



# Ceiling Space Investigation for Asbestos-Containing Material rev.1

Vanier Hall 136 Jean-Jacques-Lussier Private, Ottawa, ON

BCE Project: 23-1041 Report Issued: November 30, 2023 Revision Issued: December 8, 2023



**Prepared for:** University of Ottawa Martine Bergeron, Senior Specialist, Occupational Health and Safety

**Prepared by:** Buller Crichton Environmental Inc. 1 Raymond St., Suite 102 Ottawa, ON K1R 1A2 613-729-5291



### 1 INTRODUCTION

Buller Crichton Environmental Inc. (BCE) was retained by the University of Ottawa (Client) to complete a ceiling space investigation for the entire Vanier Hall building to determine the presence or absence of asbestos-containing plaster adhered to the concrete deck. The survey was completed by BCE on September 19-21 and October 5, 2023.

This report was prepared as requested by the Client to fulfill the following:

- Ontario Occupational Health & Safety Act R.S.O. 1990, as amended, including:
  - Designated Substances Ontario Regulation 490/09, as amended,
  - Designated Substances Asbestos on Construction Projects and in Buildings and Repair Operations – Ontario Regulation 278/05.

This report should be provided to contractors prior to conducting demolition or renovation work at the Site.

## 2 SCOPE OF WORK

BCE's scope of work was limited to the following:

- 1. Reviewing all ceiling spaces above acoustic tiles within the building to determine the presence/absence of plaster and/or obvious signs of plaster debris/delamination.
- 2. Collecting samples of the specific building material suspected to contain asbestos for laboratory analysis by an independent, third-part accredited laboratory.
- 3. Provide a comprehensive AutoCAD drawing indicating whether plaster and/or obvious plaster debris is present or absent in each room surveyed.

BCE also reviewed the following reports prior to the site assessment:

• *Hazardous Materials Survey, Vanier Hall, Ottawa, ON* prepared by McIntosh Perry Limited (MPL) dated March 2020



## 3 STANDARDS, REGULATIONS AND GUIDELINES

## 3.1 Designated Substances

Section 30 of the Occupational Health & Safety Act (OH&S Act) requires that a document summarizing the presence of these designated substances must be available to contractors and subcontractors requesting tenders, prior to beginning a construction project (including building renovation or demolition). This report serves that purpose. However, scaled drawings and contract specifications are still required should this job be tendered to multiple contractors.

#### 3.1.1 Asbestos

Ontario Regulation 278/05 – Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations and made under the OH&S Act, outlines specific procedures for identifying asbestos in buildings and on construction sites. In addition, it outlines requirements for their removal and / or re-assessment and management depending on whether any identified materials are to remain in the building. Asbestos-containing materials (ACM) in good condition can remain in the building if it is managed as prescribed in this regulation, including but not limited to implementation of an Asbestos Management Plan (AMP), annual condition assessment, notification to tenants and training for specified workers. However, any ACM must be removed prior to disturbance because of renovations and / or demolition of the Site.

R.R.O. 1990, Regulation 347 General – Waste Management as amended (O. Reg. 347/90), made under the Ontario Environmental Protection Act, R.S.O. 1990, Chapter E.19, as amended (EPA) sets out requirements for general waste management including ACM. This regulation requires the disposal of asbestos waste in double sealed containers (e.g., a six-mil polyethylene bag or hard plastic barrel), properly labelled and free of cuts, tears, or punctures. The waste must be disposed of in a licensed waste facility which has been properly notified of the presence of asbestos waste.

# 4 METHODOLOGY

Site sampling and assessment was completed on September 19-21 and October 5, 2023 by Jessica Joubarne of BCE. In each area, a visual inspection was completed to determine the presence or absence, and relative condition of plaster on the concrete-deck.

# 5 BULK SAMPLING FOR ASBESTOS CONTENT

During the ceiling investigation, BCE observed and sampled four (4) additional homogenous materials on the ceiling deck suspected of containing asbestos. The following table outlines the results of the analysis, and the laboratory report is attached as **Appendix A**.



#### Table 1 – PLM Bulk Sampling Results

Sample ID	Material Description	Location	Results	Friable (Y/N)
AS01 A-C	Acoustic Ceiling Tile	Room 3035	ND	N/A
ASo2 A-C	Brown Puck Mastic	Room 3035	1% CH	Ν
<b>ASo2 A-C</b> ASo3 A-C	Brown Puck Mastic Beige Sprayed Fireproofing	<b>Room 3035</b> Room 1001J	1% CH ND	N/A

CH = Chrysotile asbestos

Trace = Less than 0.5% asbestos detected in sample

N/A = Not applicable as no asbestos was detected

ND = Asbestos not detected in sample (<0.1%)

### 6 **RESULTS AND DISCUSSION**

Based on the review of previous reports, visual assessment and sampling, the following is a summary of the results. A comprehensive drawing is attached as **Appendix B**. A drawing outlining Type-2 entry locations is attached as **Appendix C**.

#### 6.1. Bare Concrete/Corrugated Metal:

Concrete slab ceiling deck and/or corrugated metal deck was observed throughout the building. The following photos are examples of bare concrete and corrugated metal observed during the ceiling investigation.



Photo 1. Example of bare concrete ceiling observed on the 6<sup>th</sup> floor.



Photo 2. Example of corrugated metal ceiling observed on the 7<sup>th</sup> floor.

#### 6.2 Smooth Plaster:

Smooth open plaster was observed in fair and good condition within the stairwells throughout the building. Smooth plaster was also observed above acoustic ceiling tiles in good, fair, poor and debris condition throughout the building. The following photos are examples of smooth plaster above acoustic ceiling tiles observed in poor and debris condition during the ceiling investigation.



Photo 2. Smooth plaster above acoustic ceiling tiles observed in poor condition within room 5075A.



Photo 3. Smooth plaster debris observed above acoustic ceiling tiles within room 3040.

#### <u>6.3 Other:</u>

BCE observed the following additional materials on the ceiling deck throughout the building:

- $1^{st}$  and  $2^{nd}$  floor
  - Previously sampled asbestos containing tar containing **2% Chrysotile asbestos**.
  - Observed in good condition.
- 1<sup>st</sup> floor to 5<sup>th</sup> floor
  - Previously sampled non-asbestos containing grey sprayed fireproofing.
  - Beige sprayed fireproofing (ASo<sub>3</sub>), observed and sampled by BCE. It was determined not to contain a regulated concentration of asbestos.
- 3<sup>rd</sup> floor
  - Brown puck mastic (ASo2), observed and sampled by BCE. It was determined to contain 1% Chrysotile asbestos. It was observed in fair condition.
  - **Note:** If additional 30 cm x 30 cm acoustic ceiling tiles are observed above ceiling tiles, asbestos-containing brown puck mastic should be assumed to be present underneath.
- 3<sup>rd</sup> and 4<sup>th</sup> floor –



• Skim coat (ASo4), observed and sampled by BCE. It was determined not to contain a regulated concentration of asbestos.

The following photos are examples of additional materials on the ceiling deck that were noted throughout the building.



Photo 4. Example of ACM tar observed in good condition on the 1<sup>st</sup> floor.



Photo 6. Example of non-ACM beige sprayed fireproofing observed on the 1<sup>st</sup> floor.



Photo 5. Example of non-ACM grey sprayed fireproofing observed on the 5<sup>th</sup> floor.



Photo 7. Example of ACM brown puck mastic observed on the 3<sup>rd</sup> floor.





Photo 8. Example of non-ACM skim coat observed on the 4<sup>th</sup> floor.

## 7 **Recommendations**

## 7.1 General Recommendations

Based on the findings, the *general recommendations* are:

- This report should be provided along with the full building DSR and project specific DSR to contractors prior to conducting demolition or renovation work at the Site. Further, contractors shall have an exposure control plan in place for each designated substance identified in this report.
- This report should be used to supplement the full building DSR as there are many other asbestoscontaining materials within the building that could impact work being completed in ceiling spaces (asbestos-containing ceiling tiles, asbestos-containing drywall joint compound, etc.)

# 8 **REPORT LIMITATIONS**

LLER CRICHTON

This report was prepared for the exclusive use of the Client. This report is based on data and information collected during the Site visit conducted on September 19-21 and October 5, by BCE Inc. as described in this report.

The conclusions and recommendations contained in this report are based upon professional opinions regarding the subject matter. These opinions are in accordance with currently accepted environmental assessment standards and practices applicable to these locations and are subject to the following inherent limitations:

- The data and findings presented in this report are valid as of the date of the investigation. The passage of time, manifestation of latent conditions or occurrence of future events may warrant further exploration at the properties, analysis of the data, and re-evaluation of the findings, observations, and conclusions expressed in this report.
- The findings, observations and conclusions expressed by BCE in this report are not, and should not be considered, an opinion concerning compliance of any past or present owner or operator of the building with any federal, provincial, or local laws or regulations.
- Additional Designated Substances not identified in this report may become evident during demolition activities. Should additional information become available, BCE requests that this information be brought to our attention so that we may re-assess the conclusions presented herein. All quantities contained in this report are approximate and based on visual observations made in accessible areas.
- Although effort was made to expose and sample potential designated substances, there is a possibility that additional concealed substances/materials may be present beneath existing flooring, behind wall cavities, roof systems, above ceilings, and any other inaccessible areas such as pipe chases at the Site.
- Should further designated substances be encountered during any renovation or demolition activities, those materials must be managed in accordance with applicable regulations.



# 9 CLOSURE

If you have any questions or require any further information, please feel free to contact the undersigned at 613-729-5291. Thank you for the opportunity to be of service. We look forward to working with you again.

Best Regards,

BULLER CRICHTON ENVIRONMENTAL INC. 1 Raymond St., Suite 102 Ottawa, ON K1R 1A2

Prepared by:

Jessica Joubarne, HBSc. Project Consultant **Reviewed by:** 

Derek Stashick, B.Ed, CMI, C-NRPP Director of Projects and Training



# Appendix A – Asbestos Laboratory Results

	EMSL Canada	a Inc.			E	MSL Canada Orde	er 672303173
EMSL	22 Antares Drive Suite	102 Ottawa (	N K2E 776			Sustemer ID:	JJDUNE42
	Dhone/Eav: (3/13) 882	6076 / (343) 89				Project ID:	
SM	http://www.EMSL.com		EMSL.com		Ľ.		)
Attn: Jessica	loubarne			Phon	e: (613) 7	729-5291	
Buller Ci	richton Environmental In	C.		Fax:		20 0201	
1 Raymo	ond St., Suite 102			Colle	cted:		
Ottawa,	ON K1R 1A2			Rece	ived: 10/16/2	2023	
				Analy	/zed: 10/23/2	2023	
<b>Proj</b> : 23-1041							
Su	mmary Test Report	t for Asbesto	os Analysi	s of Bulk Ma	aterials for Ont	ario Regulatio	n 278/05
Client Sample ID:	AS-01A					Lab Sample ID:	672303173-0001
Sample Description:	ACT						
	Analyzed		Non-	Asbestos			
TEST	Date	Color	Fibrous	Non-Fibrous	Asbestos	Comment	
PLM	10/23/2023	White	55.0%	45.0%	None Detected		
Client Sample ID:	AS-01B					Lab Sample ID:	672303173-0002
Sample Description:	ACT						
	Analyzed		Non-	Asbestos			
TEST	Date	Color	Fibrous	Non-Fibrous	Asbestos	Comment	
PLM	10/23/2023	White	55.0%	45.0%	None Detected		
Client Sample ID:	AS-01C					Lab Sample ID:	672303173-0003
Sample Description:	ACT						
	Analyzed		Non-	Asbestos			
TEST	Date	Color	Fibrous	Non-Fibrous	Asbestos	Comment	
PLM	10/23/2023	Gray	55.0%	45.0%	None Detected		
Client Sample ID <sup>.</sup>	AS-02A					Lab Sample ID:	672303173-0004
Sample Description:	Brown Puck Mastic						
	Drown r dok maste						
	Analyzed		Non-	Asbestos			
TEST	Date	Color	Fibrous	Non-Fibrous	Asbestos	Comment	
PLM	10/23/2023	Brown	5.0%	95.0%	None Detected		
Client Sample ID:	AS-02B-Mastic 1					Lab Sample ID:	672303173-0005
Sample Description	Brown Puck Mastic						· · · · · -
2	DIOWITT UCK MASUC						
	Analyzed		Non-	Asbestos			
TEST	Date	Color	Fibrous	Non-Fibrous	Asbestos	Comment	
PLM	10/23/2023	Brown	5.0%	95.0%	None Detected		
Client Sample ID:	AS-02B-Mastic 2					Lab Sample ID:	672303173-0005A
Sample Description:	Brown Puck Mastic						
	Analvzed		Non-	Asbestos			
TEST	Date	Color	Fibrous	Non-Fibrous	Asbestos	Comment	
PLM	10/23/2023	Brown	0.0%	99.0%	1% Chrysotile		
Client Sample ID.	۵۹-02C					l ah Sample ID:	672303173-0006
Samle Description						Las Gumple ID.	
cample Description:	Brown Puck Mastic						
			Non	Ashestos			
TEST	Date	Color	Fibrous	Non-Fibrous	Asbestos	Comment	
PLM	10/23/2023			Positiv	e Stop (Not Analyzed)		
					• • • • • •		



# EMSL Canada Inc.

22 Antares Drive Suite 102 Ottawa, ON K2E 7Z6 Phone/Fax: (343) 882-6076 / (343) 882-6077 <u>http://www.EMSL.com</u> / <u>ottawalab@EMSL.com</u>

Su	mmary le	est Report	for Asbestos	s Analysi	S OT BUIK N	laterials for Onta	rio Regulatio	n 278/05
Client Sample ID:	AS-03A						Lab Sample ID:	672303173-0007
ample Description:	Beige SFP	•						
		Ameliand		New	A			
TEST		Date	Color	Fibrous	Non-Fibrous	Asbestos	Comment	
PLM		10/23/2023	Gray/Beige	20.0%	80.0%	None Detected	Sample contains	vermiculite which is a
			, ,				problem matrix; T recommended	EM with milling
Client Sample ID:	AS-03B						Lab Sample ID:	672303173-0008
ample Description:	Beige SFP	,						
		Analyzed		Non	-Asbestos			
TEST		Date	Color	Fibrous	Non-Fibrous	Asbestos	Comment	
PLM		10/23/2023	Gray/Beige	20.0%	80.0%	None Detected	Sample contains problem matrix; T recommended	vermiculite which is a EM with milling
Client Sample ID:	AS-03C						Lab Sample ID:	672303173-0009
Sample Description:	Beige SFP	•						
		Analyzed		Non	-Asbestos			
TEST		Date	Color	Fibrous	Non-Fibrous	Asbestos	Comment	second sector and the terms
PLM		10/23/2023	Gray/Beige	20.0%	80.0%	None Detected	problem matrix; T recommended	EM with milling
Client Sample ID:	AS-04A						Lab Sample ID:	672303173-0010
ample Description:	Skim Coat							
		Analyzed		Non	-Asbestos			
TEST		Date	Color	Fibrous	Non-Fibrous	Asbestos	Comment	
PLM		10/23/2023	Gray	0.0%	100.0%	<1% Chrysotile		
00 PLM Pt Ct		10/23/2023	Gray	0.0%	100.0%	<0.25% Chrysotile		
lient Sample ID:	AS-04B						Lab Sample ID:	672303173-0011
Sample Description:	Skim Coat							
		Analyzed		Non	-Asbestos			
TEST		Date	Color	Fibrous	Non-Fibrous	Asbestos	Comment	
PLM		10/23/2023	Gray	0.0%	100.0%	<1% Chrysotile		
00 PLM Pt Ct		10/23/2023	Gray	0.00%	99.75%	0.25% Chrysotile		
Client Sample ID:	AS-04C						Lab Sample ID:	672303173-0012
Sample Description:	Skim Coat							
		Analyzed		Non	-Asbestos			
TEST		Date	Color	Fibrous	Non-Fibrous	Asbestos	Comment	
PLM		10/23/2023	Grav	0.0%	100.0%	None Detected		



EMSL Canada Inc.

22 Antares Drive Suite 102 Ottawa, ON K2E 7Z6 Phone/Fax: (343) 882-6076 / (343) 882-6077 <u>http://www.EMSL.com</u> / <u>ottawalab@EMSL.com</u> EMSL Canada Order 672303173 Customer ID: 55BCRE42 Customer PO: Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Analyst(s):

Ewa Krupinska PLM (3) Simon Parent PLM (9) 400 PLM Pt Ct (2)

Reviewed and approved by:

Ewa Krupinska, Laboratory Manager or Other Approved Signatory

None Detected = <0.1%. EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This is a summary report; official reports are available on LabConnect or upon request and relates only to the samples reported above, 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. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. 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. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Canada Inc. Ottawa, ON NVLAP Lab Code 201040-0

Initial report from: 10/23/202315:13:32



Appendix B -Comprehensive Site Drawings



















Appendix C -Site Drawings (Type-2 Entry Requirements)















