



March 18, 2023

Sir Sandford Fleming College
599 Brealey Drive
Peterborough, ON
K9J 7B1

Attn: Rick Teasdale
Manager of Facilities and Operations

RE: Asbestos Air Clearance in Area next to Room C1 420.1 - THEM Project #18219
Sir Sandford Fleming College, Peterborough Campus
Type 2 – Drywall Removal

1.0 INTRODUCTION AND BACKGROUND

T. Harris Environmental Management Inc. (THEM) was commissioned by Sir Sandford Fleming College to conduct an asbestos air monitoring services during the Type 2 asbestos abatement activities conducted within the area next to Room C1 410.1 at 599 Brealey Drive in Peterborough, Ontario, for the removal of an asbestos containing joint compound and associated drywall. Personnel from THEM attended the above noted location to perform clearance air sampling. Abatement work was performed by A&O Contracting Inc. The abatement work and air clearance testing were conducted on the evening of March 18, 2023.

Air clearance testing is not required for Type 2 asbestos abatement projects, as per Ontario Regulation 278/05, Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations – made under the Occupational Health and Safety Act. However, air sampling was completed as a precautionary measure to ensure adequate containment and cleaning following the Type 2 abatement. A total of one (1) air samples and one (1) blank air was collected inside the project affected area.

2.0 BACKGROUND OF ASBESTOS

Asbestos is a general name for several varieties of highly fibrous silicate minerals. Commercially significant types include *Chrysotile*, *Amosite* and *Crocidolite*. The fibres are valued for their heat- and chemical-resistant properties. The combination of fibrous structures, low heat conductivity, high electrical resistance, chemical inertness, strength, flexibility and its effectiveness as a reinforcing or binding agent when combined with cement or plastic, made it popular for wide industrial use.



3.0 ONTARIO REGULATIONS FOR ASBESTOS IN BUILDING MATERIALS

Asbestos is a Designated Substance and, as such, exposure to airborne asbestos is regulated by Ontario Regulation 278/05 – *Asbestos on Construction Projects and in Buildings and Repair Operations* and, Ontario Regulation 490/09 – *Designated Substances* – both made under the Occupational Health and Safety Act.

Waste management of materials that contain asbestos is regulated by Ontario Regulation 347/90 as amended, made under the Environmental Protection Act. Section 17 of this regulation outlines the requirements for proper handling, transportation and disposal of materials that contain asbestos.

4.0 METHODOLOGY FOR SITE VISITS AND AIR SAMPLING

4.1 Visual Inspection for Asbestos

Visual inspections were performed in all accessible areas within the abatement areas prior to, during, and post abatement activities. Visual inspections conducted prior to the abatement focused primarily on the abatement enclosure and associated engineering controls for the abatement. Polyethylene barriers and all seals for the enclosure were inspected for their integrity, and to ensure the adhesion of all seams to maintain secure enclosures. The focus of the post-abatement visual inspections was to ensure that the affected areas had no obvious visible signs of asbestos dust or debris accumulation. Photographs collected during our site inspections are included in Appendix I.

4.2 Air Sampling for Asbestos

The air samples were collected using an air-sampling pump calibrated to a known flow rate. The samples were collected using 0.8 µm pore size, 25 mm diameter mixed cellulose ester (MCE) membrane filter, held by black, anti-static, 2-inch open-faced filter holder.

Samples were analyzed for total fibre content by the phase contrast microscopy (PCM) method of detection in accordance with U.S. National Institute of Occupational Safety and Health (NIOSH) Manual of Analytical Methods, Method 7400, Issue 2 Asbestos and other Fibres by PCM (August 15, 1994). The Limit of Detection (LOD) for PCM analysis depends on sample volume and quantity of interfering dust and is < 0.01 fibre/cc for atmospheres free of interferences. The method gives an index of airborne fibres. Fibres less than approximately 0.25 µm in diameter will not be detected by this method.



Possible interferences are any other airborne fibres and particles that meet the counting criteria. Chain-like particles may appear fibrous. High levels of non-fibrous dust particles may obscure fibres in the field of view and increase the detection limit.

Blank filters were also submitted for analysis to ensure that no contamination of the filters occurred during sampling or analytical procedures. Analytical results, as reported in result tables within this report, have been corrected for any background fibre counts recorded for the blank filters.

As outlined in Ontario Regulation 278/05, most Type 3 asbestos abatement activities require air clearance sampling post abatement activities. Every PCM air clearance sample must have a minimum of 2,400 Litres of air drawn through it and, all PCM air clearance samples must be below 0.01 fibres/cc. Based on the size of an asbestos abatement enclosure, a minimum amount of air samples must be collected as outlined in Table 3 of Ontario Regulation 278/05. A summary of the minimum amount of clearance air samples for a Type 3 asbestos abatement to be collected can be found in **Table I**.

TABLE I
SUMMARY OF MINIMUM NUMBER OF CLEARANCE AIR SAMPLES

Minimum number of air samples to be taken from each enclosure	Area of enclosure
2	10 square metres or less
3	More than 10 but less than 500 square metres
5	500 square metres or more

5.0 SUMMARY OF SITE VISITS

5.1 March 18, 2023 – Air Clearance Sampling

THEM conducted an inspection of the Type 2 enclosure within the area next to Room C1 1420.1 prior to the commencement of the air clearance sampling. The enclosure was observed to be dry, intact and in good condition. Final clearance air samples were collected inside the Type 2 enclosure and the samples were subsequently analyzed using Phase Contrast Microscopy (PCM) method of detection. Results of the air sample can be found in **Table II**, Section 6.0.

A selection of photographs collected during our site inspection is included in **Appendix I**.



6.0 AIR SAMPLING RESULTS

Table II summarizes the results of air samples collected.

TABLE II
Results of PCM Analysis
Sir Sandford Fleming College
599 Brealey Drive, Peterborough, ON
March 18, 2023

Sample #	Location	Date	Volume (L)	Fibre Conc. (f/cc)
A01	Area next to Room C1 1420.1	3/18/2023	1200	<0.01

Note: One (1) field blank was collected onsite and contained < 7 fibres/100 Fields

7.0 CONCLUSIONS

Inspections showed all proper procedures, in accordance with Ontario Regulation 278/05 – *Asbestos on Construction Projects and Buildings and Repair Operations*- made under the Occupational Health and Safety Act, were being followed. All air samples were well below the clearance criteria of <0.01 fibres/cc. Therefore, the work area was deemed to be safe for re-occupancy at this time.

Based on applicable laws and industry standards, the inspections and air sample result(s) deemed the asbestos abatement within Room C1 1420.1 to be successful. The environmental contractor was given permission to take down the enclosure and demobilize from site.

8.0 LIMITATIONS

In this statement of limitations, the “Client” refers to the persons or entities to whom this report is addressed. “THEM” refers to T. Harris Environmental Management Inc. The “Contract” refers to any general, or project-specific written agreement, including project-specific scope of work documents, executed between THEM and the Client pertaining to the subject matter of this report.

This report is subject to the limitations set out below, and any other limitations set out in the body of this report or in the Contract between THEM and the Client.



The work described in this report was conducted in accordance with the Contract agreed upon by the Client in a manner consistent with a reasonable level of care and skill normally exercised by members of the environmental consulting profession currently practising under similar conditions in the Province of Ontario.

The work described in this report was undertaken in the context of regulations which were in force and effect at the time of the assessment, and which are specified in this report. The assessment did not take into account any regulations which were not in effect at the date of the assessments, or any guideline or standard not specified in this report.

This report is intended solely for the use or uses specified in this report and/or the Contract. Use of this report for purposes other than those set out in this report and/or the Contract will be at the sole risk of the Client.

Copying of this report except as may be reasonably required for internal use by the Client, and any distribution of this report to persons other than the Client in whole or in part, is not permitted without the express written permission of THEM.

This report is for the sole use of the Client. THEM makes no representation or warranty, either expressed or implied, to any third party with regard to this report and the work referred to in this report and expressly disclaims any, and accepts no duty of care to any third party or any responsibility or liability whatsoever to any third party for any loss, expenses, damages (direct, consequential or contingent), fines, penalties, or other harm that may be suffered or incurred by any third party as a result of any use of, any reliance placed upon, or any decision made or actions taken based upon this report or the work referred to herein.

In no event shall THEM be liable for any indirect, incidental, special or consequential damages, or damages from loss of profits, revenue, or use, incurred by either the Client or any third party, whether in an action in tort or contract, even if THEM has been advised of the possibility of such damages. THEM's liability for damages shall in no event exceed the limit of available insurance coverage.

If new information concerning the subject matter of this report arises, THEM should be contacted to re-evaluate the conclusions of this report and to provide amendments as required. Should you require additional information or have any queries regarding this project, please contact our office.

Yours truly,

T. HARRIS ENVIRONMENTAL MANAGEMENT INC.



Asbestos Abatement Air Sampling
Sir Sandford Fleming College – Room C1 1420.1
599 Brealey Drive, Peterborough ON

THEM PROJECT #18219
MARCH 2023

Erin Rowland, EPt
Environmental/OH&S Technician

Raj Singh, P.Eng., MBA, AMRT, CMI
Manager, Special Projects



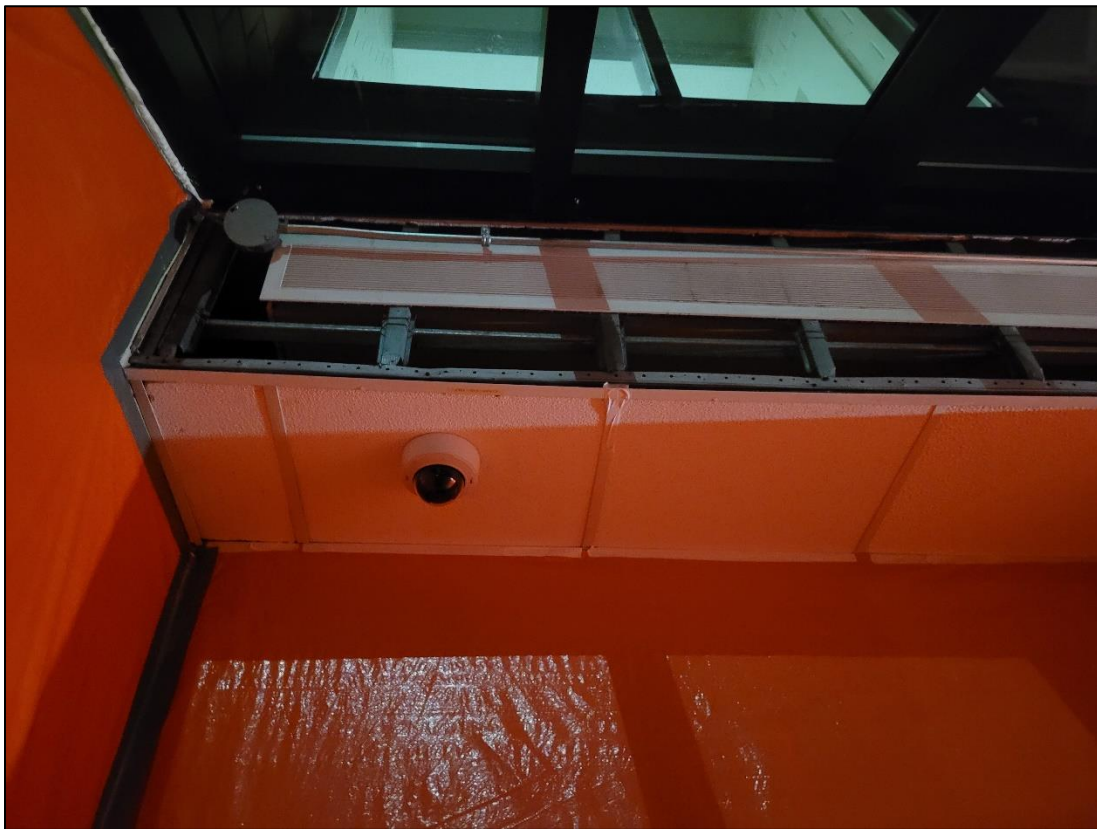
Asbestos Abatement Air Sampling
Sir Sandford Fleming College – Room C1 1420.1
599 Brealey Drive, Peterborough ON

THEM PROJECT #18219
MARCH 2023

APPENDIX I
PHOTOGRAPHS



Photograph 1: View of the entrance to the enclosure where there is visible asbestos danger signage on the door.



Photograph 2: View the drywall abated by A&O personnel and the area was free of debris.