 2017
# of Samples:	9	Priority:	5 Day Turnaround
Year of Building Construction (Mandatory Field):			
Do NOT Stop on Positive (Sample Numbers):			
Pinchin Group Company (Mandatory Field):	Pinchin		

To be Completed by Lab Personnel Only:			
Lab Reference #:	<i>6164437</i>	Time:	24 hour clock
Received by:	<i>JAN 26 2017 EL</i>	Date:	Month Day Year
Name(s) of Analyst(s):	<i>Man</i>		<i>Feb 01 2017</i>

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	0001	A	Black Door Caulking / Room 1K11 <i>CH 0.5-5?</i>
	0001	B	Black Door Caulking / Room 1K11 <i>NA</i>
	0001	C	Black Door Caulking / Room 1K13 <i>NA</i>
	0002	A	White Window Caulking / Room 1K11 <i>ND</i>
	0002	B	White Window Caulking / Room 1K11 <i>ND</i>
	0002	C	White Window Caulking / Room 1K11 <i>ND</i>



Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)		
	0003	A	Floor Mastic / Room 1K11	A) ND	B) ND
	0003	B	Floor Mastic / Room 1K11	A) ND	B) ND
	0003	C	Floor Mastic / Room 1K11	A) ND	B) ND



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	McMaster University, MUMC 1K, 1280 Main Street West, Hamilton, Ontario		
Project No.:	0200199.005		
Prepared For:	M. Gibbs / J. Cozzitorto		
Lab Reference No.:	b164437	Date Received:	January 26, 2017
Analyst(s):	T. Tran	Date Analyzed:	February 1, 2017
		# 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.

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.

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



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: McMaster University, MUMC 1K, 1280 Main Street West, Hamilton, Ontario
Project No.: 0200199.005
Prepared For: M. Gibbs / J. Cozzitorto

Lab Reference No.: b164437
Date Analyzed: February 1, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)		
		ASBESTOS		OTHER
0001A Black Door Caulking / Room 1K11	Homogeneous, black, caulking material.	Chrysotile	0.5-5%	Non-Fibrous Material > 75%
0001B Black Door Caulking / Room 1K11				Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.			
0001C Black Door Caulking / Room 1K13				Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.			
0002A White Window Caulking / Room 1K11	Homogeneous, off-white, caulking material.	None Detected		Synthetic Fibres < 0.5% Man-made Vitreous Fibres 0.5-5% Non-Fibrous Material > 75%
0002B White Window Caulking / Room 1K11	Homogeneous, off-white, caulking material.	None Detected		Synthetic Fibres < 0.5% Man-made Vitreous Fibres 0.5-5% Non-Fibrous Material > 75%
0002C White Window Caulking / Room 1K11	Homogeneous, off-white, caulking material.	None Detected		Man-made Vitreous Fibres 0.5-5% Non-Fibrous Material > 75%



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: McMaster University, MUMC 1K, 1280 Main Street West, Hamilton, Ontario
Project No.: 0200199.005
Prepared For: M. Gibbs / J. Cozzitorto

Lab Reference No.: b164437
Date Analyzed: February 1, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0003A Floor Mastic / Room 1K11	2 Phases: a) Non-homogeneous, black and brown, soft, adhesive material.	None Detected	Tar and other non-fibrous > 75%
	b) Homogeneous, grey, levelling compound.	None Detected	Cellulose 0.5-5% Non-Fibrous Material > 75%
Comments:	Cellulose is present on the surface of this sample.		
0003B Floor Mastic / Room 1K11	a) Non-homogeneous, black, yellow and grey, soft, adhesive material and levelling compound.	None Detected	Cellulose 0.5-5% Tar and other non-fibrous > 75%
	b) Homogeneous, brown, soft, adhesive material.	None Detected	Non-Fibrous Material > 75%
Comments:	Cellulose is present on the surface of this sample.		
0003C Floor Mastic / Room 1K11	a) Non-homogeneous, black and brown, soft, adhesive material.	None Detected	Tar and other non-fibrous > 75%
	b) Homogeneous, grey, levelling compound.	None Detected	Cellulose 0.5-5% Non-Fibrous Material > 75%
Comments:	Cellulose is present on the surface of this sample.		

Reviewed by:

Reporting Analyst:



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:	McMaster University	Project Address:	MUMC 1K, 1280 Main Street West, Hamilton, Ontario
Portfolio/Building No:		Pinchin File:	200199.005
Submitted by:	M. Gibbs	Email:	mgibbs@pinchin.com
CC Results to:	J. Cozzitorto	CC Email:	jcozzitorto@pinchin.com
Invoice to:	J. Cozzitorto	Invoice Email:	jcozzitorto@pinchin.com
Date Submitted:	January 25 2017	Required by:	February 1 2017
# of Samples:	9	Priority:	5 Day Turnaround
Year of Building Construction (Mandatory Field):			
Do NOT Stop on Positive (Sample Numbers):			
Pinchin Group Company (Mandatory Field):	Pinchin		

To be Completed by Lab Personnel Only:			
Lab Reference #:	<i>6164437</i>	Time:	24 hour clock
Received by:	<i>JAN 26 2017 EL</i>	Date:	Month Day Year
Name(s) of Analyst(s):	<i>Man</i>		<i>Feb 01 2017</i>

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	0001	A	Black Door Caulking / Room 1K11 <i>CH 0.5-5?</i>
	0001	B	Black Door Caulking / Room 1K11 <i>NA</i>
	0001	C	Black Door Caulking / Room 1K13 <i>NA</i>
	0002	A	White Window Caulking / Room 1K11 <i>ND</i>
	0002	B	White Window Caulking / Room 1K11 <i>ND</i>
	0002	C	White Window Caulking / Room 1K11 <i>ND</i>



Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)		
	0003	A	Floor Mastic / Room 1K11	A) ND	B) ND
	0003	B	Floor Mastic / Room 1K11	A) ND	B) ND
	0003	C	Floor Mastic / Room 1K11	A) ND	B) ND



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	Hamilton Health Sciences, MUMC, 1280 Main Street West, Hamilton, ON		
Project No.:	0200249.002		
Prepared For:	R. Bertin-Fenney / M. Maiorana		
	Date Received:	February 8, 2017	
Lab Reference No.:	Date Analyzed:	February 15, 2017	
Analyst(s):	# Samples submitted:	3	
	# Phases analyzed:	4	

Method of Analysis:

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

Bulk samples are checked visually and scanned under a stereomicroscope. Slides are prepared 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.

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



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

Project Name: Hamilton Health Sciences, MUMC, 1280 Main Street West, Hamilton, ON
Project No.: 0200249.002
Prepared For: R. Bertin-Fenney / M. Maiorana

Lab Reference No.: b165065
Date Analyzed: February 15, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)			
		ASBESTOS		OTHER	
0001A Drywall joint compound on drywall wall, Wall within Enclosure, Room EZ-20/21/22	2 Phases: a) Homogeneous, beige, drywall joint compound.	Chrysotile	0.5-5%	Non-Fibrous Material	> 75%
	b) Homogeneous, white, drywall joint compound.	Chrysotile	0.5-5%	Non-Fibrous Material	> 75%
0001B Drywall joint compound on drywall wall, Wall within Enclosure, Room EZ-20/21/22	Homogeneous, beige, drywall joint compound.	Chrysotile	0.5-5%	Non-Fibrous Material	> 75%
0001C Drywall joint compound on draywall wall, Wall near exterior window, Room EZ-20/21/22	Homogeneous, beige, drywall joint compound.	Chrysotile	0.5-5%	Non-Fibrous Material	> 75%
Comments:	Cellulose is present on the surface of this sample.				

Reviewed by:

Reporting Analyst:



ANALYZED BY: *HC*
 REVIEWED BY: *HB*
 REPORT SENT BY: *EL*

MEMBER OF
PG
 THE PINCHIN GROUP

Instructions:

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

Client Name:	Hamilton Health Sciences	Project Address:	1280 Main Street West, Hamilton, ON
Portfolio/Building No:	MUMC	Pinchin File:	200249.002
Submitted by:	Robert Bertin-Fenney	Email:	rbertin-fenney@pinchin.com
CC Results to:	Michael Maiorana	CC Email:	mmaiorana@pinchi.com
Invoice to:	Robert Bertin-Fenney	Invoice Email:	rbertin-fenney@pinchin.com
Date Submitted:	February 7 2017	Required by:	February 14 2017
# of Samples:	3	Priority:	5 Day Turnaround
Year of Building Construction (Mandatory Field):			
Do NOT Stop on Positive (Sample Numbers):	NOT 0001A-C		
Pinchin Group Company (Mandatory Field):	Pinchin		

To be Completed by Lab Personnel Only:

Lab Reference #:	<i>h165065</i>	Time:	24 hour clock
Received by:	<i>FEB 08 2017 EL</i>	Date:	Month Day Year
Name(s) of Analyst(s):	<i>HC 17:02:15</i>		

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	0001	A	Drywall joint compound on draywall wall, Wall within Enclosure, Room EZ-20/21/22 <i>a) CH0.5-57. b) AD CH0.5-57.</i>
	0001	B	Drywall joint compound on draywall wall, Wall within Enclosure, Room EZ-20/21/22 <i>CH0.5-57.</i>
	0001	C	Drywall joint compound on draywall wall, Wall near exterior window, Room EZ-20/21/22 <i>CH0.5-57.</i>



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
11-875 Main St West
Hamilton, Ontario L8S 4R9

Attn: Leslie Cantar
Michael Maiorana

Lab Order ID: 1703874
Analysis ID: 1703874_PLM
Date Received: 2/24/2017
Date Reported: 2/28/2017

Project: 200249.014, Hamilton Health Sciences, MUMC - 1200 Main Street West, Hamilton, ON

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
0001A	Carpet mastic, Open Office 1K3	None Detected	3% Synthetic Fibers	97% Other	Yellow Non Fibrous Homogeneous
1703874PLM_1					Dissolved
0001B	Carpet mastic, Office 1K3E	None Detected	3% Synthetic Fibers	97% Other	Yellow Non Fibrous Homogeneous
1703874PLM_2					Dissolved
0001C	Carpet mastic, Office 1K3W1	None Detected	3% Synthetic Fibers	97% Other	Yellow Non Fibrous Homogeneous
1703874PLM_3					Dissolved
0002A	Baseboard mastic, Office 1K3E	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1703874PLM_4					Dissolved
0002B	Baseboard mastic, Office 1K3E	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1703874PLM_5					Dissolved
0002C	Baseboard mastic, Open Office 1K3 at Office 1K4	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1703874PLM_6					Dissolved
0003A	Mastic ONLY on 12" beige and brown vinyl floor tile, 1K3 Data Management Team	None Detected		100% Other	Black Non Fibrous Homogeneous
1703874PLM_7					Dissolved
0003B	Mastic ONLY on 12" beige and brown vinyl floor tile, 1K3 Data Management Team	None Detected		100% Other	Black Non Fibrous Homogeneous
1703874PLM_8					Dissolved

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAL. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Megan Javonovich (9)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
11-875 Main St West
Hamilton, Ontario L8S 4R9

Attn: Leslie Cantar
Michael Maiorana

Lab Order ID: 1703874
Analysis ID: 1703874_PLM
Date Received: 2/24/2017
Date Reported: 2/28/2017

Project: 200249.014, Hamilton Health Sciences, MUMC - 1200 Main Street West, Hamilton, ON

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
0003C	Mastic ONLY on 12" beige and brown vinyl floor tile, 1K3 Data Management Team	None Detected		100% Other	Black Non Fibrous Homogeneous
1703874PLM_9					Dissolved

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAL. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Megan Javonovich (9)

Analyst

Approved Signatory

1703874

Client: Pinchin Ltd.
Contact: Leslie Cantar
 875 Main Street W., Unit 11
Address: Hamilton, ON L8S 4R9
Phone: 905-577-6206
Fax: 905-577-6207
Email: lcantar@pinchin.com
mmaiorana@pinchin.com
 200249.014, Hamilton Health
 Sciences, MUMC - 1200 Main Street
 West, Hamilton, ON

Project:

Client Notes:

P.O. #: 200249.014
Date Submitted: Feb. 23, 2017

Analysis: PLM - Stop Positive
TurnAroundTime: 4 days

***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:
 Leslie Cantar
lcantar@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)
---------------	-----------------------	--------------------	-----------------------

<<			
0001A		Carpet mastic, Open Office 1K3	
0001B		Carpet mastic, Office 1K3E	
0001C		Carpet mastic, Office 1K3W1	
0002A		Baseboard mastic, Office 1K3E	
0002B		Baseboard mastic, Office 1K3E	
0002C		Baseboard mastic, Open Office 1K3 at Office 1K4	
0003A		Mastic ONLY on 12" beige and brown vinyl floor tile, 1K3 Data Management Team Cubicles	
0003B		Mastic ONLY on 12" beige and brown vinyl floor tile, 1K3 Data Management Team Cubicles	
0003C		Mastic ONLY on 12" beige and brown vinyl floor tile, 1K3 Data Management Team Cubicles	
>>			

Accepted



Rejected



Shelton 2/24
 106A



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: McMaster University, MUMC, 1200 Main St. W Hamilton, ON
Project No.: 0200199.013
Prepared For: S. Holmquist / J. Cozzitorto / M. Maiorana
Lab Reference No.: b166781
Analyst(s): A. Di Giulio
Date Received: March 14, 2017 **# Samples submitted:** 3
Date Analyzed: March 21, 2017 **# Phases analyzed:** 3

Method of Analysis:

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

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

Provincial Jurisdiction	Regulatory Threshold	Provincial Jurisdiction	Regulatory Threshold
Ontario, British Columbia, Nova Scotia	0.5%	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.

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



Pinchin Ltd. Asbestos Laboratory
Certificate of Analysis

Project Name: McMaster University, MUMC, 1200 Main St. W Hamilton, ON
Project No.: 0200199.013
Prepared For: S. Holmquist / J. Cozzitorto / M. Maiorana

Lab Reference No.: b166781
Date Analyzed: March 21, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0001A Carpet Mastic - 1J11B	Homogeneous, yellow, soft, sticky material.	None Detected	Non-Fibrous Material > 75%
0001B Carpet Mastic - 1J11	Homogeneous, yellow, soft, sticky material.	None Detected	Non-Fibrous Material > 75%
0001C Carpet Mastic -1J11A	Homogeneous, yellow, soft, sticky material.	None Detected	Non-Fibrous Material > 75%

Reviewed by:

Reporting Analyst:



Analyzed by: AD
 Reviewed by: KB
 Report Sent by: UB

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

Client Name:	McMaster University	Project Address:	1200 Main St. W Hamilton, ON
Portfolio/Building No:	MUMC	Pinchin File:	200199.013
Submitted by:	Stephen Holmquist	Email:	sholmquist@pinchin.com
CC Results to:	Jessica Cozzitorto	CC Email:	jcozzitorto@pinchin.com
Invoice to:	Mike Maiorana	Invoice Email:	mmaiorana@pinchin.com
Date Submitted:	March 10 2017	Required by:	March 17 2017
# of Samples:	3	Priority:	5 Day Turnaround
Year of Building Construction (Mandatory Field):			
Do NOT Stop on Positive (Sample Numbers):			
Pinchin Group Company (Mandatory Field):	Pinchin		

To be Completed by Lab Personnel Only:			
Lab Reference #:	6166781	Time:	24 hour clock
Received by:	MAR 14 2017 EL	Date:	Month Day Year
Name(s) of Analyst(s):	AD		03 21 17
Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	0001	A	Carpet Mastic - 1J11B ND
	0001	B	Carpet Mastic - 1J11 ND
	0001	C	Carpet Mastic -1J11A ND



Client:	Hamilton Health Sciences	Date:	December 16, 2014
Project Location:	McMaster University Medical Centre, 1200 Main Street W., Hamilton ON	Project No.:	15319
ECO Inspector:	Robert Lovegrove	Page:	1 of 2

ECO Inc. (ECO) was retained by Hamilton Health Sciences (HHS) to collect and submit samples of exhaust duct insulation for analysis of asbestos content. Samples were collected by ECO from selected locations on exhaust ducting in shaft 47, henceforth referred to as the “project area”, in the McMaster University Medical Centre (MUMC) building.

As part of the Kitchen Fume Hood and Duct Cleaning project a requirement for installation of access doors on ducting is required. ECO collected samples of duct insulation to confirm the presence of asbestos in order to ensure appropriate abatement procedures were established for removals of the required materials. Three samples of exhaust duct insulation were collected from selected locations. Samples were submitted to EMSL Canada, Inc. (EMSL) laboratory in Mississauga for analysis. The Chain of Custody and Certificate of Analysis for the samples are provided at the end of the report.

Asbestos Bulk Sample Analysis:

EMSL, an independent commercial laboratory, analyzed the bulk samples collected. Analysis of these samples followed the analytical method prescribed by Ontario Regulation 278/05, Designated Substance – *Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations*. The analytical method prescribed is the U.S. Environmental Protection Agency Test Method EPA/600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials, June 1993, using Polarized Light Microscopy (PLM). Although not required by provincial regulation, all laboratories used by ECO are accredited under the U.S. National Voluntary Laboratory Accreditation Program (NVLAP) to ensure consistent, accurate and defensible results.

The table below contains sample collection information and results for bulk sampling:

Sample Number	Sample Location	Sample Description	Asbestos Content
15319-ACM-01A	20 Feet South of 47	Exhaust Duct Insulation	35% Chrysotile
		Gray-White/Fibrous	
15319-ACM-01B	West of Fire Wall, Half Way Through 47	Exhaust Duct Insulation	30% Chrysotile
		White/Fibrous	
15319-ACM-01C	Test Port, 75% into the System	Exhaust Duct Insulation	1% Chrysotile
		Gray-White/Non-Fibrous	

Discussion of Results and Recommendations:

Based on the analytical results, ECO offers the following recommendations for your consideration. The recommendations meet requirements of Designated Substance – *Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations*, Ontario Regulation 278/05.

- Analyses indicate that there was asbestos detected in all samples collected.
- The asbestos containing materials (ACMs) sampled were identified as friable thus
- It is recommended that Type 3 asbestos safety procedures, as outlined in O.Reg. 278/05, be followed.

-
- Also, procedures identified in the HHS building specific Asbestos Management Program (“Part A – Polices” and “Part B – Procedures”, dated April 8th, 2014) for the McMaster University Medical Centre (MUMC) building must be followed.

Please refer to the accompanying Certificates of Analysis from EMSL to confirm the above-noted analytical results and for further details regarding the composition of the sample(s). For your records, the Chain of Custody and Certificate of Analysis for all sampling is attached.

ECO Inc.

Environmental Consulting & Occupational Health

Prepared by:



Robert Lovegrove, C.Tech.
Senior Project Manager

Attachment 1: Laboratory Analytical Report (EMSL)

**EMSL Canada Inc.**

2756 Slough Street, Mississauga, ON L4T 1G3

Phone/Fax: 289-997-4602 / (289) 997-4607

<http://www.EMSL.com>torontolab@emsl.com

EMSL Canada Or	551409569
CustomerID:	55ECOH45
CustomerPO:	15319
ProjectID:	

Attn: **Robert Lovegrove**
ECOH Management, Inc.
6130 Tomken Road
Mississauga, ON L5T 1X7

Phone: (905) 795-2800
 Fax: (905) 795-2870
 Received: 12/12/14 4:00 PM
 Analysis Date: 12/15/2014
 Collected: 12/11/2014

Project: 15319

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
15319-ACM-01A <i>551409569-0001</i>	EXHAUST DUCT INSULATION LOCATED 20FT SOUTH OF 47	Gray/White Fibrous Homogeneous		65% Non-fibrous (other)	35% Chrysotile
15319-ACM-01B <i>551409569-0002</i>	EXHAUST DUCT INSULATION LOCATED WEST OF FIRE WALL, - HALF-WAY THROUGH 47	White Fibrous Homogeneous	4% Cellulose	66% Non-fibrous (other)	30% Chrysotile
15319-ACM-01C <i>551409569-0003</i>	EXHAUST DUCT INSULATION PORT, 75% - INTO THE SYSTEM	Gray/White Non-Fibrous Homogeneous	25% Cellulose 35% Min. Wool	39% Non-fibrous (other)	1% Chrysotile

Analyst(s)
 Arabee Sathiseelan (3)

Matthew Davis
 or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%
 Samples analyzed by EMSL Canada Inc. Mississauga, ON NVLAP Lab Code 200877-0

Report Amended: 12/15/2014 15:27:30 Replaces the Initial Report 12/15/2014 14:58:16. Reason Code: Client-Additional Analysis



EMSL CANADA, INC.
LABORATORY - PRODUCTS - TRAINING

Asbestos Chain of Custody
EMSL Order Number (Lab Use Only):

551409569

EMSL CANADA, INC.
2756 SLOUGH STREET
MISSISSAUGA, ON L4T 1G3
PHONE: (289) 997-4602
FAX: (289) 997-4609

Company : ECOH Management		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different <small>If Bill to is Different note instructions in Comments**</small>	
Street: 6130 Tomken Road		<i>Third Party Billing requires written authorization from third party</i>	
City: Mississauga	State/Province: Ontario	Zip/Postal Code: L5T 1X7	Country: Canada
Report To (Name): Rob Lovegrove		Fax #: 905-795-2870	
Telephone #: 905-795-2800		Email Address: rlovegrove@ecoh.ca, mmitrovic@ecoh.ca, blovegrove@ecoh.ca, michmendoza@ecoh.ca, jtoor@ecoh.ca	
Project Name/Number: 15319			
Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email		Purchase Order:	U.S. State Samples Taken:

Turnaround Time (TAT) Options* - Please Check

3 Hours
 6 Hours
 24 Hrs
 48 Hrs
 3 Days
 4 Days
 5 Days
 10 Days

*For TEM Air 3 hours/6 hours, please call ahead to schedule. There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

PCM - Air <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA PLM - Bulk (reporting limit) <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input checked="" type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NIOSH 9002 (<1%)	TEM - Air <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312 TEM - Bulk <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5 TEM - Water: EPA 100.2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	TEM- Dust <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167) Soil/Rock/Vermiculite <input type="checkbox"/> PLM CARB 435 - A (0.25% sensitivity) <input type="checkbox"/> PLM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - C (0.01% sensitivity) <input type="checkbox"/> EPA Protocol (Semi-Quantitative) <input type="checkbox"/> EPA Protocol (Quantitative) Other: <input type="checkbox"/>
--	--	--

Check For Positive Stop - Clearly Identify Homogenous Group

Samplers Name: Beth Lovegrove **Samplers Signature:** *Beth Lovegrove*

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
15319-ACM-01a	Exhaust Duct Insulation Located 20 ft South of 47		Dec. 11, 2014
15319-ACM-01b	Exhaust Duct Insulation Located West of Fire Wall, Half-way through 47		Dec. 11, 2014
15319-ACM-01c	Exhaust Duct Insulation Located Test Port, 75% into the System		Dec. 11, 2014

Client Sample # (s): 01a - 01c	Total # of Samples: 3
Relinquished (Client): Beth Lovegrove	Date: Dec. 12, 2014 Time:
Received (Lab):	Date: Time:
Comments/Special Instructions:	



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
11-875 Main St West
Hamilton, Ontario L8S 4R9

Attn: Stephen Holmquist
Michael Maiorana

Lab Order ID: 1707008
Analysis ID: 1707008_PLM
Date Received: 4/5/2017
Date Reported: 4/10/2017

Project: 200199.010, McMaster University, MUMC 1A Ewart Angus Centre, 1280 Main Street West, Hamilton, Ontario

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
001A	Drywall Joint Compound - Wall, Sink in room 1A1	3% Chrysotile		97% Other	Tan Non Fibrous Homogeneous
1707008PLM_1					Crushed
001B	Drywall Joint Compound - Wall, Sink in room 1A1	Not Analyzed			
1707008PLM_2					
001C	Drywall Joint Compound - Wall, Sink in room 1A1	Not Analyzed			
1707008PLM_3					
002A	Carpet Mastic - Room 1A1	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1707008PLM_4					Dissolved
002B	Floor Mastic - Room 1A1	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1707008PLM_5					Dissolved
002C	Floor Mastic - Room 1A1	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1707008PLM_6					Dissolved
003A	Drywall Joint Compound Decorative Ceiling- Room 1A1	3% Chrysotile		97% Other	Tan Non Fibrous Homogeneous
1707008PLM_7					Crushed
003B	Drywall Joint Compound Decorative Ceiling- Room 1A1	Not Analyzed			
1707008PLM_8					

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Megan Javonovich (25)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
11-875 Main St West
Hamilton, Ontario L8S 4R9

Attn: Stephen Holmquist
Michael Maiorana

Lab Order ID: 1707008
Analysis ID: 1707008_PLM
Date Received: 4/5/2017
Date Reported: 4/10/2017

Project: 200199.010, McMaster University, MUMC 1A Ewart Angus Centre, 1280 Main Street West, Hamilton, Ontario

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
003C	Drywall Joint Compound Decorative Ceiling- Room 1A1	Not Analyzed			
1707008PLM_9					
004A	Drywall Joint Compound Smooth Ceiling - 1A1	3% Chrysotile		97% Other	Tan Non Fibrous Homogeneous
1707008PLM_10					Crushed
004B	Drywall Joint Compound Smooth Ceiling - 1A1	Not Analyzed			
1707008PLM_11					
004C	Drywall Joint Compound Smooth Ceiling - 1A1	Not Analyzed			
1707008PLM_12					
005A	Green Levelling Compound Under Carpet - Projector Room 1A1	None Detected		100% Other	Green Non Fibrous Homogeneous
1707008PLM_13					Crushed
005B	Green Levelling Compound Under Carpet - Projector Room 1A1	None Detected		100% Other	Gray Non Fibrous Homogeneous
1707008PLM_14					Crushed
005C	Green Levelling Compound Under Carpet - Projector Room 1A1	None Detected		100% Other	Green Non Fibrous Homogeneous
1707008PLM_15					Crushed
006A	Levelling Compound and Carpet Mastic - Room 1A6	None Detected	3% Synthetic Fibers	97% Other	Gray, Yellow Non Fibrous Heterogeneous
1707008PLM_16	mastic/leveling compound				Dissolved, Crushed

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Megan Javonovich (25)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
11-875 Main St West
Hamilton, Ontario L8S 4R9

Attn: Stephen Holmquist
Michael Maiorana

Lab Order ID: 1707008
Analysis ID: 1707008_PLM
Date Received: 4/5/2017
Date Reported: 4/10/2017

Project: 200199.010, McMaster University, MUMC 1A Ewart Angus Centre, 1280 Main Street West, Hamilton, Ontario

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
006B	Levelling Compound and Carpet Mastic - Room 1A6	None Detected	3% Synthetic Fibers	97% Other	Yellow, Gray Non Fibrous Heterogeneous
1707008PLM_17	mastic/leveling compound				Dissolved, Crushed
006C	Levelling Compound and Carpet Mastic - Room 1A6	None Detected	3% Synthetic Fibers	97% Other	Yellow, Gray Non Fibrous Heterogeneous
1707008PLM_18	mastic/leveling compound				Dissolved, Crushed
007A	Drywall Joint Compound Decorative Ceiling - Room 1A6	None Detected		100% Other	White Non Fibrous Homogeneous
1707008PLM_19	plaster finish; not joint compound				Crushed
007B	Drywall Joint Compound Decorative Ceiling - Room 1A6	None Detected		100% Other	White Non Fibrous Homogeneous
1707008PLM_20	plaster finish; not joint compound				Crushed
007C	Drywall Joint Compound Decorative Ceiling - Room 1A6	None Detected		100% Other	White Non Fibrous Homogeneous
1707008PLM_21	plaster finish; not joint compound				Crushed
008A	Drywall Joint Compound Ceiling - Projector Room 1A6	None Detected		100% Other	White Non Fibrous Homogeneous
1707008PLM_22	plaster finish, not joint compound				Crushed
008B - A	Drywall Joint Compound Ceiling - Projector Room 1A6	None Detected		100% Other	White Non Fibrous Homogeneous
1707008PLM_23	plaster finish, not joint compound				Crushed
008B - B	Drywall Joint Compound Ceiling - Projector Room 1A6	None Detected		70% Other 30% Perlite	Gray Non Fibrous Homogeneous
1707008PLM_24	base				Crushed

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Megan Javonovich (25)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



NVLAP Lab Code: 200664-0



Customer: Pinchin Ltd.
11-875 Main St West
Hamilton, Ontario L8S 4R9

Attn: Stephen Holmquist
Michael Maiorana

Lab Order ID: 1707008
Analysis ID: 1707008_PLM
Date Received: 4/5/2017
Date Reported: 4/10/2017

Project: 200199.010, McMaster University, MUMC 1A Ewart Angus Centre, 1280 Main Street West, Hamilton, Ontario

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
008C	Drywall Joint Compound Ceiling - Projector Room 1A6	None Detected		100% Other	White Non Fibrous Homogeneous
1707008PLM_25					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 recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAL. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.


Megan Javonovich (25)

Analyst

Approved Signatory

1707008

Version 1-15-2012

Client:	Pinchin Ltd.	<p>*Instructions:</p> <p>Use Column "B" for your contact info</p> <p>To See an Example Click the bottom Example Tab.</p> <p>Enter samples between "<<" and ">>"</p> <p>Begin Samples with a "<<" above the first sample and end with a ">>" below the last sample. Only Enter your data on the first sheet "Sheet1"</p> <p>Note: Data 1 and Data 2 are optional fields that do not show up on the official report, however they will be included in the electronic data returned to you to facilitate your reintegration of the report data.</p>	Invoice to:
Contact:	Stephen Holmquist 875 Main Street W., Unit 11		Mike Maiorana
Address:	Hamilton, ON L8S 4R9		mmaiorana@pinchin.com
Phone:	905-577-6206		
Fax:	905-577-6207		
Email:	sholmquist@pinchin.com mmaiorana@pinchin.com		
Project:	200199.010, McMaster University, MUMC 1A Ewart Angus Centre, 1280 Main Street West, Hamilton, Ontario		
Client Notes:			<p>Scientific Analytical Institute</p>
P.O. #:	200199.010		<p>4604 Dundas Dr.</p>
Date Submitted:	Apr. 4, 2017		<p>Greensboro, NC 27407</p>
Analysis:	PLM - Stop Positive	<p>Phone: 336.292.3888</p>	
TurnAroundTime:	4 days	<p>Fax: 336.292.3313</p> <p>Email: lab@sailab.com</p>	

Sample Number	Data 1 (Lab use only)	Sample Description	Data 2 (Lab use only)
---------------	-----------------------	--------------------	-----------------------

<<			
001A		Drywall Joint Compound - Wall, Sink in room 1A1	
001B		Drywall Joint Compound - Wall, Sink in room 1A1	
001C		Drywall Joint Compound - Wall, Sink in room 1A1	
002A		Carpet Mastic - Room 1A1	
002B		Floor Mastic - Room 1A1	
002C		Floor Mastic - Room 1A1	
003A		Drywall Joint Compound Decorative Ceiling- Room 1A1	
003B		Drywall Joint Compound Decorative Ceiling- Room 1A1	
003C		Drywall Joint Compound Decorative Ceiling- Room 1A1	
004A		Drywall Joint Compound Smooth Ceiling - 1A1	
004B		Drywall Joint Compound Smooth Ceiling - 1A1	
004C		Drywall Joint Compound Smooth Ceiling - 1A1	
005A		Green Levelling Compound Under Carpet - Projector Room 1A1	

Accepted

Rejected

M. Maiorana
4/5 9AM

1707008

005B	Green Levelling Compound Under Carpet - Projector Room 1A1
005C	Green Levelling Compound Under Carpet - Projector Room 1A1
006A	Levelling Compound and Carpet Mastic - Room 1A6
006B	Levelling Compound and Carpet Mastic - Room 1A6
006C	Levelling Compound and Carpet Mastic - Room 1A6
007A	Drywall Joint Compound Decorative Ceiling - Room 1A6
007B	Drywall Joint Compound Decorative Ceiling - Room 1A6
007C	Drywall Joint Compound Decorative Ceiling - Room 1A6
008A	Drywall Joint Compound Ceiling - Projector Room 1A6
008B	Drywall Joint Compound Ceiling - Projector Room 1A6
008C	Drywall Joint Compound Ceiling - Projector Room 1A6
>>	



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
11-875 Main St West
Hamilton, Ontario L8S 4R9

Attn: Leslie Cantar
Michael Maiorana

Lab Order ID: 1707674
Analysis ID: 1707674_PLM
Date Received: 4/13/2017
Date Reported: 4/14/2017

Project: 200249.024 MUMC Café Reno

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
0001A	Drywall joint compound on wall near Just Brewed, Cafeteria Cashier Area	2% Chrysotile		98% Other	Tan Non Fibrous Homogeneous
1707674PLM_1					Dissolved
0001B	Drywall joint compound on wall at single door, Cafeteria Cashier Area	Not Analyzed			
1707674PLM_2					
0001C	Drywall joint compound on wall near turnstile, Cafeteria Entrance	Not Analyzed			
1707674PLM_3					
0002A	Mastic only on 12" vinyl floor tile near Just Brewed, Cafeteria Cashier Area	None Detected		100% Other	Black Non Fibrous Homogeneous
1707674PLM_4					Dissolved
0002B	Mastic only on 12" vinyl floor tile near side door and Shaft 46, Cafeteria	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1707674PLM_5					Dissolved
0002C	Mastic only on 12" vinyl floor tile near back door opposite Shaft 45, Cafeteria	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1707674PLM_6					Dissolved
0003A	Drywall joint compound on wall at door near Shaft 46, Cafeteria	2% Chrysotile		98% Other	Tan Non Fibrous Homogeneous
1707674PLM_7					Dissolved
0003B	Drywall joint compound on wall corner near Shaft 46, Cafeteria	Not Analyzed			
1707674PLM_8					

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAL. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Philip Szabo (15)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
11-875 Main St West
Hamilton, Ontario L8S 4R9

Attn: Leslie Cantar
Michael Maiorana

Lab Order ID: 1707674
Analysis ID: 1707674_PLM
Date Received: 4/13/2017
Date Reported: 4/14/2017

Project: 200249.024 MUMC Café Reno

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
0003C	Drywall joint compound on wall at side door near Shaft 46, Cafeteria	Not Analyzed			
1707674PLM_9					
0004A	Drywall joint compound on partition wall at Oven Fresh, Cafeteria	None Detected		100% Other	White Non Fibrous Homogeneous
1707674PLM_10					Dissolved
0004B	Drywall joint compound on partition wall at Hot off the Grill, Cafeteria	2% Chrysotile		98% Other	Tan Non Fibrous Homogeneous
1707674PLM_11					Dissolved
0004C	Drywall joint compound on partition wall at On the Go, Cafeteria	Not Analyzed			
1707674PLM_12					
0005A	Drywall joint compound on wall corner at Shaft 45 near turnstile, Cafeteria	None Detected		100% Other	White Non Fibrous Homogeneous
1707674PLM_13					Dissolved
0005B	Drywall joint compound on wall corner at Shaft 45 near coffee, Cafeteria	3% Chrysotile		97% Other	Tan Non Fibrous Homogeneous
1707674PLM_14					Dissolved
0005C	Drywall joint compound on wall at Shaft 45 near Café Seating, Cafeteria	Not Analyzed			
1707674PLM_15					

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Philip Szabo (15)

Analyst

Approved Signatory

1707674

Version 1-15-2012

Client:	Pinchin 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. <i>Only Enter your data on the first sheet "Sheet1"</i> 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:
Contact:	Leslie Cantar, Michael Maiorana		Leslie Cantar
Address:	6-875 Main St W, Hamilton, ON		AP@pinchin.com
Phone:	289.237.4294		
Fax:	905.577.6207		
Email:	lcantar@pinchin.com; mmaiorana@pinchin.com		
Project:	200249.024 MUMC Café Reno		Scientific Analytical Institute  4604 Dundas Dr. Greensboro, NC 27407 Phone: 336.292.3888 Fax: 336.292.3313 Email: lab@sailab.com
Client Notes:	PLM - Stop Positive		
P.O. #:	200249.024		
Date Submitted:	4/12/2017 0:00		
Analysis:	PLM - Stop Positive		
TurnAroundTime:	48 Hours		

Sample Number	Data 1 (Lab use only)	Sample Description	Data 2 (Lab use only)
---------------	-----------------------	--------------------	-----------------------

<<			
0001A		Drywall joint compound on wall near Just Brewed, Cafeteria Cashier Area	
0001B		Drywall joint compound on wall at single door, Cafeteria Cashier Area	
0001C		Drywall joint compound on wall near turnstile, Cafeteria Entrance	
0002A		Mastic only on 12" vinyl floor tile near Just Brewed, Cafeteria Cashier Area	
0002B		Mastic only on 12" vinyl floor tile near side door and Shaft 46, Cafeteria	
0002C		Mastic only on 12" vinyl floor tile near back door opposite Shaft 45, Cafeteria	
0003A		Drywall joint compound on wall at door near Shaft 46, Cafeteria	
0003B		Drywall joint compound on wall corner near Shaft 46, Cafeteria	
0003C		Drywall joint compound on wall at side door near Shaft 46, Cafeteria	
0004A		Drywall joint compound on partition wall at Oven Fresh, Cafeteria	
0004B		Drywall joint compound on partition wall at Hot off the Grill, Cafeteria	
0004C		Drywall joint compound on partition wall at On the Go, Cafeteria	
0005A		Drywall joint compound on wall corner at Shaft 45 near turnstile, Cafeteria	
0005B		Drywall joint compound on wall corner at Shaft 45 near coffee, Cafeteria	
0005C		Drywall joint compound on wall at Shaft 45 near Café Seating, Cafeteria	
>>			

Accepted

Rejected

MCCF 4/13 830A



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
11-875 Main St West
Hamilton, Ontario L8S 4R9

Attn: Stephen Holmquist
Michael Maiorana

Lab Order ID: 1707696
Analysis ID: 1707696_PLM
Date Received: 4/13/2017
Date Reported: 4/15/2017

Project: 200199.010, McMaster University, MUMC 1A Ewart Angus Centre, 1280 Main Street west, Hamilton, Ontario

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
009A - A	Smooth Plaster - Decorative Ceiling, Room 1A6	None Detected		100% Other	White Non Fibrous Homogeneous
1707696PLM_1	finish				Crushed
009A - B	Smooth Plaster - Decorative Ceiling, Room 1A6	None Detected		80% Other 20% Perlite	Gray Non Fibrous Homogeneous
1707696PLM_6	base				Crushed
009B - A	Smooth Plaster - Decorative Ceiling, Room 1A6	None Detected		100% Other	White Non Fibrous Homogeneous
1707696PLM_2	finish				Crushed
009B - B	Smooth Plaster - Decorative Ceiling, Room 1A6	None Detected		80% Other 20% Perlite	Gray Non Fibrous Homogeneous
1707696PLM_7	base				Crushed
009C - A	Smooth Plaster - Decorative Ceiling, Room 1A6	None Detected		100% Other	White Non Fibrous Homogeneous
1707696PLM_3	finish				Crushed
009C - B	Smooth Plaster - Decorative Ceiling, Room 1A6	None Detected		80% Other 20% Perlite	Gray Non Fibrous Homogeneous
1707696PLM_8	base				Crushed
009D - A	Smooth Plaster - Wall, Projector Room 1A6	None Detected		100% Other	White Non Fibrous Homogeneous
1707696PLM_4	finish				Crushed
009D - B	Smooth Plaster - Wall, Projector Room 1A6	None Detected		80% Other 20% Perlite	Gray Non Fibrous Homogeneous
1707696PLM_9	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 recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAL. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Bethany Nichols (10)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



NVLAP Lab Code: 200664-0



Customer: Pinchin Ltd.
11-875 Main St West
Hamilton, Ontario L8S 4R9

Attn: Stephen Holmquist
Michael Maiorana

Lab Order ID: 1707696
Analysis ID: 1707696_PLM
Date Received: 4/13/2017
Date Reported: 4/15/2017

Project: 200199.010, McMaster University, MUMC 1A Ewart Angus Centre, 1280 Main Street west, Hamilton, Ontario

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
009E - A	Smooth Plaster - Wall, Projector Room 1A6	None Detected		100% Other	White Non Fibrous Homogeneous
1707696PLM_5	finish				Crushed
009E - B	Smooth Plaster - Wall, Projector Room 1A6	None Detected		80% Other 20% Perlite	Gray Non Fibrous Homogeneous
1707696PLM_10	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 recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAL. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.


Bethany Nichols (10)

Analyst

Approved Signatory

1707196

Version 1-15-2012

Client: Contact: Address: Phone: Fax: Email: Project: Client Notes: P.O. #: Date Submitted: Analysis: TurnAroundTime:	Pinchin Ltd. Michael Maiorana 875 Main Street W., Unit 11 Hamilton, ON L8S 4R9 905-577-6206 905-577-6207 sholmquist@pinchin.com mmaiorana@pinchin.com 200199.010, McMaster University, MUMC 1A Ewart Angus Centre, 1280 Main Street West, Hamilton, Ontario	<p align="center">*Instructions:</p> <p align="center">Use Column "B" for your contact info</p> <p align="center">To See an Example Click the bottom Example Tab.</p> <p align="center">Enter samples between "<<" and ">>"</p> <p align="center">Begin Samples with a "<<" above the first sample and end with a ">>" below the last sample. Only Enter your data on the first sheet "Sheet1"</p> <p align="center"><i>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.</i></p>	<p align="right">Invoice to:</p> Mike Maiorana mmaiorana@pinchin.com
	 <p align="center"> Scientific Analytical Institute </p> <p align="center"> 4604 Dundas Dr. Greensboro, NC 27407 Phone: 336.292.3888 Fax: 336.292.3313 Email: lab@sailab.com </p>		

Sample Number	Data 1 (Lab use only)	Sample Description	Data 2 (Lab use only)
<<			
009A		Smooth Plaster - Decorative Ceiling, Room 1A6	
009B		Smooth Plaster - Decorative Ceiling, Room 1A6	
009C		Smooth Plaster - Decorative Ceiling, Room 1A6	
009D		Smooth Plaster - Wall, Projector Room 1A6	
009E		Smooth Plaster - Wall, Projector Room 1A6	
>>			

Accepted

Rejected

Shelton # 4/13
830A



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	McMaster University, 1200 Main Street West, Hamilton, Ontario		
Project No.:	0200199.020		
Prepared For:	L. Cantar/ M. Maiorana	Date Received:	April 13, 2017
Lab Reference No.:	b168255	Date Analyzed:	April 21, 2017
Analyst(s):	A. Lebar Vertolli	# Samples submitted:	6
		# Phases analyzed:	11

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.

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



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: McMaster University, 1200 Main Street West, Hamilton, Ontario
Project No.: 0200199.020
Prepared For: L. Cantar/ M. Maiorana

Lab Reference No.: b168255
Date Analyzed: April 21, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0001A Carpet mastic below carpet tiles, Office 3N8B.1	2 Phases: a) Homogeneous, yellow, adhesive material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, grey, hard, cementitious material.	None Detected	Non-Fibrous Material > 75%
Comments:	Phase b) is small in size.		
0001B Carpet mastic below carpet tiles, Office 3N8B.2	a) Homogeneous, yellow, adhesive material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, grey, hard, cementitious material.	None Detected	Non-Fibrous Material > 75%
	c) Homogeneous, grey, soft, cementitious material.	None Detected	Cellulose 5-10% Non-Fibrous Material > 75%
0001C Carpet mastic below carpet tiles, Open Office 3N8A at 3N8B.2	a) Homogeneous, yellow, adhesive material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, grey, hard, cementitious material.	None Detected	Non-Fibrous Material > 75%
	c) Homogeneous, grey, soft, cementitious material.	None Detected	Cellulose 5-10% Non-Fibrous Material > 75%
Comments:	Phase b) is small in size.		



Pinchin Ltd. Asbestos Laboratory
Certificate of Analysis

Project Name: McMaster University, 1200 Main Street West, Hamilton, Ontario
Project No.: 0200199.020
Prepared For: L. Cantar/ M. Maiorana

Lab Reference No.: b168255
Date Analyzed: April 21, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0002A Caulking at door frame, Open Office 3N8A at 3N8B.2	Homogeneous, off-white, caulking material.	None Detected	Non-Fibrous Material > 75%
0002B Caulking at door frame, Office 3N8B.1	Homogeneous, off-white, caulking material.	None Detected	Non-Fibrous Material > 75%
0002C Caulking at door frame, Office 3N8B.1	Homogeneous, off-white, caulking material.	None Detected	Non-Fibrous Material > 75%

Reviewed by:

Reporting Analyst:



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



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

Client Name:	McMaster University	Project Address:	1200 Main Street West, Hamilton, Ontario
Portfolio/Building No:		Pinchin File:	200199.02
Submitted by:	Leslie Cantar	Email:	lcantar@pinchin.com
CC Results to:	Michael Maiorana	CC Email:	mmaiorana@pinchin.com
Invoice to:	Leslie Cantar	Invoice Email:	ap@pinchin.com
Date Submitted:	April 12 2017	Required by:	April 20 2017
# of Samples:	6	Priority:	5 Day Turnaround
Year of Building Construction (Mandatory Field):	1970		
Do NOT Stop on Positive (Sample Numbers):			
Pinchin Group Company (Mandatory Field):	Pinchin		

To be Completed by Lab Personnel Only:

Lab Reference #:	<u>61168255</u>	Time:	24 hour clock		
Received by:	<u>KB</u>	Date:	Month	Day	Year
Name(s) of Analyst(s):	<u>ALV</u>		<u>21-Apr-17</u>		<u>(11)</u>

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)	
	0001	A	Carpet mastic below carpet tiles, Office 3N8B.1	a) ND b) ND
	0001	B	Carpet mastic below carpet tiles, Office 3N8B.2	a) ND b) ND c) ND
	0001	C	Carpet mastic below carpet tiles, Open Office 3N8A at 3N8B.2	a) ND b) ND c) ND
	0002	A	Caulking ONLY at door frame, Open Office 3N8A at 3N8B.2	ND
	0002	B	Caulking ONLY at door frame, Office 3N8B.1	ND
	0002	C	Caulking ONLY at door frame, Office 3N8B.1	ND



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
11-875 Main St West
Hamilton, Ontario L8S 4R9

Attn: Stephen Holmquist
Michael Maiorana

Lab Order ID: 1710518
Analysis ID: 1710518_PLM
Date Received: 5/19/2017
Date Reported: 5/23/2017

Project: MUMC Cooler Replacement 1200 Main St W Hamilton, Ontario

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
001A	White caulking on joint in cooler - 4H32 Env Rm 2	None Detected		100% Other	White Non Fibrous Homogeneous
1710518PLM_1					Ashed
001B	White caulking on joint in cooler - 4H32 Env Rm 2	None Detected		100% Other	White Non Fibrous Homogeneous
1710518PLM_2					Ashed
001C	White caulking on joint in cooler - 4H32 Env Rm 2	None Detected		100% Other	White Non Fibrous Homogeneous
1710518PLM_3					Ashed
002A	Black sink undercoating in cooler - 4H25 Cooler	8% Chrysotile		92% Other	Black Non Fibrous Heterogeneous
1710518PLM_4					Dissolved
002B	Black sink undercoating in cooler - 4H25 Cooler	Not Analyzed			
1710518PLM_5					
002C	Black sink undercoating in cooler - 4H25 Cooler	Not Analyzed			
1710518PLM_6					
003A	VSF beige and brown square pattern - Freezer 4N75	15% Chrysotile		85% Other	Gray Fibrous Heterogeneous
1710518PLM_7	unable to separate layers				Teased
003B	VSF beige and brown square pattern - Freezer 4N75	Not Analyzed			
1710518PLM_8					

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Bobby Wheatley (9)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
11-875 Main St West
Hamilton, Ontario L8S 4R9

Attn: Stephen Holmquist
Michael Maiorana

Lab Order ID: 1710518
Analysis ID: 1710518_PLM
Date Received: 5/19/2017
Date Reported: 5/23/2017

Project: MUMC Cooler Replacement 1200 Main St W Hamilton, Ontario

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
003C	VSF beige and brown square pattern - Freezer 4N75	Not Analyzed			
1710518PLM_9					

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAL. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Bobby Wheatley (9)

Analyst

Approved Signatory

1710518

Version 1-15-2012

Client: Pinchin Ltd.
Contact: Stephen Holmquist
Address: 6-875 Main St W Suite 200 Hamilton, ON
Phone: 905-577-6206
Fax: 905-363-0681
Email: sholmquist@pinchin.com
 mmaiorana@pinchin.com
Project: MUMC Cooler Replacement
 1200 Main St W Hamilton, Ontario
Client Notes:

P.O. #. 200199.026
Date Submitted: 5/18/2017 0:00
Analysis: PLM Stop Positive
TurnAroundTime: 3 days

***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:
 Stephen Holmquist
 sholmquist@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)
---------------	-----------------------	--------------------	-----------------------

<<			
001A		White caulking on joint in cooler - 4H32 Env Rm 2	
001B		White caulking on joint in cooler - 4H32 Env Rm 2	
001C		White caulking on joint in cooler - 4H32 Env Rm 2	
002A		Black sink undercoating in cooler - 4H25 Cooler	
002B		Black sink undercoating in cooler - 4H25 Cooler	
002C		Black sink undercoating in cooler - 4H25 Cooler	
003A		VSF beige and brown square pattern - Freezer 4N75	
003B		VSF beige and brown square pattern - Freezer 4N75	
003C		VSF beige and brown square pattern - Freezer 4N75	

Accepted

Rejected

Shelton 5/19 10A



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
11-875 Main St West
Hamilton, Ontario L8S 4R9

Attn: Stephen Holmquist
Michael Maiorana

Lab Order ID: 1710851
Analysis ID: 1710851_PLM
Date Received: 5/24/2017
Date Reported: 5/25/2017

Project: 200249.024 MUMC Café Reno

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0001A	Mastic Under Linolium - Location 1 - MASTIC ONLY	None Detected		100% Other	Yellow Non Fibrous Heterogeneous
1710851PLM_1					Dissolved
S0001B	Mastic Under Linolium - Location 1 - MASTIC ONLY	None Detected		100% Other	Yellow Non Fibrous Heterogeneous
1710851PLM_2					Dissolved
S0001C	Mastic Under Linolium - Location 1 - MASTIC ONLY	None Detected		100% Other	Yellow Non Fibrous Heterogeneous
1710851PLM_3					Dissolved
S0002A	Mastic Under Carpet - Location 4	None Detected		100% Other	Yellow, Green Non Fibrous Heterogeneous
1710851PLM_4	mixed mastics				Dissolved
S0002B	Mastic Under Carpet - Location 2	None Detected		100% Other	Yellow, Green Non Fibrous Heterogeneous
1710851PLM_5	mixed mastics				Dissolved
S0002C	Mastic Under Carpet - Location 4A	None Detected		100% Other	Yellow, Green Non Fibrous Heterogeneous
1710851PLM_6	mixed mastics				Dissolved
S0003A	Mastic Under Carpet - Location 3	None Detected		100% Other	Yellow Non Fibrous Heterogeneous
1710851PLM_7					Dissolved
S0003B	Mastic Under Carpet - Location 3	None Detected		100% Other	Yellow Non Fibrous Heterogeneous
1710851PLM_8					Dissolved

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAL. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Bethany Nichols (24)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
11-875 Main St West
Hamilton, Ontario L8S 4R9

Attn: Stephen Holmquist
Michael Maiorana

Lab Order ID: 1710851
Analysis ID: 1710851_PLM
Date Received: 5/24/2017
Date Reported: 5/25/2017

Project: 200249.024 MUMC Café Reno

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0003C	Mastic Under Carpet - Location 3	None Detected		100% Other	Yellow Non Fibrous Heterogeneous
1710851PLM_9					Dissolved
S0004A - A	Leveling concrete and mastic - Perimeter wall Location 4	None Detected		100% Other	Yellow, Green Non Fibrous Heterogeneous
1710851PLM_10	mixed mastics				Dissolved
S0004A - B	Leveling concrete and mastic - Perimeter wall Location 4	None Detected		100% Other	White Non Fibrous Homogeneous
1710851PLM_19	white layer				Crushed
S0004A - C	Leveling concrete and mastic - Perimeter wall Location 4	5% Chrysotile		95% Other	Gray Non Fibrous Homogeneous
1710851PLM_20	gray layer				Crushed
S0004B - A	Leveling concrete and mastic - Perimeter wall Location 4	None Detected		100% Other	Yellow, Green Non Fibrous Heterogeneous
1710851PLM_11	mixed mastics				Dissolved, Dissolve
S0004B - B	Leveling concrete and mastic - Perimeter wall Location 4	None Detected		100% Other	White Non Fibrous Homogeneous
1710851PLM_21	white layer				Crushed
S0004B - C	Leveling concrete and mastic - Perimeter wall Location 4	Not Analyzed			
1710851PLM_22	gray layer				
S0004C - A	Leveling concrete and mastic - Perimeter wall Location 4	None Detected		100% Other	Yellow, Green Non Fibrous Heterogeneous
1710851PLM_12	mixed mastics				Dissolved

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Bethany Nichols (24)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
11-875 Main St West
Hamilton, Ontario L8S 4R9

Attn: Stephen Holmquist
Michael Maiorana

Lab Order ID: 1710851
Analysis ID: 1710851_PLM
Date Received: 5/24/2017
Date Reported: 5/25/2017

Project: 200249.024 MUMC Café Reno

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0004C - B	Leveling concrete and mastic - Perimeter wall Location 4	None Detected		100% Other	White Non Fibrous Homogeneous
1710851PLM_23	white layer				Crushed
S0004C - C	Leveling concrete and mastic - Perimeter wall Location 4	Not Analyzed			
1710851PLM_24	gray layer				
S0005A	Mastic Under Carpet - Location 5	None Detected		100% Other	Yellow Non Fibrous Heterogeneous
1710851PLM_13					Dissolved
S0005B	Mastic Under Carpet - Location 5	None Detected		100% Other	Yellow Non Fibrous Heterogeneous
1710851PLM_14					Dissolved
S0005C	Mastic Under Carpet - Location 5	None Detected		100% Other	Yellow Non Fibrous Heterogeneous
1710851PLM_15					Dissolved
S0006A	Mastic Under Linolium - Location 6	None Detected	5% Cellulose	95% Other	Yellow, Gray Non Fibrous Heterogeneous
1710851PLM_16	mastic/leveling inseparable				Dissolved
S0006B	Mastic Under Linolium - Location 6	None Detected	5% Cellulose	95% Other	Yellow, Gray Non Fibrous Heterogeneous
1710851PLM_17	mastic/leveling inseparable				Dissolved
S0006C	Mastic Under Linolium - Location 6	None Detected	5% Cellulose	95% Other	Yellow, Gray Non Fibrous Heterogeneous
1710851PLM_18	mastic/leveling inseparable				Dissolved

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Bethany Nichols (24)

Analyst

Approved Signatory

1710851

Version 1-15-2012

Client:	Pinchin Ltd.	*Instructions: Use Column "B" for your contact info	Invoice to:
	Stephen Holmquist, Mike Maiorana		
Contact:	6-875 Main St W, Hamilton, ON	To See an Example Click the bottom Example Tab.	mmaiorana@pinchin.com
Address:	289.339.8072		
Phone:	905.577.6207	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"	
Fax:	sholmquist@pinchin.com		
Email:	mmaiorana@pinchin.com	<i>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.</i>	Scientific Analytical Institute
Project:	200249.024 MUMC Café Reno		
Client Notes:	PLM - Stop Positive. Only Analyze Mastic		4604 Dundas Dr.
P.O. #:	200249.024		Greensboro, NC 27407
Date Submitted:	5/23/2017 0:00		Phone: 336.292.3888
Analysis:	PLM - Stop Positive		Fax: 336.292.3313
TurnAroundTime:	1 Day		Email: lab@sailab.com

Sample Number	Data 1 (Lab use only)	Sample Description	Data 2 (Lab use only)
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<<			
S0001A		Mastic Under Linolium - Location 1 - MASTIC ONLY	
S0001B		Mastic Under Linolium - Location 1 - MASTIC ONLY	
S0001C		Mastic Under Linolium - Location 1 - MASTIC ONLY	
S0002A		Mastic Under Carpet - Location 4	
S0002B		Mastic Under Carpet - Location 2	
S0002C		Mastic Under Carpet - Location 4A	
S0003A		Mastic Under Carpet - Location 3	
S0003B		Mastic Under Carpet - Location 3	
S0003C		Mastic Under Carpet - Location 3	
S0004A		Leveling concrete and mastic - Perimeter wall Location 4	
S0004B		Leveling concrete and mastic - Perimeter wall Location 4	
S0004C		Leveling concrete and mastic - Perimeter wall Location 4	
S0005A		Mastic Under Carpet - Location 5	
S0005B		Mastic Under Carpet - Location 5	
S0005C		Mastic Under Carpet - Location 5	
S0006A		Mastic Under Linolium - Location 6	

5/24 11A

S0006B
S0006C

Mastic Under Linolium - Location 6
Mastic Under Linolium - Location 6



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	HHS, 1200 Main Street West Hamilton		
Project No.:	0200249.042		
Prepared For:	F. Rossi / M. Maiorana	Date Received:	July 25, 2017
Lab Reference No.:	b173908	Date Analyzed:	July 28, 2017
Analyst(s):	L. DeCurtis / K. Cockburn		
		# Samples submitted:	18
		# Phases analyzed:	26

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.

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



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: HHS, 1200 Main Street West Hamilton
Project No.: 0200249.042
Prepared For: F. Rossi / M. Maiorana

Lab Reference No.: b173908
Date Analyzed: July 28, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0001A grey caulking around windows outside of 3G52	Homogeneous, grey, caulking material.	None Detected	Non-Fibrous Material > 75%
0001B grey caulking around windows outside of 3G52	Homogeneous, grey, caulking material.	None Detected	Non-Fibrous Material > 75%
0001C grey caulking around windows outside of 3G52	Homogeneous, grey, caulking material.	None Detected	Non-Fibrous Material > 75%
0002A leveling compound under VSF in room 3G52	3 Phases: a) Homogeneous, off-white, levelling compound.	Chrysotile 0.5-5%	Non-Fibrous Material > 75%
	b) Homogeneous, grey, levelling compound.	Chrysotile < 0.5%	Non-Fibrous Material > 75%
	c) Homogeneous, yellow, soft, sticky material on the back of vinyl flooring.	None Detected	Non-Fibrous Material > 75%
Comments:	The asbestos present in phase b) may be due to contamination. This sample is small in size. For more reliable results, a larger sample is required. Another phase is present but was not analyzed.		



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: HHS, 1200 Main Street West Hamilton
Project No.: 0200249.042
Prepared For: F. Rossi / M. Maiorana

Lab Reference No.: b173908
Date Analyzed: July 28, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0002B leveling compound under VSF in room 3G52	3 Phases: a) Homogeneous, off-white, levelling compound.		Not Analyzed
	b) Homogeneous, grey, levelling compound.	Chrysotile < 0.5%	Non-Fibrous Material > 75%
	c) Homogeneous, yellow, soft, sticky material on the back of vinyl flooring.	Chrysotile < 0.5%	Non-Fibrous Material > 75%
Comments:	Analysis of phase a) was stopped due to a previous positive result. The asbestos present in phases b) and c) may be due to contamination. This sample is small in size. For more reliable results, a larger sample is required.		
0002C leveling compound under VSF in room 3G52	3 Phases: a) Homogeneous, off-white, levelling compound.		Not Analyzed
	b) Homogeneous, grey, levelling compound.	None Detected	Non-Fibrous Material > 75%
	c) Homogeneous, yellow, soft, sticky material on the back of vinyl flooring.	None Detected	Non-Fibrous Material > 75%
Comments:	Analysis of phase a) was stopped due to a previous positive result. This sample is small in size. For more reliable results, a larger sample is required. Another phase is present but was not analyzed.		
0003A white caulking at base of glass windows in courtyard	Homogeneous, white, caulking material.	None Detected	Man-made Vitreous Fibres 0.5-5% Non-Fibrous Material > 75%



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: HHS, 1200 Main Street West Hamilton
Project No.: 0200249.042
Prepared For: F. Rossi / M. Maiorana

Lab Reference No.: b173908
Date Analyzed: July 28, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0003B white caulking at base of glass windows in courtyard	Homogeneous, white, caulking material.	None Detected	Man-made Vitreous Fibres 0.5-5% Non-Fibrous Material > 75%
Comments:	Another phase is present but there was insufficient material submitted to analyze.		
0003C white caulking at base of glass windows in courtyard	Homogeneous, black, rubbery tar material.	None Detected	Tar and other non-fibrous > 75%
0004A expansion compound grey courtyard	2 Phases: a) Homogeneous, beige, rubbery material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, grey, rubbery material.	Chrysotile 0.5-5%	Non-Fibrous Material > 75%
Comments:	Phase b) is small in size. For more reliable results, a larger sample is required. Foam is present on the surface of this sample.		
0004B expansion compound grey courtyard	2 Phases: a) Homogeneous, beige, rubbery material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, grey, rubbery material.		Not Analyzed
Comments:	Analysis of phase a) was stopped due to a previous positive result. Foam is present on the surface of this sample.		



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: HHS, 1200 Main Street West Hamilton
Project No.: 0200249.042
Prepared For: F. Rossi / M. Maiorana

Lab Reference No.: b173908
Date Analyzed: July 28, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0004C expansion compound grey courtyard	2 Phases: a) Homogeneous, beige, rubbery material. b) Homogeneous, grey, rubbery material.	None Detected	Non-Fibrous Material > 75% Not Analyzed
Comments:	Analysis of phase a) was stopped due to a previous positive result. Foam is present on the surface of this sample.		
0005A black paper under base of windows outside 3G52	2 Phases: a) Homogeneous, black, layered paper. b) Homogeneous, black, tar material.	None Detected	Cellulose 50-75% Tar and other non-fibrous 25-50% Tar and other non-fibrous > 75%
0005B black paper under base of windows outside 3G52	2 Phases: a) Homogeneous, black, layered paper. b) Homogeneous, black, tar material.	None Detected	Cellulose 50-75% Tar and other non-fibrous 25-50% Tar and other non-fibrous > 75%



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

Project Name: HHS, 1200 Main Street West Hamilton
Project No.: 0200249.042
Prepared For: F. Rossi / M. Maiorana

Lab Reference No.: b173908
Date Analyzed: July 28, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0005C black paper under base of windows outside 3G52	2 Phases: a) Homogeneous, black, layered paper.	None Detected	Cellulose 50-75% Tar and other non-fibrous 25-50%
	b) Homogeneous, black, tar material.	None Detected	Tar and other non-fibrous > 75%
0006A grey caulking around man door to court yard	Homogeneous, light grey, rubbery, caulking material.	None Detected	Non-Fibrous Material > 75%
0006B grey caulking around man door to court yard	Homogeneous, light grey, rubbery, caulking material.	None Detected	Non-Fibrous Material > 75%
0006C grey caulking around man door to court yard	Homogeneous, light grey, rubbery, caulking material.	None Detected	Non-Fibrous Material > 75%

Reviewed by:

Reporting Analyst:



Analyzed by: AC
 Reviewed by: HB
 Report Sent by: HB

Instructions:

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

Client Name:	HHS	Project Address:	1200 Main Street West Hamilton
Portfolio/Building No:		Pinchin File:	200249.042
Submitted by:	Frank Rossi	Email:	frossi@pinchin.com
CC Results to:	Mike Maiorana	CC Email:	mmaiorana@pinchin.com
Invoice to:	Mike Maiorana	Invoice Email:	
Date Submitted:	July 24 2017	Required by:	July 28 2017
# of Samples:	18	Priority:	3 Day Turnaround
Year of Building Construction (Mandatory Field):	1960		
Do NOT Stop on Positive (Sample Numbers):			
Pinchin Group Company (Mandatory Field):	Pinchin		

To be Completed by Lab Personnel Only:

Lab Reference #: 6173908 Time: 24 hour clock
 Received by: _____ Date: JUL 25 2017 Month July Day 28 Year 2017
 Name(s) of Analyst(s): LD/AC

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	0001	A	grey caulking around windows outside of 3G52 <u>ND</u>
	0001	B	grey caulking around windows outside of 3G52 <u>ND</u>
	0001	C	grey caulking around windows outside of 3G52 <u>ND</u>
	0002	A	leveling compound under VSF in room 3G52 <u>a) CH_{0.5}-S₇₀ b) CH_{CO}-S c) ND</u>
	0002	B	leveling compound under VSF in room 3G52 <u>a) NA b) CH_{CO}-S₇₀ c) CH_{CO}-S₇₀</u>
	0002	C	leveling compound under VSF in room 3G52 <u>a) NA b) ND c) ND</u>

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Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	McMaster University, 1200 Main St. W Hamilton, ON		
Project No.:	0200199.011		
Prepared For:	J. Cozzitorto		
	M. Maiorana	Date Received:	August 17, 2017
Lab Reference No.:	b175157	Date Analyzed:	August 23, 2017
Analyst(s):	M. Tiggos	# Samples submitted:	12
		# Phases analyzed:	7

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.

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



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: McMaster University, 1200 Main St. W Hamilton, ON
Project No.: 0200199.011
Prepared For: J. Cozzitorto
 M. Maiorana
Lab Reference No.: b175157
Date Analyzed: August 23, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)			
		ASBESTOS		OTHER	
0001A 12" x 12" brown vinyl floor tile mastic, Room 4H42	Homogeneous, black, soft, sticky material on the back of vinyl floor tile.	Chrysotile	0.5-5%	Tar and other non-fibrous	> 75%
Comments:	Another phase is present but was not analyzed.				
0001B 12" x 12" brown vinyl floor tile mastic, Room 4H42				Not Analyzed	
Comments:	Analysis was stopped due to a previous positive result.				
0001C 12" x 12" brown vinyl floor tile mastic, Room 4H42				Not Analyzed	
Comments:	Analysis was stopped due to a previous positive result.				
0002A 12" x 12" brown vinyl floor tile under carpet Room 1J7	a) Homogeneous, brown, 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.	Chrysotile	0.5-5%	Tar and other non-fibrous	> 75%
0002B 12" x 12" brown vinyl floor tile under carpet Room 1J7				Not Analyzed	
Comments:	Analysis was stopped due to a previous positive result.				
0002C 12" x 12" brown vinyl floor tile under carpet Room 1J7				Not Analyzed	
Comments:	Analysis was stopped due to a previous positive result.				
0003A Flammable cabinet gasket, 4N3	Homogeneous, white, woven fabric.	Chrysotile	> 75%	Non-Fibrous Material	5-10%



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

Project Name: McMaster University, 1200 Main St. W Hamilton, ON
Project No.: 0200199.011
Prepared For: J. Cozzitorto
M. Maiorana
Lab Reference No.: b175157
Date Analyzed: August 23, 2017

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0003B Flammable cabinet gasket, 4N3			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0003C Flammable cabinet gasket, 4N3			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
0004A Black window caulking, 4H29	Homogeneous, black, sticky, caulking material.	None Detected	Non-Fibrous Material > 75%
0004B Black window caulking, 4H29	Homogeneous, black, sticky, caulking material.	None Detected	Non-Fibrous Material > 75%
0004C Black window caulking, 4H29	Homogeneous, black, sticky, caulking material.	None Detected	Non-Fibrous Material > 75%

Reviewed by:

Reporting Analyst:



Analyzed by: MT 2017/8/23
 Reviewed by: KPB
FL

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

Client Name:	McMaster University	Project Address:	1200 Main St. W Hamilton, ON
Portfolio/Building No:		Pinchin File:	200199.011
Submitted by:	Jessica Cozzitorto	Email:	jcozzitorto@pinchin.com
CC Results to:	Michael Maiorana	CC Email:	mmaiorana@pinchin.com
Invoice to:	Jessica Cozzitorto	Invoice Email:	jcozzitorto@pinchin.com
Date Submitted:	August 16 2017	Required by:	August 23 2017
# of Samples:	12	Priority:	5 Day Turnaround
Year of Building Construction (Mandatory Field):			
Do NOT Stop on Positive (Sample Numbers):			
Pinchin Group Company (Mandatory Field):	Pinchin		

To be Completed by Lab Personnel Only:			
Lab Reference #:	<u>D75157</u>	Time:	24 hour clock
Received by:	<u>AUG 17 2017</u>	Date:	Month Day Year
Name(s) of Analyst(s):	<u>Phases - 17</u>		

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	0001	A	12" x 12" brown vinyl floor tile mastic, Room 4H42 ANALYZE THE MASTIC ONLY <u>CH 0.5-56</u>
	0001	B	12" x 12" brown vinyl floor tile mastic, Room 4H42 ANALYZE THE MASTIC ONLY <u>Na</u>
	0001	C	12" x 12" brown vinyl floor tile mastic, Room 4H42 ANALYZE THE MASTIC ONLY <u>Na</u>
	0002	A	12" x 12" brown vinyl floor tile under carpet Room 1J7 <u>CH 0.5-56 MCH 0.5-56</u>
	0002	B	12" x 12" brown vinyl floor tile under carpet Room 1J7 <u>Na</u>
	0002	C	12" x 12" brown vinyl floor tile under carpet Room 1J7 <u>Na</u>
	0003	A	Flammable cabinet gasket, 4N3 <u>CH 7786</u>
	0003	B	Flammable cabinet gasket, 4N3 <u>Na</u>



Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	0003	C	Flammable cabinet gasket, 4N3 No
	0004	A	Black window caulking, 4H29 ND
	0004	B	Black window caulking, 4H29 ND
	0004	C	Black window caulking, 4H29 ND



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
6-875 Main St West
Suite 200
Hamilton, Ontario L8S 4P9

Attn: Michael Maiorana

Lab Order ID: 1724168
Analysis ID: 1724168_PLM
Date Received: 11/15/2017
Date Reported: 11/20/2017

Project: 200249.053, Hamilton Health Sciences, MUMC, 1200 Main Street West, Hamilton, ON

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
001A	Black undercoating on small sink, north side of Room 3Z11	6% Chrysotile		94% Other	Black Non Fibrous Heterogeneous
1724168PLM_1					Dissolved
001B	Black undercoating on small sink, north side of Room 3Z11	Not Analyzed			
1724168PLM_2					
001C	Black undercoating on small sink, north side of Room 3Z11	Not Analyzed			
1724168PLM_3					
002A	Black undercoating on large sink, southwest corner of Room 3Z40	6% Chrysotile		94% Other	Black Non Fibrous Heterogeneous
1724168PLM_4					Dissolved
002B	Black undercoating on large sink, southwest corner of Room 3Z40	Not Analyzed			
1724168PLM_5					
002C	Black undercoating on large sink, southwest corner of Room 3Z40	Not Analyzed			
1724168PLM_6					
003A	Black mastic underneath new vinyl floor tiles, Room 3Z40 near shaft door - Only analyze	3% Chrysotile		97% Other	Black Non Fibrous Heterogeneous
1724168PLM_7					Dissolved
003B	Black mastic underneath new vinyl floor tiles, north corridor outside of Room 3Z7 - Only a	Not Analyzed			
1724168PLM_8					

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAL. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Byron Stroble (21)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



NVLAP Lab Code: 200664-0

Customer: Pinchin Ltd.
6-875 Main St West
Suite 200
Hamilton, Ontario L8S 4P9

Attn: Michael Maiorana

Lab Order ID: 1724168
Analysis ID: 1724168_PLM
Date Received: 11/15/2017
Date Reported: 11/20/2017

Project: 200249.053, Hamilton Health Sciences, MUMC, 1200 Main Street West, Hamilton, ON

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
003C	Black mastic underneath new linolium flooring, northeast corridor outside patient washr	Not Analyzed			
1724168PLM_9					
004A - A	12" x 12" vinyl floor tiles, beige with black streaks, patient washroom (Room 3Z11)	None Detected		100% Other	Beige Non Fibrous Homogeneous
1724168PLM_10	floor tile				Dissolved
004A - B	12" x 12" vinyl floor tiles, beige with black streaks, patient washroom (Room 3Z11)	3% Chrysotile		97% Other	Black Non Fibrous Heterogeneous
1724168PLM_19	mastic				Dissolved
004B - A	12" x 12" vinyl floor tiles, beige with black streaks, patient washroom (Room 3Z11)	None Detected		100% Other	Beige Non Fibrous Homogeneous
1724168PLM_11	floor tile				Dissolved
004B - B	12" x 12" vinyl floor tiles, beige with black streaks, patient washroom (Room 3Z11)	Not Analyzed			
1724168PLM_20	mastic				
004C - A	12" x 12" vinyl floor tiles, beige with black streaks, patient washroom (Room 3Z11)	None Detected		100% Other	Beige Non Fibrous Homogeneous
1724168PLM_12	floor tile - ashed				Ashed
004C - B	12" x 12" vinyl floor tiles, beige with black streaks, patient washroom (Room 3Z11)	Not Analyzed			
1724168PLM_21	mastic				
005A	Putty in between window glazing and frame (clear windows), west corridor near	2% Chrysotile		98% Other	Gray Non Fibrous Heterogeneous
1724168PLM_13					Dissolved

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Byron Stroble (21)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



NVLAP Lab Code: 200664-0



Customer: Pinchin Ltd.
6-875 Main St West
Suite 200
Hamilton, Ontario L8S 4P9

Attn: Michael Maiorana

Lab Order ID: 1724168
Analysis ID: 1724168_PLM
Date Received: 11/15/2017
Date Reported: 11/20/2017

Project: 200249.053, Hamilton Health Sciences, MUMC, 1200 Main Street West, Hamilton, ON

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
005B	Putty in between window glazing and frame (clear windows), west corridor near	Not Analyzed			
1724168PLM_14					
005C	Putty in between window glazing and frame (clear windows), west corridor near	Not Analyzed			
1724168PLM_15					
006A	Putty in between window glazing and frame (fire wired windows), west corridor near	None Detected		100% Other	Beige Non Fibrous Heterogeneous
1724168PLM_16					Dissolved
006B	Putty in between window glazing and frame (fire wired windows), west corridor near	None Detected		100% Other	Beige Non Fibrous Heterogeneous
1724168PLM_17					Dissolved
006C	Putty in between window glazing and frame (fire wired windows), west corridor near	None Detected		100% Other	Beige Non Fibrous Heterogeneous
1724168PLM_18					Dissolved

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAL. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Byron Stroble (21)

Analyst

Approved Signatory

1724168

Version 1-15-2012

Client: Pinchin Ltd.
Contact: Michael Maiorana
 875 Main Street W., Unit 11
Address: Hamilton, ON L8S 4R9
Phone: 905-577-6206
Fax: 905-577-6207
Email: mmaiorana@pinchin.com

Project: 200249.053, Hamilton Health Sciences, MUMC, 1200 Main Street West, Hamilton, ON

Client Notes:

P.O. #: 200249.053
Date Submitted: November 14 2017
Analysis: PLM - Stop Positive
TurnAroundTime: 4 days

***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:
 Accounts Payable
ap@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)
---------------	-----------------------	--------------------	-----------------------

<<			
001A		Black undercoating on small sink, north side of Room 3Z11	
001B		Black undercoating on small sink, north side of Room 3Z11	
001C		Black undercoating on small sink, north side of Room 3Z11	
002A		Black undercoating on large sink, southwest corner of Room 3Z40	
002B		Black undercoating on large sink, southwest corner of Room 3Z40	
002C		Black undercoating on large sink, southwest corner of Room 3Z40	
003A		Black mastic underneath new vinyl floor tiles, Room 3Z40 near shaft door - Only analyze m	
003B		Black mastic underneath new vinyl floor tiles, north corridor outside of Room 3Z7 - Only anal	
003C		Black mastic underneath new linolium flooring, northeast corridor outside patient washroom (
004A		12" x 12" vinyl floor tiles, beige with black streaks, patient washoom (Room 3Z11) near door	
004B		12" x 12" vinyl floor tiles, beige with black streaks, patient washoom (Room 3Z11) near door	
004C		12" x 12" vinyl floor tiles, beige with black streaks, patient washoom (Room 3Z11) near door	
005A		Putty in between window glazing and frame (clear windows), west corridor near Room 3Z3	
005B		Putty in between window glazing and frame (clear windows), west corridor near Room 3Z3	

Accepted

Rejected

B. Hulley 11/15 10A

1724168

005C

Putty in between window glazing and frame (clear windows), west corridor near Room 3Z3

006A

Putty in between window glazing and frame (fire wired windows), west corridor near Room 3Z

006B

Putty in between window glazing and frame (fire wired windows), west corridor near Room 3Z

006C

Putty in between window glazing and frame (fire wired windows), west corridor near Room 3Z

>>



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	McMaster University Medical Centre (MUMC), Lab 4N36		
	1200 Main St W, Hamilton, Ontario		
Project No.:	0200199.048		
Prepared For:	S. Holmquist		
	M. Maiorana	Date Received:	January 4, 2018
Lab Reference No.:	b182478	Date Analyzed:	January 9, 2018
Analyst(s):	M. Tiggos	# Samples submitted:	6
		# Phases analyzed:	2

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.

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



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: McMaster University Medical Centre (MUMC), Lab 4N36
 1200 Main St W, Hamilton, Ontario
Project No.: 0200199.048
Prepared For: S. Holmquist
 M. Maiorana
Lab Reference No.: b182478
Date Analyzed: January 9, 2018

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)			
		ASBESTOS		OTHER	
S001A Sink Undercoating - Lab 4N36	Homogeneous, black, tar material.	Chrysotile	5-10%	Tar and other non-fibrous	> 75%
S001B Sink Undercoating - Lab 4N36				Not Analyzed	
Comments:	Analysis was stopped due to a previous positive result.				
S001C Sink Undercoating - Lab 4N36				Not Analyzed	
Comments:	Analysis was stopped due to a previous positive result.				
S002A Flammable Gasket - Lab 4N36	Homogeneous, white, woven fabric.	Chrysotile	> 75%	Man-made Vitreous Fibres	5-10%
				Non-Fibrous Material	5-10%
S002B Flammable Gasket - Lab 4N36				Not Analyzed	
Comments:	Analysis was stopped due to a previous positive result.				
S002C Flammable Gasket - Lab 4N36				Not Analyzed	
Comments:	Analysis was stopped due to a previous positive result.				

Reviewed by:

Reporting Analyst:



Analyzed by: MT 10/18/1/9

Reviewed by: KB

Report Sent by: FL

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

Client Name:	McMaster University Medical Centre (MUMC)	Project Address:	1200 Main St W, Hamilton, Ontario
Portfolio/Building No:	Lab 4N36	Pinchin File:	200199.048
Submitted by:	Stephen Holmquist	Email:	sholmquist@pinchin.com
CC Results to:	Mike Maiorana	CC Email:	mmaiiorana@pinchin.com
Invoice to:	Account Payable	Invoice Email:	ap@pinchin.com
Date Submitted:	January 3 2018	Required by:	January 11 2018
# of Samples:	6	Priority:	5 Day Turnaround
Year of Building Construction (Mandatory Field):			
Do NOT Stop on Positive (Sample Numbers):			
Pinchin Group Company (Mandatory Field):	Pinchin		

To be Completed by Lab Personnel Only:

Lab Reference #:	<u>6182478</u>	Time:	24 hour clock
Received by:	<u>IAN O 4 2018 JO</u>	Date:	Month Day Year
Name(s) of Analyst(s):			

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	S001	A	Sink Undercoating - Lab 4N36 CH <u>MT 10/18/1/9</u> <u>J-106</u>
	S001	B	Sink Undercoating - Lab 4N36 Ng
	S001	C	Sink Undercoating - Lab 4N36 Ng
	S002	A	Flammable Gasket - Lab 4N36 CH <u>700%</u>
	S002	B	Flammable Gasket - Lab 4N36 Ng
	S002	C	Flammable Gasket - Lab 4N36 Ng



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	Hamilton Health Sciences, 1200 Main West, Hamilton, Ontario		
Project No.:	0217420.001		
Prepared For:	S. Holmquist / M. Maiorana		
Lab Reference No.:	b182855	Date Received:	January 12, 2018
Analyst(s):	T. Tran	Date Analyzed:	January 12, 2018
		# Samples submitted:	3
		# Phases analyzed:	3

Method of Analysis:

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

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

Provincial Jurisdiction	Regulatory Threshold	Provincial Jurisdiction	Regulatory Threshold
Ontario, British Columbia, Nova Scotia	0.5%	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.

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



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

Project Name: Hamilton Health Sciences, 1200 Main West, Hamilton, Ontario
Project No.: 0217420.001
Prepared For: S. Holmquist / M. Maiorana

Lab Reference No.: b182855
Date Analyzed: January 12, 2018

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S001A Plaster Wall - Level M2 Interstitial Space - Shaft 85 Exterior Wall	Homogeneous, beige, hard, cementitious, plaster base coat.	None Detected	Vermiculite 10-25% Other Non-Fibrous > 75%
S001B Plaster Wall - Level M3 Interstitial Space - Shaft 85 Exterior Wall - West Side	Homogeneous, beige, hard, cementitious, plaster base coat.	None Detected	Vermiculite 10-25% Other Non-Fibrous > 75%
S001C Plaster Wall - Level M2 Interstitial Space - Shaft 85 Exterior Wall - West Wall	Homogeneous, beige, hard, cementitious, plaster base coat.	Actinolite/Tremolite < 0.5%	Vermiculite 10-25% Other Non-Fibrous > 75%

Reviewed by:

Reporting Analyst:



RUSH!

Analyzed by: *At*
Reviewed by: *hb*
Report Sent by: *JK*

Instructions:

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

Client Name:	Hamilton Health Sciences	Project Address:	1200 Main West, Hamilton, Ontario
Portfolio/Building No:		Pinchin File:	217420.001
Submitted by:	Stephen Holmquist	Email:	sholmquist@pinchin.com
CC Results to:	Mike Maiorana	CC Email:	mmaiorana@pinchin.com
Invoice to:	Accounts Payable	Invoice Email:	ap@pinchin.com
Date Submitted:	January 12 2018	Required by:	January 12 2018
# of Samples:	3	Priority:	Rush Turnaround
Year of Building Construction (Mandatory Field):			
Do NOT Stop on Positive (Sample Numbers):			
Pinchin Group Company (Mandatory Field):	Pinchin		

To be Completed by Lab Personnel Only:

Lab Reference #:	<i>6182855</i>	Time:	24 hour clock
Received by:	<i>JAN 12 2018 JK</i>	Date:	Month Day Year
Name(s) of Analyst(s):	<i>JK</i>		<i>Jan 12 2018</i>

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	S001	A	Plaster Wall - Level M2 Interstitial Space - Shaft 85 Exterior Wall <i>ND</i>
	S001	B	Plaster Wall - Level M3 Interstitial Space - Shaft 85 Exterior Wall - West Side <i>ND</i>
	S001	C	Plaster Wall - Level M2 Interstitial Space - Shaft 85 Exterior Wall - West Wall <i>ACTR <0.5%</i>



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	Hamilton Health Sciences, Level 2 DI Rad Project, MUMC 1200 Main St West		
Project No.:	0217420.004		
Prepared For:	S. Holmquist / M. Maiorana		
	Date Received:	March 14, 2018	
Lab Reference No.:	b186202 Revised	Date Analyzed:	March 21, 2018
Analyst(s):	R. Dacey / K. Cockburn / N. Barinque		
	# Samples submitted:	12	
	# Phases analyzed:	16	

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: Hamilton Health Sciences, Level 2 DI Rad Project, MUMC
1200 Main St West

Project No.: 0217420.004

Prepared For: S. Holmquist / M. Maiorana

Lab Reference No.: b186202 Revised

Date Analyzed: March 21, 2018

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S001A Levelling Compound - Level 2 DI Rad Offices Room 2S54	2 Phases: a) Homogeneous, white, hard, cementitious material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, yellow, soft, sticky material.	None Detected	Non-Fibrous Material > 75%
Comments:	Cellulose and hair are present on the surface of this sample.		
S001B Levelling Compound - Level 2 DI Rad Offices Room 2S54	2 Phases: a) Homogeneous, white, hard, cementitious material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, yellow, soft, sticky material.	None Detected	Non-Fibrous Material > 75%
Comments:	Cellulose and hair are present on the surface of this sample.		
S001C Levelling Compound - Level 2 DI Rad Offices Room 2S54	2 Phases: a) Homogeneous, white, hard, cementitious material.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, yellow, soft, sticky material.	None Detected	Non-Fibrous Material > 75%
Comments:	Cellulose and hair are present on the surface of this sample.		
S002A Carpet Mastic - Level 2 DI Rad Offices Room 2S54	Homogeneous, yellow, soft, sticky material.	None Detected	Cellulose 10-25% Non-Fibrous Material > 75%



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: Hamilton Health Sciences, Level 2 DI Rad Project, MUMC
 1200 Main St West
Project No.: 0217420.004
Prepared For: S. Holmquist / M. Maiorana

Lab Reference No.: b186202 Revised
Date Analyzed: March 21, 2018

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S002B Carpet Mastic - Level 2 DI Rad Offices Room 2S54	Homogeneous, yellow, soft, sticky material.	None Detected	Cellulose 10-25% Non-Fibrous Material > 75%
S002C Carpet Mastic - Level 2 DI Rad Offices Room 2S54	Homogeneous, yellow, soft, sticky material.	None Detected	Cellulose 10-25% Non-Fibrous Material > 75%
S003A Levelling Compound - Level 2 DI Rad Offices Room 2S56	2 Phases: a) Non-homogeneous, black and grey, levelling compound with tar.	Chrysotile 0.5-5%	Tar and other non-fibrous > 75%
	b) Homogeneous, yellow, soft, sticky material.	None Detected	Non-Fibrous Material > 75%
Comments:	Cellulose is present on the surface of this sample.		
S003B Levelling Compound - Level 2 DI Rad Offices Room 2S56	2 Phases: a) Non-homogeneous, black and grey, levelling compound with tar.		Not Analyzed
	b) Homogeneous, yellow, soft, sticky material.	None Detected	Non-Fibrous Material > 75%
Comments:	Analysis of phase a) was stopped due to a previous positive result. Cellulose is present on the surface of this sample.		



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: Hamilton Health Sciences, Level 2 DI Rad Project, MUMC
 1200 Main St West
Project No.: 0217420.004
Prepared For: S. Holmquist / M. Maiorana

Lab Reference No.: b186202 Revised
Date Analyzed: March 21, 2018

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S003C Levelling Compound - Level 2 DI Rad Offices Room 2S56	4 Phases:		Not Analyzed
	a) Non-homogeneous, black and grey, levelling compound with tar.	None Detected	Non-Fibrous Material > 75%
	b) Homogeneous, yellow, soft, sticky material.	None Detected	Non-Fibrous Material > 75%
	c) Homogeneous, grey, levelling compound.	None Detected	Non-Fibrous Material > 75%
	d) Homogeneous, orange, soft, sticky material.	None Detected	Non-Fibrous Material > 75%
Comments:	Analysis of phase a) was stopped due to a previous positive result. Cellulose and synthetic fibres are present on the surface of this sample.		
S004A Black Sink Undercoating - Level 2 DI Rad Offices Room 2S54	Homogeneous, black, soft, sticky material.	Chrysotile 5-10%	Tar and other non-fibrous > 75%
S004B Black Sink Undercoating - Level 2 DI Rad Offices Room 2S54			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		



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

Project Name: Hamilton Health Sciences, Level 2 DI Rad Project, MUMC
1200 Main St West
Project No.: 0217420.004
Prepared For: S. Holmquist / M. Maiorana
Lab Reference No.: b186202 Revised
Date Analyzed: March 21, 2018

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S004C Black Sink Undercoating - Level 2 DI Rad Offices Room 2S54			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		

Reviewed by:

Reporting Analyst:



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name:	HHS, MUMC 3G Courtyard Project, 1200 Main Street West Hamilton		
Project No.:	200249.042		
Prepared For:	F. Rossi / M. Maiorana	Date Received:	April 19, 2018
Lab Reference No.:	b187904	Date Analyzed:	April 20, 2018
Analyst(s):	C. Luong	# Samples submitted:	3
		# Phases analyzed:	24

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.

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



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: HHS, MUMC 3G Courtyard Project, 1200 Main Street West Hamilton
Project No.: 200249.042
Prepared For: F. Rossi / M. Maiorana

Lab Reference No.: b187904
Date Analyzed: April 20, 2018

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0007A east side roof edge	8 Phases:		
	a) Homogeneous, black, layered, tar material on paper.	None Detected	Tar and other non-fibrous > 75%
	b) Homogeneous, black, tar impregnated, compressed fibrous material on paper.	None Detected	Cellulose 25-50% Tar and other non-fibrous 50-75%
	c) Homogeneous, beige, layered paper.	None Detected	Cellulose > 75% Tar and other non-fibrous 0.5-5%
	d) Non-homogeneous, brown and black, layered paper with tar.	None Detected	Cellulose > 75% Tar and other non-fibrous 10-25%
	e) Homogeneous, black, layered, shiny, tar material.	None Detected	Tar and other non-fibrous > 75%
	f) Homogeneous, black, layered, tar impregnated, compressed fibrous material.	None Detected	Cellulose 50-75% Hair < 0.5% Synthetic Fibres < 0.5% Tar and other non-fibrous 25-50%
	g) Homogeneous, black, layered, soft, sticky, tar material.	None Detected	Tar and other non-fibrous > 75%
	h) Homogeneous, black, layered, tar impregnated, compressed fibrous material.	None Detected	Synthetic Fibres 25-50% Tar and other non-fibrous 50-75%
Comments:	Foam is present on the surface of this sample.		



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: HHS, MUMC 3G Courtyard Project, 1200 Main Street West Hamilton
Project No.: 200249.042
Prepared For: F. Rossi / M. Maiorana

Lab Reference No.: b187904
Date Analyzed: April 20, 2018

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0007B middle of roof edge	8 Phases:		
	a) Homogeneous, black, layered, tar material on paper.	None Detected	Tar and other non-fibrous > 75%
	b) Homogeneous, black, tar impregnated, compressed fibrous material on paper.	None Detected	Cellulose 25-50% Tar and other non-fibrous 50-75%
	c) Homogeneous, beige, layered paper.	None Detected	Cellulose > 75% Tar and other non-fibrous 0.5-5%
	d) Non-homogeneous, brown and black, layered paper with tar.	None Detected	Cellulose > 75% Tar and other non-fibrous 10-25%
	e) Homogeneous, black, layered, shiny, tar material.	None Detected	Tar and other non-fibrous > 75%
	f) Homogeneous, black, layered, tar impregnated, compressed fibrous material.	None Detected	Cellulose 50-75% Hair < 0.5% Synthetic Fibres < 0.5% Tar and other non-fibrous 25-50%
	g) Homogeneous, black, layered, soft, sticky, tar material.	None Detected	Tar and other non-fibrous > 75%
	h) Homogeneous, black, tar impregnated, compressed fibrous material.	None Detected	Synthetic Fibres 25-50% Tar and other non-fibrous 50-75%
Comments:	Foam is present on the surface of this sample.		



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Project Name: HHS, MUMC 3G Courtyard Project, 1200 Main Street West Hamilton
Project No.: 200249.042
Prepared For: F. Rossi / M. Maiorana

Lab Reference No.: b187904
Date Analyzed: April 20, 2018

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0007C west side roof edge	8 Phases:		
	a) Homogeneous, black, layered, tar material on paper.	None Detected	Tar and other non-fibrous > 75%
	b) Homogeneous, black, tar impregnated, compressed fibrous material on paper.	None Detected	Cellulose 25-50% Tar and other non-fibrous 50-75%
	c) Homogeneous, brown and black, layered paper with tar.	None Detected	Cellulose > 75% Tar and other non-fibrous 10-25%
	d) Homogeneous, beige, layered paper.	None Detected	Cellulose > 75% Tar and other non-fibrous 0.5-5%
	e) Homogeneous, black, layered, shiny tar material.	None Detected	Tar and other non-fibrous > 75%
	f) Homogeneous, black, layered, tar impregnated, compressed fibrous material.	None Detected	Cellulose 50-75% Hair < 0.5% Synthetic Fibres < 0.5% Tar and other non-fibrous 25-50%
	g) Homogeneous, black, layered, soft, sticky, tar material.	None Detected	Tar and other non-fibrous > 75%
	h) Homogeneous, black, tar impregnated, compressed fibrous material.	None Detected	Synthetic Fibres 25-50% Tar and other non-fibrous 50-75%
Comments:	Foam is present on the surface of this sample.		

Reviewed by:

Reporting Analyst:



MEMBER OF
 Analyzed by: C.L. **PG**
 Reviewed by: hb
 Report Sent by: JR
 THE PINCHIN GROUP

Instructions: Please let us know if analysis will be delayed if samples need to be dried

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

Client Name:	HHS	Project Address:	1200 Main Street West Hamilton
Portfolio/Building No:	MUMC 3G Courtyard Project	Pinchin File:	200249.042
Submitted by:	Frank Rossi	Email:	frossi@pinchin.com
CC Results to:	Mike Maiorana	CC Email:	mmaiorana@pinchin.com
Invoice to:	Mike Maiorana	Invoice Email:	
Date Submitted:	April 18 2018	Required by:	April 19 2018
# of Samples:	3	Priority:	Rush Turnaround
Year of Building Construction (Mandatory Field):	1960		
Do NOT Stop on Positive (Sample Numbers):			
Pinchin Group Company (Mandatory Field):	Pinchin		

To be Completed by Lab Personnel Only:

Lab Reference #:	<u>B187904</u>	Time:	24 hour clock
Received by:	<u>JR</u>	Date:	Month Day Year
Name(s) of Analyst(s):	<u>C.L.</u>		<u>April 20 2018</u>

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	0007	A	east side roof edge a)ND b)ND c)ND d)ND e)ND f)ND g)ND h)ND
	0007	B	middle of roof edge a)ND b)ND c)ND d)ND e)ND f)ND g)ND h)ND
	0007	C	west side roof edge a)ND b)ND c)ND d)ND e)ND f)ND g)ND h)ND



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
6-875 Main St West
Suite 200
Hamilton, Ontario L8S 4P9

Attn: Stephen Holmquist
Michael Maiorana

Lab Order ID: 11812220
Analysis ID: 11812220_PLM
Date Received: 5/17/2018
Date Reported: 5/22/2018

Project: 217420.026, 1200 Main St W Hamilton, Hamilton Health Sciences, MUMC

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0001A	Drywall Joint Compound - Room 1T26	3% Chrysotile		97% Other	Tan, White Non Fibrous Heterogeneous
11812220PLM_1					Crushed
S0001B	Drywall Joint Compound - Room 1T26	Not Analyzed			
11812220PLM_2					
S0001C	Drywall Joint Compound - Room 1T26	Not Analyzed			
11812220PLM_3					
S0002A	Grey Caulking around door - Room 1T26	None Detected		100% Other	Gray Non Fibrous Homogeneous
11812220PLM_4					Ashed
S0002B	Grey Caulking around door - Room 1T26	None Detected		100% Other	Gray Non Fibrous Homogeneous
11812220PLM_5					Ashed
S0002C	Grey Caulking around door - Room 1T26	None Detected		100% Other	Gray Non Fibrous Homogeneous
11812220PLM_6					Ashed
S0003A	Drywall Joint Compound - Room 1T15	None Detected		100% Other	White Non Fibrous Homogeneous
11812220PLM_7					Crushed
S0003B	Drywall Joint Compound - Room 1T15	3% Chrysotile		97% Other	White Non Fibrous Homogeneous
11812220PLM_8					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 recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAL. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Bobby Wheatley (15)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
6-875 Main St West
Suite 200
Hamilton, Ontario L8S 4P9

Attn: Stephen Holmquist
Michael Maiorana

Lab Order ID: 11812220
Analysis ID: 11812220_PLM
Date Received: 5/17/2018
Date Reported: 5/22/2018

Project: 217420.026, 1200 Main St W Hamilton, Hamilton Health Sciences, MUMC

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S0003C	Drywall Joint Compound - Room 1T15	Not Analyzed			
11812220PLM_9					
S0004A - A	12x12 Vinyl Floor Tile Green with White - Room 1D33	None Detected		100% Other	Green Non Fibrous Homogeneous
11812220PLM_10	tile				Dissolved
S0004A - B	12x12 Vinyl Floor Tile Green with White - Room 1D33	None Detected		100% Other	Yellow Non Fibrous Homogeneous
11812220PLM_13	mastic				Dissolved
S0004B - A	12x12 Vinyl Floor Tile Green with White - Room 1D33	None Detected		100% Other	Green Non Fibrous Homogeneous
11812220PLM_11	tile				Dissolved
S0004B - B	12x12 Vinyl Floor Tile Green with White - Room 1D33	None Detected		100% Other	Yellow Non Fibrous Homogeneous
11812220PLM_14	mastic				Dissolved
S0004C - A	12x12 Vinyl Floor Tile Green with White - Room 1D33	None Detected		100% Other	Green Non Fibrous Homogeneous
11812220PLM_12	tile - ashed				Ashed
S0004C - B	12x12 Vinyl Floor Tile Green with White - Room 1D33	None Detected		100% Other	Yellow Non Fibrous Homogeneous
11812220PLM_15	mastic				Dissolved

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Bobby Wheatley (15)

Analyst

Approved Signatory

119/2220

Version 1-15-2012

Client:	Pinchin Ltd.	<p>*Instructions:</p> <p>Use Column "B" for your contact info</p> <p>To See an Example Click the bottom Example Tab.</p> <p>Enter samples between "<<" and ">>"</p> <p>Begin Samples with a "<<" above the first sample and end with a ">>" below the last sample. Only Enter your data on the first sheet "Sheet1"</p> <p>Note: Data 1 and Data 2 are optional fields that do not show up on the official report, however they will be included in the electronic data returned to you to facilitate your reintegration of the report data.</p>
Contact:	Stephen Holmquist 875 Main Street W., Unit 11	
Address:	Hamilton, ON L8S 4R9	
Phone:	905-577-6206	
Fax:	905-577-6207	
Email:	sholmquist@pinchin.com mmajorana@pinchin.com	
Project:	217420.026, 1200 Main St W Hamilton, Hamilton Health Sciences, MUMC	
Client Notes:		
P.O. #:	217420.026	
Date Submitted:	May 16, 2018	
Analysis:	PLM - Stop Positive	
TurnAroundTime:	4days	

Invoice to:
ap@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)
<<			
S0001A		Drywall Joint Compound - Room 1T26	
S0001B		Drywall Joint Compound - Room 1T26	
S0001C		Drywall Joint Compound - Room 1T26	
S0002A		Grey Caulking around door - Room 1T26	
S0002B		Grey Caulking around door - Room 1T26	
S0002C		Grey Caulking around door - Room 1T26	
S0003A		Drywall Joint Compound - Room 1T15	
S0003B		Drywall Joint Compound - Room 1T15	
S0003C		Drywall Joint Compound - Room 1T15	
S0004A		12x12 Vinyl Floor Tile Green with White - Room 1D33	
S0004B		12x12 Vinyl Floor Tile Green with White - Room 1D33	
S0004C		12x12 Vinyl Floor Tile Green with White - Room 1D33	
>>			

Accepted

Rejected

L. Howard 5/17 10:30AM



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
6-875 Main St West
Suite 200
Hamilton, Ontario L8S 4P9

Attn: Stephen Holmquist

Lab Order ID: 51825828
Analysis ID: 51825828_PLM
Date Received: 10/8/2018
Date Reported: 10/15/2018

Project: 217420.030 Ceiling Tile Samples Hamilton Health Sciences

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
2018-0001A	30x48 Ceiling tile with pinhole - Engineering Department Lobby	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_1					Ashed, Teased
2018-0001B	30x48 Ceiling tile with pinhole - Corridor at 1F11 and 1F12	None Detected	50% Cellulose 30% Fiber Glass	20% Other	White, Gray Fibrous Homogeneous
51825828PLM_2					Ashed, Teased
2018-0001C	30x48 Ceiling tile with pinhole - Corridor at 1K1D and 1T1B	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_3					Ashed, Teased
2018-0002A	30x48 Ceiling tile with pinhole - Pediatric Clinic 1S-1	None Detected	50% Cellulose 30% Fiber Glass	20% Other	White, Gray Fibrous Homogeneous
51825828PLM_4					Ashed, Teased
2018-0002B	30x48 Ceiling tile with pinhole - Near Café and 1KW5	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_5					Ashed, Teased
2018-0002C	30x48 Ceiling tile with pinhole - Corridor at 1R18	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_6					Ashed, Teased
2018-0003A	30x48 Ceiling tile with pinhole - Corridor near 1P24	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_7					Ashed, Teased
2018-0003B	30x48 Ceiling tile with pinhole - Open Office at 1P11	None Detected	50% Cellulose 30% Fiber Glass	20% Other	White, Gray Fibrous Homogeneous
51825828PLM_8					Ashed, Teased

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAL. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Bethany Nichols (36)
Charmel Dozier (15)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
6-875 Main St West
Suite 200
Hamilton, Ontario L8S 4P9

Attn: Stephen Holmquist

Lab Order ID: 51825828
Analysis ID: 51825828_PLM
Date Received: 10/8/2018
Date Reported: 10/15/2018

Project: 217420.030 Ceiling Tile Samples Hamilton Health Sciences

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
2018-0003C	30x48 Ceiling tile with pinhole - Corridor near shaft 78	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_9					Ashed, Teased
2018-0004A	30x48 Ceiling tile with pinhole - Mens washroom 1KW2	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_10					Ashed, Teased
2018-0004B	30x48 Ceiling tile with pinhole - Conference Room 1J9	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_11					Ashed, Teased
2018-0004C	30x48 Ceiling tile with pinhole - Corridor West of Williams	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_12					Ashed, Teased
2018-0005A	30x48 Ceiling tile with pinhole - Corridor near bridge and Shaft 85 open to below	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_13					Ashed, Teased
2018-0005B	30x48 Ceiling tile with pinhole - School of Nursing near reception	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_14					Ashed, Teased
2018-0005C	30x48 Ceiling tile with pinhole - Near Shaft 65	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_15					Ashed, Teased
2018-0006A	30x48 Ceiling tile with pinhole - Corridor at 2N35A	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_16					Ashed, Teased

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Bethany Nichols (36)
Charmel Dozier (15)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
6-875 Main St West
Suite 200
Hamilton, Ontario L8S 4P9

Attn: Stephen Holmquist

Lab Order ID: 51825828
Analysis ID: 51825828_PLM
Date Received: 10/8/2018
Date Reported: 10/15/2018

Project: 217420.030 Ceiling Tile Samples Hamilton Health Sciences

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
2018-0006B	30x48 Ceiling tile with pinhole - Corridor near 2N20 and bridge to MDCL	None Detected	50% Cellulose 30% Fiber Glass	20% Other	White, Gray Fibrous Homogeneous
51825828PLM_17					Ashed, Teased
2018-0006C	30x48 Ceiling tile with pinhole - Corridor 2V1	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_18					Ashed, Teased
2018-0007A	30x48 Ceiling tile with pinhole - Corridor near 2N38	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_19					Ashed, Teased
2018-0007B	30x48 Ceiling tile with pinhole - Corridor near 2S13	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_20					Ashed, Teased
2018-0007C	30x48 Ceiling tile with pinhole - Corridor near Shaft 37	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_21					Ashed, Teased
2018-0008A	30x48 Ceiling tile with pinhole - Corridor near 2S82	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_22					Ashed, Teased
2018-0008B	30x48 Ceiling tile with pinhole - Corridor near 2S39	None Detected	50% Fiber Glass 30% Cellulose	20% Other	White, Gray Fibrous Homogeneous
51825828PLM_23					Ashed, Teased
2018-0008C	30x48 Ceiling tile with pinhole - Admin near 2F55	None Detected	50% Fiber Glass 30% Cellulose	20% Other	White, Gray Fibrous Homogeneous
51825828PLM_24					Ashed, Teased

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Bethany Nichols (36)
Charmel Dozier (15)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
 6-875 Main St West
 Suite 200
 Hamilton, Ontario L8S 4P9

Attn: Stephen Holmquist

Lab Order ID: 51825828
Analysis ID: 51825828_PLM
Date Received: 10/8/2018
Date Reported: 10/15/2018

Project: 217420.030 Ceiling Tile Samples Hamilton Health Sciences

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
2018-0009A	30x48 Ceiling tile with pinhole - Corridor at 3D16	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_25					Ashed, Teased
2018-0009B	30x48 Ceiling tile with pinhole - Meeting room 3E26	None Detected	40% Cellulose 40% Fiber Glass	10% Perlite 10% Other	White, Gray Fibrous Homogeneous
51825828PLM_26					Ashed, Teased
2018-0009C	30x48 Ceiling tile with pinhole - Corridor at 3ZJ1	None Detected	50% Fiber Glass 30% Cellulose	20% Other	White, Gray Fibrous Homogeneous
51825828PLM_27					Ashed, Teased
2018-0010A	30x48 Ceiling tile with pinhole - At 3V1	None Detected	50% Fiber Glass 30% Cellulose	20% Other	White, Gray Fibrous Homogeneous
51825828PLM_28					Ashed, Teased
2018-0010B	30x48 Ceiling tile with pinhole - At 3V2	None Detected	50% Fiber Glass 30% Cellulose	20% Other	White, Gray Fibrous Homogeneous
51825828PLM_29					Ashed, Teased
2018-0010C	30x48 Ceiling tile with pinhole - Corridor at Stair 79	None Detected	50% Fiber Glass 30% Cellulose	20% Other	White, Gray Fibrous Homogeneous
51825828PLM_30					Ashed, Teased
2018-0011A	30x48 Ceiling tile with pinhole - Corridor at 3N26	None Detected	50% Fiber Glass 30% Cellulose	20% Other	White, Gray Fibrous Homogeneous
51825828PLM_31					Ashed, Teased
2018-0011B	30x48 Ceiling tile with pinhole - Near 3H31A	None Detected	50% Fiber Glass 30% Cellulose	20% Other	White, Gray Fibrous Homogeneous
51825828PLM_32					Ashed, Teased

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App.E



Customer: Pinchin Ltd.
6-875 Main St West
Suite 200
Hamilton, Ontario L8S 4P9

Attn: Stephen Holmquist

Lab Order ID: 51825828
Analysis ID: 51825828_PLM
Date Received: 10/8/2018
Date Reported: 10/15/2018

Project: 217420.030 Ceiling Tile Samples Hamilton Health Sciences

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
2018-0011C	30x48 Ceiling tile with pinhole - Corridor between 3H43 and 3H35	None Detected	50% Fiber Glass 30% Cellulose	20% Other	White, Gray Fibrous Homogeneous
51825828PLM_33					Ashed, Teased
2018-0012A	30x48 Ceiling tile with pinhole - Corridor near 3A1	None Detected	50% Fiber Glass 30% Cellulose	20% Other	White, Gray Fibrous Homogeneous
51825828PLM_34					Ashed, Teased
2018-0012B	30x48 Ceiling tile with pinhole - Corridor at 3N43	None Detected	50% Fiber Glass 30% Cellulose	20% Other	White, Gray Fibrous Homogeneous
51825828PLM_35					Ashed, Teased
2018-0012C	30x48 Ceiling tile with pinhole - 3V51 Open	None Detected	50% Fiber Glass 30% Cellulose	20% Other	White, Gray Fibrous Homogeneous
51825828PLM_36					Ashed, Teased
2018-0013A	30x48 Ceiling tile with pinhole - Corridor at 4D8	None Detected	60% Mineral Wool 20% Cellulose	20% Other	Tan Fibrous Homogeneous
51825828PLM_37					Teased
2018-0013B	30x48 Ceiling tile with pinhole - At 4D4	None Detected	60% Mineral Wool 20% Cellulose	20% Other	Tan Fibrous Homogeneous
51825828PLM_38					Teased
2018-0013C	30x48 Ceiling tile with pinhole - At 4E1-8	None Detected	60% Mineral Wool 20% Cellulose	20% Other	Tan Fibrous Homogeneous
51825828PLM_39					Teased
2018-0014A	30x48 Ceiling tile with pinhole - Corridor near 4X2	None Detected	60% Mineral Wool 20% Cellulose	20% Other	Tan Fibrous Homogeneous
51825828PLM_40					Teased

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Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E,
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Customer: Pinchin Ltd.
6-875 Main St West
Suite 200
Hamilton, Ontario L8S 4P9

Attn: Stephen Holmquist

Lab Order ID: 51825828
Analysis ID: 51825828_PLM
Date Received: 10/8/2018
Date Reported: 10/15/2018

Project: 217420.030 Ceiling Tile Samples Hamilton Health Sciences

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
2018-0014B	30x48 Ceiling tile with pinhole - Near 4V1	None Detected	60% Mineral Wool 20% Cellulose	20% Other	Tan Fibrous Homogeneous
51825828PLM_41					Teased
2018-0014C	30x48 Ceiling tile with pinhole - Corrdior at 4G44	None Detected	60% Mineral Wool 20% Cellulose	20% Other	Tan Fibrous Homogeneous
51825828PLM_42					Teased
2018-0015A	30x48 Ceiling tile with pinhole - Corridor at 4N18	None Detected	60% Mineral Wool 20% Cellulose	20% Other	Tan Fibrous Homogeneous
51825828PLM_43					Teased
2018-0015B	30x48 Ceiling tile with pinhole - Corrdior at 4N72	None Detected	60% Mineral Wool 20% Cellulose	20% Other	Tan Fibrous Homogeneous
51825828PLM_44					Teased
2018-0015C	30x48 Ceiling tile with pinhole - Corridor at 4H31C	None Detected	60% Mineral Wool 20% Cellulose	20% Other	Tan Fibrous Homogeneous
51825828PLM_45					Teased
2018-0016A	30x48 Ceiling tile with pinhole - Office Corrdior at 4H44	None Detected	60% Mineral Wool 20% Cellulose	20% Other	Tan Fibrous Homogeneous
51825828PLM_46					Teased
2018-0016B	30x48 Ceiling tile with pinhole - Corrdior at 4H13	None Detected	60% Mineral Wool 20% Cellulose	20% Other	Tan Fibrous Homogeneous
51825828PLM_47					Teased
2018-0016C	30x48 Ceiling tile with pinhole - Corridor at 4G18	None Detected	60% Mineral Wool 20% Cellulose	20% Other	Tan Fibrous Homogeneous
51825828PLM_48					Teased

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Bethany Nichols (36)
Charmel Dozier (15)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



Customer: Pinchin Ltd.
6-875 Main St West
Suite 200
Hamilton, Ontario L8S 4P9

Attn: Stephen Holmquist

Project: 217420.030 Ceiling Tile Samples Hamilton Health Sciences

Lab Order ID: 51825828
Analysis ID: 51825828_PLM
Date Received: 10/8/2018
Date Reported: 10/15/2018

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
2018-0017A	Texture on drywall - Corridor from Elevator 22 to morgue hall	None Detected		100% Other	White Non Fibrous Homogeneous
51825828PLM_49					Crushed
2018-0017B	Texture on drywall - Corridor from Elevator 22 to morgue hall	2% Chrysotile		98% Other	White Non Fibrous Homogeneous
51825828PLM_50					Crushed
2018-0017C	Texture on drywall - Corridor from Elevator 22 to morgue hall	Not Analyzed			
51825828PLM_51					

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Bethany Nichols (36)
Charmel Dozier (15)

Analyst

Approved Signatory

51825828

Version 1-15-2012

Client: Pinchin Ltd. Contact: Stephen Holmquist Address: 6-875 Main St W Hamilton, ON Phone: 905.577.6206 Fax: 905.577.6207 Email: sholmquist@pinchin.com	Project: 217420.030 Ceiling Tile Samples Client Notes: Hamilton Health Sciences	*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: Accounts Payable ap@Pinchin.com
			P.O. #: 217420.030. Date Submitted: Oct 4 2018 Analysis: PLM analysis - Stop Positive TurnAroundTime: 6 Days

Sample Number	Data 1 (Lab use only)	Sample Description	Data 2 (Lab use only)
---------------	-----------------------	--------------------	-----------------------

<<			
2018-0001A		30x48 Ceiling tile with pinhole - Engineering Department Lobby	
2018-0001B		30x48 Ceiling tile with pinhole - Corridor at 1F11 and 1F12	
2018-0001C		30x48 Ceiling tile with pinhole - Corridor at 1K1D and 1T1B	
2018-0002A		30x48 Ceiling tile with pinhole - Pediatric Clinic 1S-1	
2018-0002B		30x48 Ceiling tile with pinhole - Near Café and 1KW5	
2018-0002C		30x48 Ceiling tile with pinhole - Corridor at 1R18	
2018-0003A		30x48 Ceiling tile with pinhole - Corridor near 1P24	
2018-0003B		30x48 Ceiling tile with pinhole - Open Office at 1P11	
2018-0003C		30x48 Ceiling tile with pinhole - Corridor near shaft 78	
2018-0004A		30x48 Ceiling tile with pinhole - Mens washroom 1KW2	
2018-0004B		30x48 Ceiling tile with pinhole - Conference Room 1J9	
2018-0004C		30x48 Ceiling tile with pinhole - Corridor West of Williams	
2018-0005A		30x48 Ceiling tile with pinhole - Corridor near bridge and Shaft 85 open to below	
2018-0005B		30x48 Ceiling tile with pinhole - School of Nursing near reception	
2018-0005C		30x48 Ceiling tile with pinhole - Near Shaft 65	
2018-0006A		30x48 Ceiling tile with pinhole - Corridor at 2N35A	

Accepted

Rejected

W. S. ...
 10/8 10:30 AM

2018-0006B	30x48 Ceiling tile with pinhole - Corridor near 2N20 and bridge to MDCL
2018-0006C	30x48 Ceiling tile with pinhole - Corridor 2V1
2018-0007A	30x48 Ceiling tile with pinhole - Corridor near 2N38
2018-0007B	30x48 Ceiling tile with pinhole - Corridor near 2S13
2018-0007C	30x48 Ceiling tile with pinhole - Corridor near Shaft 37
2018-0008A	30x48 Ceiling tile with pinhole - Corridor near 2S82
2018-0008B	30x48 Ceiling tile with pinhole - Corridor near 2S39
2018-0008C	30x48 Ceiling tile with pinhole - Admin near 2F55
2018-0009A	30x48 Ceiling tile with pinhole - Corridor at 3D16
2018-0009B	30x48 Ceiling tile with pinhole - Meeting room 3E26
2018-0009C	30x48 Ceiling tile with pinhole - Corrdior at 3ZJ1
2018-0010A	30x48 Ceiling tile with pinhole - At 3V1
2018-0010B	30x48 Ceiling tile with pinhole - At 3V2
2018-0010C	30x48 Ceiling tile with pinhole - Corrdior at Stair 79
2018-0011A	30x48 Ceiling tile with pinhole - Corridor at 3N26
2018-0011B	30x48 Ceiling tile with pinhole - Near 3H31A
2018-0011C	30x48 Ceiling tile with pinhole - Corridor between 3H43 and 3H35
2018-0012A	30x48 Ceiling tile with pinhole - Corridor near 3A1
2018-0012B	30x48 Ceiling tile with pinhole - Corridor at 3N43
2018-0012C	30x48 Ceiling tile with pinhole - 3V51 Open
2018-0013A	30x48 Ceiling tile with pinhole - Corrdior at 4D8
2018-0013B	30x48 Ceiling tile with pinhole - At 4D4
2018-0013C	30x48 Ceiling tile with pinhole - At 4E1-8
2018-0014A	30x48 Ceiling tile with pinhole - Corrdior near 4X2
2018-0014B	30x48 Ceiling tile with pinhole - Near 4V1
2018-0014C	30x48 Ceiling tile with pinhole - Corrdior at 4G44
2018-0015A	30x48 Ceiling tile with pinhole - Corridor at 4N18
2018-0015B	30x48 Ceiling tile with pinhole - Corrdior at 4N72
2018-0015C	30x48 Ceiling tile with pinhole - Corridor at 4H31C
2018-0016A	30x48 Ceiling tile with pinhole - Office Corrdior at 4H44
2018-0016B	30x48 Ceiling tile with pinhole - Corrdior at 4H13
2018-0016C	30x48 Ceiling tile with pinhole - Corridor at 4G18
2018-0017A	Texture on drywall - Corridor from Elevator 22 to morgue hall
2018-0017B	Texture on drywall - Corridor from Elevator 22 to morgue hall
2018-0017C	Texture on drywall - Corridor from Elevator 22 to morgue hall

APPENDIX III
Data Tables



DATA TABLES OF ASBESTOS LOCATIONS McMASTER UNIVERSITY MEDICAL CENTRE (MUMC)

MM Level

Material	Locations	Approximate Quantity	ACM
Tar insulation	Chilled water, domestic water lines	Throughout	Chrysotile
Parging cement	Majority of pipe fittings	Throughout	Chrysotile
Parging cement	Chilled water holding tanks (purple)	200 SF	Chrysotile
Drywall joint compound	Quadrant dividing walls, storage rooms, corridors and miscellaneous	100%	Chrysotile
Vinyl floor tiles (12" x 12" beige with flecks)	Computer Room	500 SF	Chrysotile

Interstitial Levels 1M – 4M

Material	Locations	Approximate Quantity	ACM
Sprayed fireproofing	All encased throughout, except below metal decking	All	Chrysotile
Parging cement	Majority of pipe fittings	Throughout	Chrysotile
Preformed block and parging cement insulation	Exhaust ducts	Throughout	Chrysotile
Brown duct mastic	Majority of ducts	Throughout	Chrysotile
Black tar	Majority of pipe fittings and straights	Throughout	Chrysotile
Drywall joint compound	Partition and shaft walls	Throughout	Chrysotile



Level 5M

Material	Locations	Approximate Quantity	ACM
Parging cement	Majority of pipe fittings	Throughout	Chrysotile
Sprayed fireproofing	Throughout, un-encased, debris present on all surfaces	All	Chrysotile

Penthouse, Level 6

Material	Locations	Approximate Quantity	ACM
Sprayed fireproofing	Throughout, most areas encased	All	Chrysotile
Parging cement	Majority of pipe fittings	Throughout	Chrysotile
Preformed block and parging cement insulation	Exhaust ducts, breeching on diesel generators (excluding Unit #8)	Throughout	Chrysotile
Transite panels	Within unabated air handling units, Tower 74 & 76 Exhausts	500 SF	Presumed

Mechanical Shafts

Material	Locations	Approximate Quantity	ACM
Sprayed fireproofing	Shaft 26 (Level 1 only), Shafts 36, 43, 45, 48, 56, 63 & 68	Throughout	Chrysotile
	Remainder of shafts	Above 4M throughout	Chrysotile
	Interface with interstitial spaces where beams exit the interstitial spaces	Varies	Chrysotile

**Data Tables of ACM Locations**

McMaster University Medical Centre (MUMC), 1200 Main Street West, Hamilton, Ontario
Hamilton Health Sciences

January 14, 2019
Pinchin File: 217420.030
Appendix III

Material	Locations	Approximate Quantity	ACM
Residual sprayed fireproofing	Shafts 33, 34, 35, 37, 38, 44, 46, 47, 53, 54, 55, 57, 58, 64, 67, 73, 74, 75, 76, 77, & 78	Throughout	Chrysotile
Parging cement	Majority of pipe fittings	Throughout	Chrysotile
Preformed block and parging cement insulation	Exhaust ducts	Throughout	Chrysotile
White firestopping	Present at wall penetrations	Throughout	Chrysotile
Drywall joint compound	All walls	Throughout	Chrysotile

Glass Shafts

Material	Locations	Approximate Quantity	ACM
Sprayed fireproofing	Levels 5, 5M and 6 of Shafts 44, 47, 74 & 77	Throughout	Chrysotile
Exceptions	Above Level 6 is bare steel		None
Parging cement	Roof drains and miscellaneous fittings	Throughout	Chrysotile
Cementitious hard coat (non-asbestos) over asbestos-containing sprayed fireproofing base coat	All glass shafts	Throughout	Chrysotile (base coat only)

Perimeter Stairwells

Material	Locations	Approximate Quantity	ACM
Parging cement	Roof drains and miscellaneous fittings	Throughout	Chrysotile

**Data Tables of ACM Locations**McMaster University Medical Centre (MUMC), 1200 Main Street West, Hamilton, Ontario
Hamilton Health Sciences

January 14, 2019

Pinchin File: 217420.030

Appendix III

Material	Locations	Approximate Quantity	ACM
Drywall joint compound	All walls	Throughout	Chrysotile
12" x 12" vinyl floor tiles	Dark brown with brown fleck	Throughout	Chrysotile
Cementitious hard coat (non-asbestos) over asbestos-containing sprayed fireproofing base coat	All	Throughout	Chrysotile (base coat only)

Parking Garages/Mechanical Rooms

Material	Locations	Approximate Quantity	ACM
Texture finish	Blue area corridor to Elevator 22, adjacent to King Street Exit Yellow area, south east corner on bulkhead	1,000 SF 1,500 SF	Chrysotile Chrysotile
Parging cement	Hearse loading area Mechanical rooms Near Yellow Elevator Suspected along north wall (jacketed with metal).	75 EA	Chrysotile

Building Exterior

Material	Locations	Approximate Quantity	ACM
Drywall joint compound	Level 5 Soffits	All	Chrysotile
Grey caulking	Expansion joints	Throughout	Chrysotile

Levels 1-4

Material	Locations	Approximate Quantity	ACM
Vinyl floor tiles	<p>Throughout, refer to drawings. Patterns/colour are as follows:</p> <ul style="list-style-type: none"> • Green with white flecks (as in Rooms 2N39, 3D1, sample 46653.004 013A) • Red with white flecks (as in Rooms 1H1, 4N53, sample 46653.004 015A) • White with brown flecks (as in Rooms 1A1, 3U24, sample 46653.004 S017A) • Black (as in Room 1A1B, sample 46653.004 S019A) • Beige with brown lines (as in Rooms 1D37, 3UW1, sample 46653.004 S020A) • Grey with white lines (as in Rooms 1J1, 1R17, sample 46653.004 S022a) • Light grey (as in Rooms 1D19, 1CC2) • Red with black flecks (as in Rooms 1RC3, 4HC6) • Yellow (as in Rooms 1V1, 1V2) • Dark grey with black fleck (as in Rooms 1PC9, 2N38) • Dark brown with brown flecks (as in Rooms 2EW4, 3U5) 	Throughout	Chrysotile

Material	Locations	Approximate Quantity	ACM
	<ul style="list-style-type: none"> • Brown with white flecks (as in Rooms 2E16, 2C12) • Grey/green with brown flecks (as in Rooms 2J26, 4V24) • Beige with white/brown lines (as in Rooms 2N32, 3H44) • Yellow with white fleck (as in Rooms 2N33, 3Z1) • Orange (as in Rooms 2Q30, 3U31) • Pink (as in Room 2S71A) • White (as in fourth floor corridors in 4N) • Red (as in fourth floor corridors in 4H) 		
Mastic for vinyl floor tiles	Main Corridor-Purple, Rooms 1H5, 1A18, 1A2, 1J5, 1RC3, 1PC1, 2N33 and Corridor adjacent to Room 4N22	Presumed throughout	Chrysotile
Vinyl sheet flooring	Throughout, refer to drawings. Patterns/colour are as follows: <ul style="list-style-type: none"> • Beige squares (as in Rooms 1H2, 1A18, sample 46653.004 016A) • White/grey/green square (as in Rooms 2T7, 2TW4) • Brown with white squares (as in Rooms 2SC9, 3U10, 4N7) • Dark green/white squares (as in Rooms 3X16, 3X18) 	Throughout	Chrysotile



Data Tables of ACM Locations

McMaster University Medical Centre (MUMC), 1200 Main Street West, Hamilton, Ontario
Hamilton Health Sciences

January 14, 2019
Pinchin File: 217420.030
Appendix III

Material	Locations	Approximate Quantity	ACM
	<ul style="list-style-type: none"> • Red with green square (as in Rooms 4B30, 4Z32) • Grey squares (as in Rooms 4Z1, 4XC1) • Beige and brown squares (as in Freezer 4N75) 		
Levelling compound	Below linoleum sheet flooring in Room 3G52, Room 2S56, and the Cafeteria, suspected present throughout	Throughout	Chrysotile
Acoustic ceiling tiles	Large and small pinhole pattern present throughout, refer to drawings	Throughout	Amosite & Chrysotile
Drywall joint compound	Walls and ceilings, refer to drawings	Throughout	Chrysotile
Transite	Fume hoods, lab cabinets and fume hood exhausts	Laboratories throughout	Amphibole
Transite	Components within electrical breakers	120 breakers	Amphibole
Parging cement, firestopping	Majority of laboratories at sink penetrations	Laboratories throughout	Chrysotile
Bakelite	At random in laboratories	Laboratories throughout	Amphibole
Black or gold mastic sink undercoating	Majority of laboratory sinks	Laboratories throughout	Chrysotile
Textile gaskets	Perimeter of doors on flammable cabinets in Laboratories throughout	Laboratories throughout	Chrysotile
Parging cement	Presumed present within radiators and laboratory sinks where not labelled as non-asbestos	Throughout	Chrysotile



Data Tables of ACM Locations

McMaster University Medical Centre (MUMC), 1200 Main Street West, Hamilton, Ontario
Hamilton Health Sciences

January 14, 2019
Pinchin File: 217420.030
Appendix III

Material	Locations	Approximate Quantity	ACM
Paper heat shields	Incandescent light fixtures	Throughout	Chrysotile

J:\217000s\0217420.000 HAMILTONHEALT,Various2018Pr,ASB,CONS\0217420.030 HAMHEALT,2018AsbReassess,VarSit,ASB,CONS\Deliverables\MUMC\Appendix III
Data Tables\217420.030 HHS MUMC ACM Data Tables WC.docx

Template: Master Photo Appendix, HazMat, July 21, 2017

APPENDIX IV
ECOH Bulk Sampling Report
(Not provided for this site)

APPENDIX V
Methodology

1.0 METHODOLOGY

Pinchin inspects the current condition of all accessible asbestos-containing materials (ACM) identified in the most recent assessments. The review of the interstitial spaces at MUMC will be very limited and will not include all areas. The surveyor makes reference to any existing assessment reports and information provided by the Client regarding any newly identified ACM.

The re-assessments exclude 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.).

As per the original or previous assessments, concealed locations such as ceiling spaces above solid ceilings, shafts and chases are accessed via existing access panels. Our investigation does not include demolition of drywall or plaster walls to view concealed conditions. Structural items or exterior building finishes are not removed to determine the presence of concealed materials.

Existing sampling data is relied upon. The location of any additional asbestos bulk samples that are required to be collected is recorded on small scale plans. The number of asbestos bulk samples obtained, when sampling is required, is in compliance with the requirements of Table 1 of O.Reg. 278/05.

2.0 INFECTION CONTROL

Pinchin will follow the facility's infection control policy and procedures while performing the assessments.

The Client should communicate this proposal and the scope of the assessments to the facility's Infection Control Department and the JHSC for their review so that they are aware that the procedures for infection control during assessments will be met.

Construction of polyethylene enclosures to access ceiling spaces, and the cost for these, if required, is not included.

3.0 ANALYSIS AND IDENTIFICATION OF ASBESTOS MATERIALS

Pinchin relies on the analytical results of prior surveys. Asbestos bulk samples (if required) will be analyzed at an independent NVLAP accredited laboratory. Preliminary identification of asbestos fibres will be made using polarized light microscopy, with confirmation of the presence and type of asbestos made by dispersion staining optical microscopy. The analysis will be performed in accordance with Test Method EPA/600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials, June 1993. All independent laboratories used by Pinchin, including our laboratory, are certified under the National Voluntary Laboratory Accreditation Program (NVLAP) to perform asbestos analysis of bulk samples.

In Ontario an ACM is defined as materials containing 0.5% or more asbestos by weight.

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, this means that either no asbestos was detected by the analytical method utilized in any of the multiple samples or, if detected, it is below the lower limit of an asbestos-containing material in the applicable regulation.

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

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

Master Template: Methodology Document for Asbestos Re-Assessment, HAZ, July 21, 2017