



REAL ESTATE & FACILITIES MANAGEMENT
Facilities Planning & Development

Targeted Hazardous Building Materials Survey and Review:

PNE Hastings Room - ROOF

Building Code: 7311 AB/HR

Address: 2901 Hastings Street, Vancouver BC

Surveyor: Patrick Li

Work Notification Number: 10411057

Requested By: Jason Jotie, Capital Maintenance

Purpose: TARGETED HAZARDOUS BUILDING MATERIAL SAMPLING



Executive Summary

A City of Vancouver Hazardous Materials Technician has completed a Targeted Hazardous Material Sampling Survey and Review of the Roof Area at the PNE Hastings Room - 2901 Hastings Street in preparation for the upcoming Re-Roofing Project.

This targeted hazardous material sampling survey and review only identifies the hazardous building materials that could be encountered or disturbed during the roof renewal work. Although this was a destructive survey, any hidden or inaccessible materials that were not addressed which may contain asbestos or lead should be assumed to be hazardous until sampling demonstrates otherwise.

Scope of Work

- This survey and review was completed with the understanding that the roof renewal work only includes the East and Middle roofs (above the Hastings Room - as outlined in red on the drawings)
- A visual inspection of the Roof Area at the PNE Hastings Room - 2901 Hastings Street for the presence of building materials suspected to contain asbestos or lead. Surficial and roof test cuts were conducted.
- A review of existing hazmat data in the Hazardous Materials Inventory Program
- An assessment of potentially hazardous materials, denoting their condition, potential for disturbance/damage, accessibility to workers or public, estimated quantity, if suspect asbestos containing, their friability, potential for fiber release and worker exposure was assessed.
- A risk assessment for the current condition of any damaged asbestos/lead containing materials determined to be present within the buildings including the priorities for removal/repairs.

HAZARDOUS BUILDING MATERIAL SURVEY	PNE: Hastings Room Roof	APRIL 2019
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Asbestos-Containing Material: Methodology and Results

Materials sampled were selected based on our experience and guidelines provided by WorkSafeBC (Safe Work Practices for Handling Asbestos). Building materials were assessed for potential asbestos content representative samples were analyzed for asbestos by COV-approved labs.

Table 1: *Materials Sampled and Analyzed for Asbestos Content*

WES-HAR Lab Reference No. 17941 (14MAR2019)

Sample No.	Location	Material	Result
7311-A01	East Roof (N) - North End	Roofing Materials	Asbestos Fibres Not Detected
7311-A02	East Roof (N) - West End	Roofing Materials	Asbestos Fibres Not Detected
7311-A03	East Roof (SE) - East End	Roofing Materials	Asbestos Fibres Not Detected
7311-A04	East Roof (SW) - West End	Roofing Materials	Asbestos Fibres Not Detected
7311-A05	Middle Roof - North End	Roofing Materials	Asbestos Fibres Not Detected
7311-A06	East Roof (N/S)	Grey Mastic on Metal Flashing	5-10% Chrysotile Asbestos
7311-A07	East Roof (E/W)	White Caulking on Metal Flashing	Asbestos Fibres Not Detected
7311-A08	East Roof (SE)	Black Tar on Vent Collar	Asbestos Fibres Not Detected
7311-A09	East Roof (SE) Skylights	Black Tar on Skylights	30-40% Chrysotile Asbestos
7311-A10	East Roof (SW) Skylights	Black Tar on Skylights	Asbestos Fibres Not Detected
7311-A11	Middle Roof	Black Tar on HVAC Duct	30-40% Chrysotile Asbestos
7311-A12	Middle Roof	White Caulking on HVAC Duct	Asbestos Fibres Not Detected
7311-A13	Middle Roof - North End	Grey Caulking Around Gas Pipe	Asbestos Fibres Not Detected
7311-A14	Middle Roof - East Wall	Stucco Wall (Behind Flashing)	Asbestos Fibres Not Detected
7311-A15	Middle Roof - West Wall	Stucco Wall	Asbestos Fibres Not Detected
7311-A16	Middle Roof - West Wall	White Caulking Between Concrete & Flashing	Asbestos Fibres Not Detected
7311-A17	Middle Roof - West Wall	Grey Putty on Metal Framed Windows	Asbestos Fibres Not Detected

Lead-Based Paints and Coatings: Methodology and Results

Representative samples of paint were collected during this and previous site visits to test for the presence of lead. The sample was analyzed at a COV-approved lab for total lead.

As per WorkSafeBC guidelines, a lead-containing surface material is defined as:

“a paint or other similar material that dries to a solid film that contains over 90 mg/kg (0.009%) dry weight of lead” (As defined by the Federal Ministry of Health, under the Hazardous Products Act)

Table 3: *Materials Sampled and Analyzed for the Presence of Lead*

MAXXAM Lab Reference No. B914762 (06MAR2019)

Sample No.	Location	Description	RESULTS (mg/kg)
7311-L01	East Roof (N)	Dark Grey Paint on Metal Flashing	88
7311-L02	East Roof (S)	Green/Red Paint on Metal Flashing	11200
7311-L03	Middle Roof	Red/Yellow Paint on Gas Pipe	14700
7311-L04	Middle Roof - West Wall	White Paint on Concrete	119
7311-L05	Middle Roof - West Wall	Dark Grey Paint on Metal Window Frames	2310
7311-L06	Kitchen (E)	Cream Paint on Wood/Cinderblocks	2290

HAZARDOUS BUILDING MATERIAL SURVEY	PNE: Hastings Room Roof	APRIL 2019
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RISK ASSESSMENT AND RECOMMENDATIONS

Asbestos containing materials and surfaces with lead-based paints will be disturbed during the roof replacement process. All work involving hazardous building materials must be completed by one of the City of Vancouver's pre-qualified abatement contractors. Workers performing any disturbance or removal of hazardous building materials must be adequately trained and qualified to do so and follow Work Safe BC Occupational Health & Safety Regulations.

If during the roof replacement project, suspected materials are uncovered that were previously concealed, the City of Vancouver's Hazardous Building Materials Division must be notified immediately to determine if additional testing of the suspect materials is warranted.

Report Prepared by City of Vancouver Hazardous Materials Team

Patrick Li, Hazardous Materials Technician
 AHERA Certification No.: CABIR-18-089

DRAWINGS: ATTACHED | PHOTOS: ATTACHED | LABORATORY REPORTS: ATTACHED

DRAWINGS: (Sample Locations)



PHOTOS:



Photo1: East Roof (N) - North End Test Cut [7311-A01]



Photo2: East Roof (N) - West End Roof Test Cut [7311-A02]



Photo3: East Roof(SE) - East End Roof Test Cut [7311-A03]



Photo4:East Roof (SW) - West End Roof Test Cut [7311-A04]

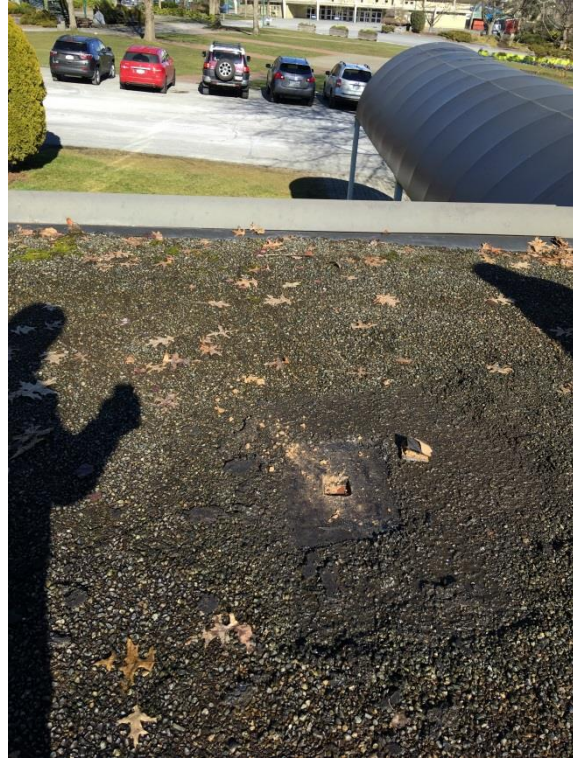


Photo5: Middle Roof - North End Roof Test Cut [7311-A05]



Photo6:East Roof (N/S) - Grey Mastic on Metal Flashing [7311-A06]

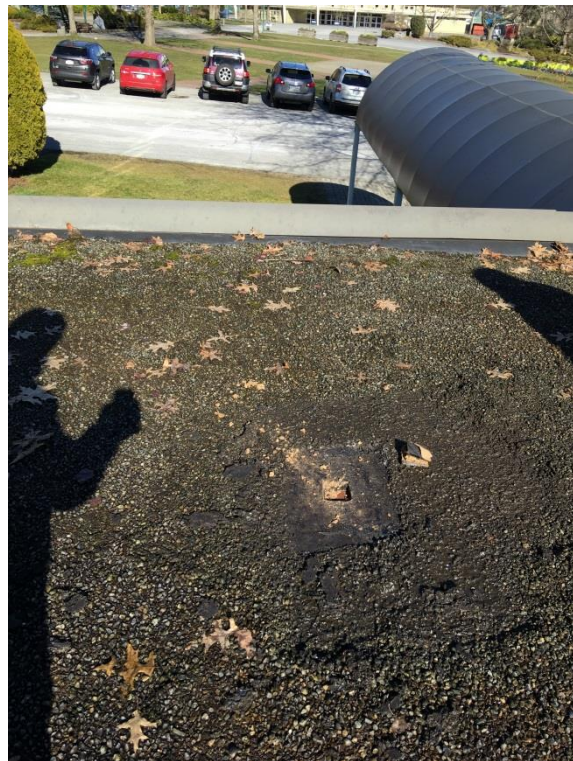


Photo7: East Roof (E/W) - White Caulking on Metal Flashing [7311-A07]



Photo8:East Roof(SE) - Black Tar on Vent Collar [7311-A08]



Photo9:East Roof (SE) - Black Tar on Skylights [7311-A09]



Photo10:Middle Roof - Black Tar on HVAC Duct [7311-A11]



Photo11: Middle Roof - Grey Caulking Around Gas Pipe [7311-A13]



Photo12: Middle Roof - (East Wall - Behind Flashing) - Stucco Wall [7311-A14]



Photo13: Middle Roof - West Wall



Photo14: Kitchen (E) - Cream Paint on Wood / Cinderblock [7311-L06]

LABORATORY RESULTS:

Wes-Har Asbestos Analysis & Consulting Ltd.

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Detailed Bulk Asbestos ReportFor City Of Vancouver - Real Estate
and Facilities Management

320-507 West Broadway Vancouver, BC V5Z 0B4

Location : PNE Administration Building & Hastings Room
2901 Hastings St. [Notification#10411057(Roof)]

Project : 7311AB/HR

17941	PNE Adm	Sample Location / Description	Result(s)	Analyzed	Analyst	ACM
1 . 1	7311-A01	Roofing Materials, East Roof (N), North End Layer 1 Black * Sample [Composite] Subjected To An Ashing Procedure	Asbestos Fibres Not Detected 20 - 30 % Cellulose Fibres 20 - 30 % Fibrous Glass > 40 % Non-fibrous	Mar 14 2019 LP 20 %	HH	---
1 . 2	7311-A01	Roofing Materials, East Roof (N), North End Layer 2 Yellow Fibrous	Asbestos Fibres Not Detected 95 -100 % Fibrous Glass > 1 % Non-fibrous	Mar 14 2019 LP 30 %	HH	---
1 . 3	7311-A01	Roofing Materials, East Roof (N), North End Layer 3 Grey Rocky	Asbestos Fibres Not Detected 95 -100 % Non-fibrous	Mar 14 2019 LP 50 %	HH	---
2 . 1	7311-A02	Roofing Materials, East Roof (N), West End Layer 1 Black Fibrous Sheet * Sample [Composite] Subjected To An Ashing Procedure	Asbestos Fibres Not Detected 70 - 80 % Cellulose Fibres > 20 % Non-fibrous	Mar 14 2019 LP 20 %	HH	---
2 . 2	7311-A02	Roofing Materials, East Roof (N), West End Layer 2 Yellow Fibrous	Asbestos Fibres Not Detected 95 -100 % Fibrous Glass > 1 % Non-fibrous	Mar 14 2019 LP 80 %	HH	---
3 . 1	7344-A03	Roofing Materials, East Roof (SE), East End Layer 1 Black * Sample [Composite] Subjected To An Ashing Procedure	Asbestos Fibres Not Detected DNQ Quartz 95 -100 % Non-fibrous	Mar 14 2019 LP 50 %	HH	---
3 . 2	7344-A03	Roofing Materials, East Roof (SE), East End Layer 2 Brown Fibrous	Asbestos Fibres Not Detected 95 -100 % Cellulose Fibres > 1 % Non-fibrous	Mar 14 2019 LP 50 %	HH	---
4 . 1	7311-A04	Roofing Materials, East Roof (SW), West End Layer 1 Black Fibrous * Sample [Composite] Subjected To An Ashing Procedure	Asbestos Fibres Not Detected 40 - 50 % Fibrous Glass 20 - 30 % Cellulose Fibres > 20 % Non-fibrous	Mar 14 2019 LP 10 %	HH	---
4 . 2	7311-A04	Roofing Materials, East Roof (SW), West End Layer 2 Black Rocky	Asbestos Fibres Not Detected DNQ Quartz 95 -100 % Non-fibrous	Mar 14 2019 LP 90 %	HH	---

LP - Means Percent : Layer or Phase of Whole Sample DNQ - Means Detected Not Quantitated ACM Means Asbestos Containing Material; T - Present

< Means - Less Than > Means - Greater Than

Lab File 17941

Unit 115 13988 Maycrest Way, Richmond British Columbia V6V 3C3 (604) - 279 - 9445

Client Id : PNE Adm

American Industrial Hygiene Association BAPAT Lab. Id. No. 149340

Client Reference Id: 4700000684

Wes-Har Asbestos Analysis & Consulting Ltd.

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Detailed Bulk Asbestos Report

For City Of Vancouver - Real Estate

Location : PNE Administration Building & Hastings Room

Project : 7311AB/HR

17941	PNE Adm	Sample Location / Description	Result(s)	Analyzed	Analyst	ACM
5 . 1	7311-A05	Roofing Materials, Middle Roof, North End Layer 1 Black * Sample [Composite] Subjected To An Ashing Procedure	Asbestos Fibres Not Detected 40 - 50 % Fibrous Glass DNQ Quartz > 50 % Non-fibrous	Mar 14 2019	HH	---
5 . 2	7311-A05	Roofing Materials, Middle Roof, North End Layer 2 Brown Fibrous	Asbestos Fibres Not Detected 95 -100 % Cellulose Fibres > 1 % Non-fibrous	Mar 14 2019	HH	---
6	7311-A06	Grey Mastic on Metal Flashing, East Roof, Flashing (N/S) * Subjected To An Ashing Procedure	5 - 10 % Chrysotile Asbestos > 90 % Non-fibrous	Mar 14 2019	HH	.T.
7	7311-A07	White Caulking on Metal Flashing, East Roof, Flashing (E/W) * Subjected To An Ashing Procedure	Asbestos Fibres Not Detected 95 -100 % Non-fibrous	Mar 14 2019	HH	---
8	7311-A08	Black Tar on Vent Collar, East Roof (SE), Mechanical * Subjected To An Ashing Procedure	Asbestos Fibres Not Detected 95 -100 % Non-fibrous	Mar 14 2019	HH	---
9	7311-A09	Black Tar on Skylights, East Roof (SE), Skylights * Subjected To An Ashing Procedure	30 - 40 % Chrysotile Asbestos > 60 % Non-fibrous	Mar 14 2019	HH	.T.
10	7311-A10	Black Tar on Skylights, East Roof (SW), Skylights * Subjected To An Ashing Procedure	Asbestos Fibres Not Detected 5 - 10 % Cellulose Fibres > 90 % Non-fibrous	Mar 14 2019	HH	---
11	7311-A11	Black Tar on HVAC Duct, Middle Roof, Mechanical * Subjected To An Ashing Procedure	30 - 40 % Chrysotile Asbestos > 60 % Non-fibrous	Mar 14 2019	HH	.T.

LP - Means Percent : Layer or Phase of Whole Sample DNQ - Means Detected Not Quantitated ACM Means Asbestos Containing Material; T - Present

< Means - Less Than > Means - Greater Than

Lab File 17941

Unit 115 13988 Maycrest Way, Richmond British Columbia V6V 3C3 (604) - 279 - 9445

Client Id : PNE Adm

American Industrial Hygiene Association BAPAT Lab. Id. No. 149340

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Wes-Har Asbestos Analysis & Consulting Ltd.

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Detailed Bulk Asbestos Report

For City Of Vancouver - Real Estate

Location : PNE Administration Building & Hastings Room

Project : 7311AB/HR

17941	PNE Adm	Sample Location / Description	Result(s)	Analyzed	Analyst	ACM
12	7311-A12	White Caulking on HVAC Duct, Middle Roof, Mechanical	Asbestos Fibres Not Detected 95 -100 % Non-fibrous	Mar 14 2019	HH	---
* Subjected To An Ashing Procedure						
13	7311-A13	Grey Caulking Around Gas Pipe, Middle Roof, North End	Asbestos Fibres Not Detected 95 -100 % Non-fibrous	Mar 14 2019	HH	---
* Subjected To An Ashing Procedure						
14	7311-A14	Stucco Wall, Middle Roof, East Wall (Behind Flashing)	Asbestos Fibres Not Detected DNQ Quartz DNQ Micaceous Material 95 -100 % Non-fibrous	Mar 14 2019	HH	---
* Subjected To An Ashing Procedure						
15	7311-A15	Stucco Wall, Middle Roof, West Wall	Asbestos Fibres Not Detected DNQ Quartz DNQ Micaceous Material 95 -100 % Non-fibrous	Mar 14 2019	HH	---
* Subjected To An Ashing Procedure						
16	7311-A16	White Caulking Between Concrete & Flashing, Middle Roof, West Wall	Asbestos Fibres Not Detected 95 -100 % Non-fibrous	Mar 14 2019	HH	---
* Subjected To An Ashing Procedure						
17	7311-A17	Grey Putty on Metal Framed Windows, Middle Roof, West Wall	Asbestos Fibres Not Detected 95 -100 % Non-fibrous	Mar 14 2019	HH	---
* Subjected To An Ashing Procedure						

Comments

Samples Analyzed In Accordance With The NIOSH ASBESTOS (bulk) by PLM Method 9002 [15 August 1994]
 Asbestos may be detected at Less Than 0.5 % by Visual Estimation, but this detection limit is highly material dependant
 Samples Submitted Will Be Retained For 30 Days After Receipt And Will Be Disposed Of Thereafter Unless Otherwise Notified In Writing
 Sample Submitted By City Of Vancouver - Real Estate

Analyst: H. He

March 14, 2019

[Facsimile]

Reviewed By: G. Nawrocki

LP - Means Percent : Layer or Phase of Whole Sample DNQ - Means Detected Not Quantitated ACM Means Asbestos Containing Material; T - Present

< Means - Less Than > Means - Greater Than

Lab File 17941

Unit 115 13988 Maycrest Way, Richmond British Columbia V6V 3C3 (604) - 279 - 9445

Client Id : PNE Adm

American Industrial Hygiene Association BAPAT Lab. Id. No. 149340

Client Reference Id: 4700000684



Maxxam Job #: B914762
Report Date: 2019/03/06

Success Through Science®

City of Vancouver
Client Project #: (10411057) REROOFING PROJECT
Site Location: (7311AB/HR) PNE ADMINISTRATION BUILDING
& HASTINGS RM.
Your P.O. #: 4700002203
Sampler Initials: PL

LEAD IN PAINT CHIPS (PAINT)

Maxxam ID		VH3529	VH3530		VH3531		
Sampling Date		2019/02/25	2019/02/25		2019/02/25		
COC Number		08466355	08466355		08466355		
	UNITS	7311-L01 EAST ROOF (N) DARK GREY PAINT ON METAL FLASHING	7311-L02 EAST ROOF (S) GREEN/RED PAINT ON METAL FLASHING	RDL	7311-L03 MIDDLE ROOF RED/YELLOW PAINT ON GAS PIPE	RDL	QC Batch
Total Metals by ICP							
Total Lead (Pb)	mg/kg	88 (1)	11200 (1)	40	14700 (2)	20	9338937
RDL = Reportable Detection Limit							
(1) Detection limits raised due to matrix interference.							
(2) Detection limits raised due to dilution to bring analyte within the calibrated range.							

Maxxam ID		VH3532	VH3533		VH3534		
Sampling Date		2019/02/25	2019/02/25		2019/02/25		
COC Number		08466355	08466355		08466355		
	UNITS	7311-L04 MIDDLE ROOF (W) WALL WHITE PAINT ON CONCRETE	7311-L05 MIDDLE ROOF (W) WALL DARK GREY PAINT ON METAL WINDOW FRAMES	RDL	7311-L06 KITCHEN (E) CREAM PAINT ON WOOD/CINDERBLOCKS	RDL	QC Batch
Total Metals by ICP							
Total Lead (Pb)	mg/kg	119	2.0	2310 (1)	4.0	2290 (1)	6.0 9338937
RDL = Reportable Detection Limit							
(1) Detection limits raised due to insufficient sample volume.							