

Addendum No.1

Date: September 10, 2019

Description: F1700-184013 CCG Workshops Maintenance Building HVAC Refurbishment

This addendum is in addition to and forms part of the Contract. The cost, if any, of this revision(s) shall be included in the Contract Price.

Specifications:

Section 23 05 05 Installation of pipework, Clause 3.5 Drains. **ADD** clause .5 as follows: “Condensate piping material shall be copper or schedule 40 steel piping. Condensate piping to be insulated with TIAC Code C-2 insulation as indicated in section 23 07 15 Thermal insulation for piping. No jacket is required for this piping when installed indoors.”

Mechanical & Electrical Drawings:

1.1 ME-1: Site Plan, Legends and Schedules

1.1.1 In the Heat Pump Split System – Indoor Unit Schedule, **ADD**: The following to Note 1: “Provide interface kit, Dry contact kit and BACnet interface device as required to allow the DDC system to monitor, enable/disable and reset temperature control set point for each indoor unit. A programmable, hard wired thermostat is still required.”

1.2 ME-4: Ground Floor Electronics Maint. Offices Partial Plan - New

1.2.1 Drawing Note number 22, **ADD** the following to the end of the note: “The contractor shall allow for the modification/relocation/replacement of; existing 12 ceiling supports, 6 ductwork supports, 2 piping supports, 4 sets of misc. wiring and one elect conduit 20 mm diam and less for each indoor heat pump and associated supply and return ductwork and for the new ventilation supply air ductwork serving the indoor heat pumps. If the average number of modifications/relocations exceed this allowance, a change to the contract will be made.”

1.3 ME-5: Mezzanine Level Offices HVAC Services Radar Area

1.3.1 Drawing Note number 23, **ADD** the following to the end of the note: “The contractor shall allow for the modification/relocation/replacement of; existing 12 ceiling supports, 6 ductwork supports, 2 piping supports, 4 sets of misc. wiring and one elect conduit 20 mm diam and less for each indoor heat pump and associated supply and return ductwork and for the new ventilation supply air ductwork serving the indoor heat pumps. If the average number of modifications/relocations exceed this allowance, a change to the contract will be made.”

1.4 ME-6: Mezzanine Level Offices HVAC Services - New

1.4.1 Drawing Note number 23, **ADD** the following to the end of the note: “The contractor shall allow for the modification/relocation/replacement of; existing 12 ceiling supports, 6 ductwork supports, 2 piping supports, 4 sets of misc. wiring and one elect conduit 20 mm diam and less for each indoor heat pump and associated supply and return ductwork and for the new ventilation supply air ductwork serving the indoor heat pumps. If the average number of modifications/relocations exceed this allowance, a change to the contract will be made.”

General Inquiries/Clarifications:

Question No 1: Tender demo drawings notes the following “Contractor shall modify/remove existing ductwork, equipment and piping as indicated. Refer to ME-4 and ME-5 for new work and re-use of existing services. Provide new/modify existing ceiling, light and other small service hangers as required”

Tender new drawings notes the following “Contractor shall modify/relocate/replace existing ceiling, light fixture, ductwork and piping supports, misc electrical wiring and elec. conduit 20mm diam and less as required to install the new equipment. The contractor shall also allow for the relocation of two lighting fixtures on this floor plan to adjacent locations to allow for better service access to equipment”.

Contractor cannot determine this without full review of the area above ceiling/performing selective demolition as it cannot be seen/reviewed during 1-hour site visit. Can this be carried as a cash allowance as it cannot be determined/confirmed prior to tender closing based on current provided drawings?

Answer: No cash allowance will be allowed. The number of existing hangers, wiring and small conduit to be allowed for is clarified under Items 1.2, 1.3, and 1.4 under the heading “Mechanical & Electrical Drawings” of this addendum.

Question No 2: Are security escorts required for contractors with reliability status?

Answer: No escorts are required if the Contractor has been screened for reliability status. For Contractors without reliability status, DFO will provide security escorts.

Question No 3: Is there a hazmat building assessment available ?

Answer: Yes. The hazmat building assessment report will be included as an appendix.

Question No 4: Is it the intent that all piping and duct work be installed above the tee bar ceiling in the telecom work shop?

Answer: Yes, all new piping and ductwork is to be installed above the tee bar ceiling in the telecom work shop and in other areas with existing tee bar ceilings. Where there are open ceilings, the intent is to mount the new piping, equipment and ductwork as high as practical, between joists and structural beams.

Question No 5: Section 23 07 15, Clause 3.6.6.3 indicates all concealed piping in the ceilings or walls requires a PVC jacket, please confirm?

Answer: Yes the intent is to provide a jacket around refrigerant piping in concealed and exposed ceilings and walls to better protect the piping and provide a clean finish. A single jacket may be used over the bundled hot gas and liquid refrigerant lines. Indoors only an aluminum jacket may be used, not PVC. PVC may still be used outdoors, as specified.

Question No 6: Do you have a material type for the condensate piping ?

Answer: The material to be used for condensate piping is copper or schedule 40 steel piping. A change has been made in the “Specifications” section of this addendum to clarify.

Question No 7: Section 25 30 01 Clause 2.2. – Web Server. The current software on the facility is not web-based. Is the intent to upgrade the software at the facility to be web based, and operate on a web server/web software provided under this contract?

Answer: No, the intent is not to upgrade existing software to be web-based. The intent was for new software to be web-based, if possible. However, if this is not possible due to compatibility issues, the new software is not required to be web-based.

End of Addendum No.1



Hazardous Building Materials Assessments

6 Buildings/Structures at the Victoria
Coast Guard Base, 25 Huron Street,
Victoria, BC

March 18, 2019

Prepared for:

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HAZARDOUS BUILDING MATERIALS ASSESSMENTS

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Executive Summary

Stantec Consulting Ltd. (Stantec) was retained by Public Services and Procurement Canada (PSPC) on behalf of Fisheries and Oceans Canada (DFO) to conduct hazardous building materials assessments within 6 buildings at the Victoria Coast Guard Base located at 25 Huron Street, Victoria, British Columbia (BC).

The purpose of the assessment was to check for potential hazardous building materials that may require special management practices in accordance with the requirements of the Canada Labour Code, Part II Canada Occupational Health and Safety Regulations (COHSR) and the current version of British Columbia's Occupational Health and Safety Regulation (BC Reg. 296/97) during continued operations and maintenance, as well as for renovation planning.

The hazardous building materials considered included asbestos-containing materials (ACMs), lead-containing materials including lead-containing paints (LCPs), polychlorinated biphenyls (PCBs), mercury-containing items, ozone-depleting substances (ODSs), mould or moisture affected building materials, and silica.

Based on Stantec's visual assessment and on the laboratory analyses performed on samples collected, hazardous building materials were identified within the buildings assessed.

A summary of our findings and recommendations is presented below, on a building-by-building basis. It should be noted that this summary is subject to the same restrictions and limitations as presented in Section 4.0 (Assessment Limitations) and Section 7.0 (Closure) of this report. The information provided is to be read in conjunction with the remainder of this report.

NOTE: Where particular hazardous building materials are not listed in Table ES 1 below, they were not identified in that particular building.



Table ES 1 Summary of Identified Hazardous Building Materials

Building Name	Identified Hazardous Building Materials
Administration Building	<p>Asbestos</p> <p>The following ACMs were identified:</p> <ul style="list-style-type: none"> • Texture coat applied to drywall ceiling in the front entrance vestibule and exterior soffit • Black electrical penetration putty on the floor penetration in the Electrical/Telephone room • Red mastic applied to seams of HVAC ducting throughout • Beige pebble pattern vinyl sheet flooring in the Janitor Room and Female Washroom • Tan vinyl sheet flooring beneath cream 12"x12" patterned vinyl sheet flooring in the Male Washroom • 12"x12" cream vinyl floor tile with beige smudges in the Electrical/Telephone Room and west portion of the Mail/Files Room <p>Lead</p> <p>The following LCPs were identified:</p> <ul style="list-style-type: none"> • White coloured paint on concrete interior walls • Grey coloured paint on concrete mechanical room floors <p>Lead is also expected to be present in lead-acid batteries used in emergency lighting, older electrical wiring materials and sheathing, solder used on domestic water lines, solder used in bell fittings for cast iron pipes and in electrical equipment, ceramic tile glaze and vent and pipe flashings.</p> <p>Polychlorinated Biphenyls</p> <p>PCBs may be present in the fluorescent light ballasts of the approximately 100 light fixtures observed. As the ballasts were energized, they could not be inspected at the time of the assessment for health and safety reasons.</p> <p>Mercury</p> <p>The following was observed pertaining to mercury-containing items:</p> <ul style="list-style-type: none"> • Mercury vapour is present in the light tubes within the approximately 100 fluorescent light fixtures observed <p>Silica</p> <p>Silica is expected to be present in the following, which were observed in various locations throughout:</p> <ul style="list-style-type: none"> • Cement products such as: <ul style="list-style-type: none"> – Concrete—foundation, floors, walls, blocks – Brick/masonry units and associated grout and mortar – Ceramic floor tiles and associated grouts/mortars • Gypsum board and associated wall/ceiling finish materials • Suspended ceiling tiles • Asphalt and asphalt products containing rock or stone (e.g., roof membrane)



Table ES 1 Summary of Identified Hazardous Building Materials

Building Name	Identified Hazardous Building Materials
Buoy Maintenance Facility	<p>Asbestos</p> <p>The following ACMs were identified:</p> <ul style="list-style-type: none"> • Blue pipe sealant applied to threads of the wash station pipes • Cream pipe sealant applied to threads of compressed air lines <p>Lead</p> <p>The following LCP was identified:</p> <ul style="list-style-type: none"> • Yellow coloured paint on mezzanine railings and ladder <p>Lead is also expected to be present in lead-acid batteries used in emergency lighting, and ceramic tile glaze.</p> <p>Polychlorinated Biphenyls</p> <p>PCBs may be present in the fluorescent light ballasts of the approximately 50 light fixtures observed. As the ballasts were energized, they could not be inspected at the time of the assessment for health and safety reasons.</p> <p>Mercury</p> <p>The following was observed pertaining to mercury-containing items:</p> <ul style="list-style-type: none"> • Mercury vapour is present in the light tubes within the approximately 50 fluorescent light fixtures observed <p>Mould</p> <p>The following mould and/or moisture issues were observed:</p> <ul style="list-style-type: none"> • Moisture-stained ceiling tiles in the Office and Paint Shop • Moisture-impacted drywall ceiling in the Enviro. Crew Storage <p>Silica</p> <p>Silica is expected to be present in the following, which were observed in various locations throughout:</p> <ul style="list-style-type: none"> • Cement products such as: <ul style="list-style-type: none"> – Concrete—foundation, floors, walls, blocks – Brick/masonry units and associated grout and mortar – Ceramic floor tiles and associated grouts and mortars • Gypsum board and associated wall/ceiling finish materials • Suspended ceiling tiles • Asphalt and asphalt products containing rock or stone (e.g., roof membrane)



Table ES 1 Summary of Identified Hazardous Building Materials

Building Name	Identified Hazardous Building Materials
Emergency Response Building (Pollution Control Building)	<p>Lead</p> <p>The following LCPs were identified:</p> <ul style="list-style-type: none"> • White coloured paint on interior concrete walls • Brown coloured paint on exterior metal door frames • Blue coloured paint on metal mezzanine structure <p>Lead is expected to be present in lead-acid batteries used in emergency lighting, older electrical wiring materials and sheathing, solder used on domestic water lines, solder used in bell fittings for cast iron pipes and in electrical equipment and vent and pipe flashings.</p> <p>Polychlorinated Biphenyls</p> <p>PCBs may be present in the fluorescent light ballasts of the approximately 80 light fixtures observed. As the ballasts were energized, they could not be inspected at the time of the assessment for health and safety reasons.</p> <p>Mercury</p> <p>The following was observed pertaining to mercury-containing items:</p> <ul style="list-style-type: none"> • Mercury vapour is present in the light tubes within the approximately 80 fluorescent light fixtures observed <p>Silica</p> <p>Silica is expected to be present in the following, which were observed in various locations throughout:</p> <ul style="list-style-type: none"> • Cement products such as: <ul style="list-style-type: none"> – Concrete—foundation, floors, walls, blocks – Brick/masonry units and associated grout and mortar • Gypsum board and associated wall/ceiling finish materials • Suspended ceiling tiles • Asphalt and asphalt products containing rock or stone (e.g., roof membrane)



Table ES 1 Summary of Identified Hazardous Building Materials

Building Name	Identified Hazardous Building Materials
Helicopter Hangar	<p>Asbestos</p> <p>The following ACMs were identified:</p> <ul style="list-style-type: none"> • Grey wall sealant applied to exterior concrete vertical seams • Black window pane caulking applied to windows throughout • Spray on insulation/fireproofing applied to ceilings throughout (observed to be removed from mezzanine) <p>Lead</p> <p>The following LCPs were identified:</p> <ul style="list-style-type: none"> • White coloured paint on concrete interior walls • Orange coloured paint on metal doors • Brown coloured paint on structural steel • Pink coloured paint on exterior bay doors <p>Lead is expected to be present in lead-acid batteries used in emergency lighting, older electrical wiring materials and sheathing, solder used on domestic water lines, solder used in bell fittings for cast iron pipes and in electrical equipment, ceramic tile glaze and vent and pipe flashings.</p> <p>Polychlorinated Biphenyls</p> <p>PCBs may be present in the fluorescent light ballasts of the approximately 40 light fixtures observed. As the ballasts were energized, they could not be inspected at the time of the assessment for health and safety reasons.</p> <p>Mould</p> <p>The following mould and/or moisture issues were observed:</p> <ul style="list-style-type: none"> • Moisture-stained ceiling tiles in various locations throughout <p>Mercury</p> <p>The following was observed pertaining to mercury-containing items:</p> <ul style="list-style-type: none"> • Mercury vapour is present in the light tubes within the approximately 40 fluorescent light fixtures observed <p>Silica</p> <p>Silica is expected to be present in the following, which were observed in various locations throughout:</p> <ul style="list-style-type: none"> • Cement products such as: <ul style="list-style-type: none"> – Concrete—foundation, floors, walls, blocks – Brick/masonry units and associated grout and mortar – Ceramic floor tiles and associated grouts and mortars • Gypsum board and associated wall/ceiling finish materials • Suspended ceiling tiles • Asphalt and asphalt products containing rock or stone (e.g., roof membrane)



Table ES 1 Summary of Identified Hazardous Building Materials

Building Name	Identified Hazardous Building Materials
Stores/Warehouse Building	<p>Asbestos The following ACMs were identified:</p> <ul style="list-style-type: none"> • Drywall joint compound applied to walls and ceilings throughout <p>Lead The following LCPs were identified:</p> <ul style="list-style-type: none"> • Light blue/grey coloured paint on exterior metal siding • Light brown coloured paint on interior metal stairwell, door and frames • Orange coloured paint on metal mezzanine storage, stairs and railings • Purple coloured paint on exterior metal walls • Pink/peach coloured paint on exterior metal walls <p>Lead is also expected to be present in lead-acid batteries used in emergency lighting, older electrical wiring materials and sheathing, solder used on domestic water lines, solder used in bell fittings for cast iron pipes and in electrical equipment, ceramic tile glaze and vent and pipe flashings.</p> <p>Polychlorinated Biphenyls PCBs may be present in the fluorescent light ballasts of the approximately 120 light fixtures observed. As the ballasts were energized, they could not be inspected at the time of the assessment for health and safety reasons.</p> <p>Mercury The following was observed pertaining to mercury-containing items:</p> <ul style="list-style-type: none"> • Mercury vapour is present in the light tubes within the approximately 120 fluorescent light fixtures observed <p>Silica Silica is expected to be present in the following, which were observed in various locations throughout:</p> <ul style="list-style-type: none"> • Cement products such as: <ul style="list-style-type: none"> – Concrete—foundation, floors, walls, blocks – Brick/masonry units and associated grout and mortar – Ceramic floor tiles and associated grouts/mortar • Gypsum board and associated wall/ceiling finish materials • Suspended ceiling tiles



Table ES 1 Summary of Identified Hazardous Building Materials

Building Name	Identified Hazardous Building Materials
Workshop Building	<p>Asbestos</p> <p>The following ACM was identified:</p> <ul style="list-style-type: none"> • Grey window pane caulking applied to windows throughout • Black mechanical gaskets in pipe flanges • 12"x12" beige vinyl floor tile with brown streaks in the Carpentry Shop mezzanine and shop foreman (concealed beneath linoleum), Maintenance Garage equipment and systems storage • 12"x12" white with grey floor tile at the base of the stairwell in the electrical shop and open storage <p>Lead</p> <p>The following LCPs were identified:</p> <ul style="list-style-type: none"> • Red coloured paint on structural steel • Red coloured paint on exterior metal bollards • Grey coloured paint on metal Carpentry Shop stairwell • White coloured paint on metal doors and frames • Orange coloured paint on metal doors • Brown coloured paint on exterior metal walls • Cream (over red) coloured paint on metal vertical columns <p>Lead is also expected to be present in lead-acid batteries used in emergency lighting, older electrical wiring materials and sheathing, solder used on domestic water lines, solder used in bell fittings for cast iron pipes and in electrical equipment, ceramic tile glaze and vent and pipe flashings.</p> <p>Polychlorinated Biphenyls</p> <p>PCBs may be present in the fluorescent light ballasts of the approximately 100 light fixtures observed. As the ballasts were energized, they could not be inspected at the time of the assessment for health and safety reasons.</p> <p>Mercury</p> <p>The following was observed pertaining to mercury-containing items:</p> <ul style="list-style-type: none"> • Mercury vapour is present in the light tubes within the approximately 100 fluorescent light fixtures observed • Two mercury-containing thermostats were observed in the (Old) Paint Shop and the Welding Shop <p>Mould</p> <p>The following mould and/or moisture issues were observed:</p> <ul style="list-style-type: none"> • Moisture-stained ceiling tiles in various locations throughout <p>Ozone Depleting Substances</p> <p>The following equipment was identified to have ODS-containing refrigerant:</p> <ul style="list-style-type: none"> • One Mr. Slim HVAC unit (1 lb of R-22) • One Climate air conditioning unit (16.50 oz of R-22) <p>Silica</p> <p>Silica is expected to be present in the following, which were observed in various locations throughout:</p> <ul style="list-style-type: none"> • Cement products such as: <ul style="list-style-type: none"> – Concrete - foundation, floors, walls, blocks – Brick and masonry units and associated grouts and mortars – Ceramic floor tiles and associated grouts and mortars • Gypsum and associated wall/ceiling finish materials • Suspended ceiling tiles • Asphalt and asphalt products containing rock or stone (e.g., roof membrane)



HAZARDOUS BUILDING MATERIALS ASSESSMENTS

Building-by-building summaries of the identified hazardous building materials are provided in Appendix 5.1 through Appendix 5.6. General findings pertaining to hazardous building materials are provided in Section 5.0 and the building-by-building appendices of this report. General recommendations are provided in Section 6.0 of this report and building-specific recommendations regarding identified hazardous building materials in “non-compliant” condition (materials requiring action) are provided in the building-by-building appendices.



Abbreviations

ACM	asbestos-containing material
BC	British Columbia
CCG	Canadian Coast Guard
COHSR	Canada Occupational Health and Safety Regulations
DFO	Fisheries and Oceans Canada
EMSL	EMSL Canada Inc.
EPA	Environmental Protection Agency
HUD	Housing and Urban Development
HVAC	heating, ventilation and air conditioning
LCP	lead-containing paint
NVLAP	National Voluntary Laboratory Accreditation Program
ODS	ozone-depleting substance
OEL	Occupational Exposure Limit
PCB	polychlorinated biphenyl
PSPC	Public Services and Procurement Canada
SWP	Safe Work Practice



HAZARDOUS BUILDING MATERIALS ASSESSMENTS

Introduction
March 18, 2019

1.0 INTRODUCTION

Stantec Consulting Ltd. (Stantec) was retained by Public Services and Procurement Canada (PSPC) on behalf of Fisheries and Oceans Canada (DFO) to conduct hazardous building materials assessments for the following buildings (subject buildings) at the Victoria Coast Guard Base, which is located at 25 Huron Street, Victoria, British Columbia (BC):

- Administration Building
- Buoy Maintenance Facility
- Emergency Response Building (Pollution Control Building)
- Helicopter Hangar
- Stores and Warehouse Building
- Workshop Building

An overall site plan of the Victoria Coast Guard Base, which shows the locations of the buildings assessed, is presented in the drawings in Appendix 1.

The purpose of the assessment was to check for potential hazardous building materials that may require special management practices in accordance with the requirements of the Canada Labour Code, Part II Canada Occupational Health and Safety Regulations (COHSR) and the current version of British Columbia's Occupational Health and Safety Regulation (BC Reg. 296/97) during continued operations and maintenance.

The hazardous building materials considered included asbestos-containing materials (ACMs), lead-containing materials including lead-containing paints (LCPs), polychlorinated biphenyls (PCBs), mercury-containing items, ozone-depleting substances (ODSs), mould or moisture affected building materials, and silica.

The site work was conducted by Kim Wiese and Amanda Bell on December 17–19, 2018.

2.0 BACKGROUND

Stantec understands that the subject buildings were generally constructed during time periods when hazardous building materials were commonly or potentially used in construction, and that information pertaining to the identity, location and approximate extent of hazardous building materials (if any) within the subject buildings is either not on-file or outdated. As such, and in accordance with the COHSR and BC Reg. 296/97 pertaining to identifying hazards associated with hazardous building materials in the workplace, and to assist with future renovation planning, PSPC commissioned this assessment on behalf of DFO.



HAZARDOUS BUILDING MATERIALS ASSESSMENTS

Background
March 18, 2019

2.1 DOCUMENT REVIEW

The following documentation (further referred to collectively as the Previous Reports, and individually as noted with each list item, where applicable) was reviewed prior to undertaking the assessment:

- WSP Report No. 181-12523-00 entitled *Bulk Material Sampling and Analysis for Asbestos, Mechanical Room 41, Administrative Building, CCG Base, Victoria, BC*, dated September 2018, prepared for Fisheries and Oceans Canada (WSP Admin Report, 2018);
- WSP Report No. 181-06946-00 entitled *Bulk Material Sampling and Analysis for Asbestos, Buoy Maintenance Building, CCG Base Victoria*, dated May 2018, prepared for Fisheries and Oceans Canada (WSP Buoy Report, 2018);
- BCHA ZMAT Report No. 2018076-4 entitled *Asbestos Materials Survey Report: Pre-Renovation, 19 Huron Street, Victoria, British Columbia*, dated August 23, 2017, prepared for Fisheries and Oceans Canada (BCHA ZMAT Report, 2017);
- North West Environmental Group Ltd. Report No. 33469 entitled *Bulk Insulation and Acoustic Ceiling Tile Sampling at 25 Huron Street*, dated August 15, 2017, prepared for Department of Fisheries and Oceans (North West Hangar Report, 2017);
- North West Environmental Group Ltd. Report entitled *Bulk Sample Asbestos Identification Results—25 Huron St—Hangar Building—1 Bulk AB 24 hour – (28044)*, dated January 06, 2016, prepared for Canadian Coast Guard - Victoria (North West Bulk Sample Report, January 06, 2016);
- WSP Report No. P16-11019-18 entitled *Asbestos Bulk and Air Sample Results Letter* dated February 09, 2016, prepared for Department of Fisheries and Oceans Canada (WSP Hangar Report, 2016);
- WSP Report No. P18-BCS&W-057 entitled *Hazardous Materials Building Survey, Mechanical Office of Workshops Building CCG Base Victoria, BC*, dated April 20, 2018, prepared for Fisheries and Oceans Canada (WSP Workshops Report, 2018);
- North West Environmental Group Ltd. Report entitled *Bulk Sample Asbestos Identification Results—25 Huron St (DFO) 1 AB—(28225)*, dated January 19, 2016, prepared for Propacific Restorations (North West Bulk Sample Report, Jan 19, 2016);
- North West Environmental Group Ltd. Report No. 28892 HMA V1.0 entitled *Limited Hazardous Materials Assessment, 25 Huron Street, Victoria, BC*, dated April 21, 2016, prepared for Houle Electric Ltd. (North West Limited Assessment Report, April 21, 2016);
- Golder Associates Ltd. Report No. 04-1412-046 entitled *Asbestos Management Plan, Canadian Coast Guard Base Victoria, Victoria, BC*, dated August 4, 2004, prepared for Department of Fisheries and Oceans Canadian Coast Guard Victoria Base, Victoria, BC (Golder Report, 2004).



HAZARDOUS BUILDING MATERIALS ASSESSMENTS

Scope and Methodology

March 18, 2019

3.0 SCOPE AND METHODOLOGY

Kim Wiese and Amanda Bell of Stantec conducted visual assessments within the subject buildings on December 17–19, 2018. Site work was conducted in general compliance with the requirements of the COHSR, BC Reg. 296/97 and Stantec's Safe Work Practices (SWPs).

Mechanical systems, structures and finishes of the subject buildings were visually examined to determine the suspected presence of ACMs, lead including LCPs, PCBs, mercury, ODSs, mould, and silica. Where building materials were suspected but not confirmed to contain asbestos or lead (in paint) samples were collected for analysis to confirm or deny the presence of these hazardous materials. Based on analytical results, visually similar materials were referenced to specific analyzed samples to reduce the number of samples collected.

Additional background information and the methodology used for the determination of presence or absence of each specific hazardous material considered in this assessment are outlined in the following sections.

3.1 ASBESTOS

The common use of friable (materials which, when dry, can be easily crumbled or powdered by hand pressure) ACMs in construction generally ceased voluntarily in the mid-1970s but was only banned through legislation by the late 1980s. Friable asbestos was used in many building products, primarily high temperature insulations, spray-applied structural fireproofing, and a material known as vermiculite that was commonly used as block wall insulation and may be contaminated with asbestos fibres. Asbestos was also used in many non-friable manufactured products such as floor tiles, ceiling tiles, Transite cement products, and various other construction materials. Some cement products currently used in the construction of buildings may still contain asbestos.

The presence of asbestos in federal workplaces and pertaining to federally regulated workers is governed by the COHSR. According to the COHSR, ACM means:

- Any article that is manufactured and contains 1% or more asbestos (by weight) at the time of manufacture, or any material that contains 1% or more asbestos when tested in accordance with accepted methods.

The presence of asbestos in the workplace in British Columbia pertaining to provincially regulated workers is governed by BC Reg. 296/97. According to the current version of BC Reg. 296/97, ACM means:

- Any material containing at least 0.5% asbestos, or vermiculite insulation with any asbestos.



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As both federally regulated workers and provincially regulated workers (e.g., contractors) are expected to carry out work activities within the subject buildings, and as the provincial regulations have a more stringent definition of ACM, and generally include the requirements noted in the COHSR, this assessment was conducted to meet the requirements of BC Reg. 296/97.

Based on these criteria, a visual assessment of accessible areas was undertaken in order to check for the presence of materials suspected of containing asbestos. Locations to collect discrete bulk asbestos samples of suspect building materials were identified. Samples of representative materials were then collected at these locations.

Multiple samples were collected from each “homogenous application” of observed suspected ACMs (materials suspected to contain asbestos that are uniform in material type, colour, texture application and estimated installation date) and submitted to EMSL Canada Inc. (EMSL) in Burnaby, BC for analysis of asbestos content using polarized light microscopy (PLM) with dispersion staining, in accordance with the United States Environmental Protection Agency (EPA) 600/R-93/116 method. EMSL’s analytical laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

The 2017 WorkSafeBC publication *Safe Work Practices for Handling Asbestos* (Asbestos Guide), is used by Occupational Health and Safety officers as a guide when reviewing abatement work practices and employer codes of practice. The number of samples to be collected for each homogenous application of a suspected ACM was based on the recommendations provided in the Asbestos Guide along with accepted occupational hygiene standards and protocols and the assessor’s experience and understanding of the consistency of that building material’s application.

3.1.1 Sample Results Interpretation

When asbestos is detected in concentrations greater than 0.5% in one of the samples within a set that was collected to represent a “homogenous application” of a particular material (or detected in any concentration, in a set of samples collected for applications of vermiculite), the entire sample set and the entire application of that material was then considered to be an ACM.

In addition to the above, a “positive stop” option was used during the laboratory analysis of the building material samples submitted for asbestos analysis. The “positive stop” option is utilized by the laboratory when asbestos is detected at a concentration of greater than one percent in one of the samples within a set that was collected to represent a “homogenous application” of that material. At this point, further analysis of subsequent samples within the set is deemed to be unnecessary (as the entire set will be considered an ACM, per above), and the remainder of the samples within the set are not analyzed.



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3.1.2 Potential Asbestos-Containing Vermiculite Insulation

As part of the assessment, Stantec assessed the subject buildings for locations where vermiculite insulation, a potential ACM, would likely be present. This included making note of and assessing attic spaces, floor cavities and masonry or brick walls, which are typical areas where vermiculite is found. Regarding this portion of the assessment, the following should be noted:

- Where masonry or brick walls were observed, destructive assessment (drilling) was conducted to assess the cavity for the presence of vermiculite
- Where non-vermiculite attic insulation (e.g., fiberglass) was observed, inspection for the presence of vermiculite under the other insulation was conducted only at the attic access point (not throughout the attic)

3.1.3 Asbestos Sampling Quality Assurance/Quality Control

Sampling activities pertaining to asbestos were conducted in accordance with Stantec's SWPs, which take into account current provincial regulations pertaining to such work (i.e., sampling procedures, required number of samples, and laboratory analytical procedures).

Representative bulk samples were collected of accessible suspect ACMs in sufficient quantities for laboratory analyses. Suspect ACM samples were sealed in polyethylene zip-lock bags labeled with the sample number, suspect material description, and sample location. As part of sampling procedures, sampling tools were cleaned between sample collection events to avoid the potential for cross-contamination of samples.

Sample bags were compiled in order and placed into a single container accompanied with a Chain of Custody form outlining the project information, date, building location, number of samples, and sample description. Samples were submitted to the analytical laboratory in a sealed container via courier.

3.2 LEAD

Lead may be used in its pure metallic form or combined chemically with other elements to form lead compounds. Metallic lead is used to make products such as electric storage batteries, ammunition, lead solder, radiation shields, pipes, and sheaths for electric cables. Metallic lead is sometimes combined with other metals such as copper, tin, and antimony as lead alloys for use in the manufacture of a variety of metal products. Lead is commonly found in buildings in the solder used on copper domestic pipes, in the caulking on bell fittings of cast iron drainage pipes and in electrical equipment.

A visual assessment of accessible areas was undertaken in order to check for the presence of materials that may contain lead. These materials included paint applications, wiring and plumbing, batteries, etc.



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With respect to potential lead exposures associated with disturbance to surfaces coated with lead-containing products, the 2011 WorkSafeBC manual titled *Lead-Containing Paint and Coatings: Preventing Exposure in the Construction Industry*, indicates the following:

- Improper removal of lead paint containing 600 mg/kg lead results in airborne lead concentrations that exceed half of the exposure limit
 - This potential for exposure exceeding half of the occupational exposure limit would be the trigger for implementation of an exposure control plan
- Lead concentrations as low as 90 mg/kg may present a risk to pregnant women and children
 - Any risk assessment should include consideration for the presence of high risk individuals within the workplace

In addition to the above, the 2017 WorkSafeBC publication *Safe Work Practices for Handling Lead* (Lead Guideline) indicates the following:

“Unlike for asbestos-containing material, WorkSafeBC does not numerically define what would be considered a lead-containing paint or coating. All suspected paints or coatings should be tested for lead because, depending on the nature of the work, even a small amount could pose a risk to workers. In order to determine which controls and personal protective equipment would be required for a particular job, a qualified person must consider this information as part of the risk assessment.”

When reviewing the above, “high risk” individuals are not expected to be present in the workplace associated with this site during operations and maintenance or building material alteration activities (i.e., renovation) that would create significant disturbance to paint with such individuals present. As such, Stantec will reference a value of greater than 600 ppm in defining paints as “lead-containing” for the purpose of this report, such that appropriate risk assessments can be completed for ongoing operations and maintenance. However, information regarding the lead content of all paints tested is provided herein, for reference and risk assessment should the consideration of high risk individuals be necessary, based on the requirements of a particular situation.

Based on the above, samples of suspected LCPs were collected from major paint applications. Samples were collected to substrate, where possible, in sufficient quantity to conduct analysis for total lead content. Samples collected were placed into separate, sealed, and labeled polyethylene bags, and submitted to EMSL in Mississauga, Ontario for analyses of total lead content using Flame Atomic Absorption Spectrometry AAS (SW 846 3050B*/7000B).

EMSL’s analytical laboratory is also accredited by the American Industrial Hygiene Association (AIHA) Environmental Lead Laboratory Approval Program.



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3.2.1 Welding, Burning or Torch Cutting

Although a concentration of 600 ppm lead has been used to define paint coatings as LCPs, it should be noted that this is related to painted surfaces and the determination of appropriate provisions to protect occupants and employees from exposure to elevated concentrations of lead during typical operations and maintenance or simple renovation. This does not include painted metal surfaces that are to be welded, burned or torch-cut.

Using an arc welder or oxyacetylene torch on steel that is coated with lead-containing paint can create hazardous lead fumes and is prohibited by section 12.115 of the BC Reg. 296/97.

Regulatory excerpt: **12.115 Coatings on metals**

“A coating on metal which could emit harmful contaminants (such as lead, chromium, organic materials, or toxic combustion products) must be removed from the base metal, whenever practicable, before welding or cutting begins.”

In addition, the following information is provided in the Lead Guideline:

- Welding or torch cutting of paints or coatings on metal can create very high concentrations of airborne lead fumes. Torch cutting structural steel, coated with paint containing as little as 130 mg/kg (equivalent to ppm) lead, can release airborne levels of lead as high as 0.8 mg/m³ (16 times the exposure limit).

Given this information and that the analytical detection limit for lead paint analysis is approximately 80–90 ppm (not significantly different than 130 ppm, which, per above, may release airborne lead levels 16 times the exposure limit), any paint coating on a metal surface to be welded, burned or torch-cut must be removed prior to that action being undertaken, unless a project-specific or tasks-specific risk assessment and safe work practices are developed by a qualified person.

3.3 POLYCHLORINATED BIPHENYLS

PCBs were used widely as coolants and lubricants in transformers, capacitors, and other electrical equipment. In fluorescent fixtures, PCBs were usually found within the small capacitors inside the ballast that controls the lamp. The Federal Chlorobiphenyls Regulation, SOR/91-152, prohibited the use of PCBs in electrical equipment manufactured after July 1, 1980.

A visual review for the presence of PCBs in electrical equipment was completed visually. Equipment that is generally suspected of containing PCBs includes lamp ballasts, transformers, hydraulic systems, compressors, switchgear and capacitors. No sampling of dielectric fluids was undertaken as part of this assessment.

With respect to fluorescent lamp ballasts, due to the risk of electrical shock associated with dismantling operating fixtures, fluorescent lamp ballasts were not removed to view identification numbers/information.



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Suspected PCB-containing electrical equipment can be visually inspected and compared to the Environment Canada reference guide entitled *Identification of Lamp Ballasts Containing PCBs, Report EPS 2/CC/2*, dated August 1991 (PCB Guide), or an equivalent reference.

For buildings constructed prior to 1985, limited amounts of PCBs may be present in non-electrical items (e.g., plastics, molded rubber parts, applied dried paints, coatings or sealants, caulking, adhesives, paper, sound deadening materials, insulation, or felt and fabric products such as gaskets). However, unless otherwise noted based on building construction type or suspect building material use, PCBs are not expected to be present in those materials in concentrations that would necessitate the requirement for PCB-specific handling procedures, separate removal and/or disposal considerations for ongoing operations and maintenance, or for renovation or demolition. As such, these items were not considered or sampled in our assessment.

3.4 MERCURY

Mercury is commonly found in buildings as mercury vapour lighting, thermostats/thermometers with mercury-containing glass ampoules, electrical switches and can also be found in minor amounts in fluorescent lamp tubes and vapour bulbs and may be present in stable forms in adhesives. Exposure to mercury in federal workplaces is governed by the COHSR, while provincially it is governed by BC Reg. 296/97.

An assessment for equipment that is likely to contain mercury was completed visually. Information on the type of equipment (i.e., gauges, switches, batteries, thermometers, etc.), model and serial numbers and quantities was recorded, where such information was available.

3.5 MOULD

Moist building materials may provide suitable conditions for mould growth, and the removal of building materials impacted by mould growth may require workers with specific training and experience using work procedures that have been developed to protect workers and work areas from exposure to elevated concentrations of airborne mould.

The presence of suspect visible mould was assessed through visual observations. Material observed with dark-colored staining and/or a textured and discolored appearance is described as “suspect mould”. Mould identified visually is defined as “suspect mould” unless it is confirmed as mould by laboratory analysis.

For buildings constructed prior to 2004, limited amounts of mercury may be present in paints and adhesives. However, unless otherwise noted based on building construction type or suspect building material use, mercury is not expected to be present in those materials in concentrations that would necessitate the requirement for mercury specific handling procedures, separate removal and/or disposal considerations for ongoing operations and maintenance, renovation or demolition. As such, these items were not considered or sampled in our assessment.



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3.5.1 Mould Reference Guidelines

With respect to mould and/or moisture, the visual assessment procedures utilized during this project were based on the recommendations provided in the documents listed below:

- Standard Construction Document CCA 82 *Mould Guidelines for the Canadian Construction Industry*, Canadian Construction Association, 2004 (referred to as CCA 82)
- *Guidelines on Assessment and Remediation of Fungi in Indoor Environment*, New York City Department of Health, Bureau of Environmental and Occupational Disease Epidemiology, April 2000 (referred to as the NYC Guidelines)
- *Fungal Contamination in Public Buildings: Health Effects and Investigation Methods*, Federal-Provincial Committee on Environmental and Occupational Health, 2004 (referred to as the Health Canada Guide)
- *Indoor Air Quality in Office Buildings: A Technical Guide*, report of the Federal-Provincial Advisory Committee on Environmental and Occupational Health, 1995 (referred to as the IAQ Guide)
- *Bioaerosols: Assessment and Control*, American Conference of Governmental Industrial Hygienists (ACGIH), 1999 (referred to as the ACGIH Report)

3.6 OZONE-DEPLETING SUBSTANCES

Chlorofluorocarbons (CFCs) and other ODSs are often found in refrigeration units associated with air-conditioning or other refrigeration equipment. In September 1987, 47 countries agreed to the Montreal Protocol on Substances that Deplete the Ozone Layer. ODSs are regulated in BC by the British Columbia *Waste Management Act*—Ozone Depleting Substances and Other Halocarbons Regulation (BC Reg. 387/99 as amended by BC Reg. 109/2002) and the Federal Halocarbon Regulations, 2003 (FHR 2003).

An assessment for equipment likely to contain ODSs was completed visually. Information on the type of equipment, manufacturer and type and quantity of refrigerants was recorded, where available.

3.7 SILICA

Silica, also referred to as free crystalline silica, is found in concrete, cement, mortar, ceramic wall and floor tiles, stucco finishes and acoustic ceiling tiles. Prolonged exposure to, and inhalation of free crystalline silica, may result in respiratory disease known as silicosis, which is characterized by progressive fibrosis of the inner lung tissue and marked shortness of breath or impaired lung function.

Exposure to silica dust is governed by the COHSR and BC Reg. 296/97. According to both legislative instruments; the time-weighted average exposure limit for airborne silica dust is 0.025 mg/m³.

An assessment for the presence of silica was conducted visually. The presence of potential silica-containing building materials such as concrete, masonry, stone, terrazzo, refractory brick, ceramic tile, ceiling tile etc. was noted.



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4.0 ASSESSMENT LIMITATIONS

This report has been prepared for general information purposes associated with continued operations and maintenance of the subject buildings. This report does not necessarily constitute a pre-renovation or pre-demolition assessment, which can involve destructive removal of building finishes to observed concealed conditions. Prior to any renovation or demolition work within the subject buildings, this report should be reviewed by an appropriately qualified professional (with education and experience associated with the management of hazardous building materials) to determine what, if any, additional assessment is necessary.

In preparation of this report, Stantec used professional judgment based on experience. The work was conducted in accordance with generally accepted professional standards. Stantec relied on information gathered during the site investigations and laboratory analytical reports.

This report reflects the observations made within accessed portions of the subject buildings and the results of analyses performed on specific materials sampled during the assessment. Analytical results reflect the sampled materials at the specific sample locations.

Sampling was conducted pertaining to suspected ACMs and suspected LCPs only. The assessment for the presence of other hazardous building materials was visual in nature, and was conducted pertaining to readily visible surfaces within accessible spaces only. Concealed spaces were inspected via existing access panels, where present.

4.1 ASBESTOS

Suspected ACMs that were not sampled included, but were not limited to, the following (where present, based on building construction or as otherwise noted):

- Concealed layers of roofing materials
- Interior components of mechanical equipment (e.g., inner linings or gaskets in boilers)
- Interior components of heating, ventilation and air conditioning (HVAC) units
- Heat protection materials inside mechanical installations (e.g., gaskets) and light fixtures (e.g., paper backing in sealed incandescent fixtures)
- Drywall and/or wall plaster and associated finish materials concealed behind new and/or additional walls or ceilings
- Woven tape inside duct connection joints or inner ducting insulation
- Materials within sealed/hard wall cavities or hard ceiling cavities without appropriate access points
- Insulation materials inside fire doors

If encountered during renovation, demolition or other activities, any suspected ACMs not identified within this report should be presumed to contain asbestos and handled as such until otherwise proven, through analytical testing.



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4.2 LEAD

Assessment for the presence of lead or lead-containing materials was visual in nature, and was conducted pertaining to readily visible surfaces within accessible spaces of the subject buildings. The presence of lead or lead-containing materials in inaccessible areas not assessed included, but was not limited to, ceiling spaces and wall cavities.

With respect to paint, samples of suspected LCPs were collected within the subject buildings only from surfaces of major paint applications where visually different paint colours and/or types were identified. Although the surfaces where samples were collected may be covered with more than one coat of paint, the paint samples are described by the surface (visible) colour only.

Attempts were made to represent all layers of paint in the samples collected. As analytical results are referenced to the surface paint colour only, the lead content of all painted surfaces similar to that represented by the surface paint colour will be presumed to be the same, regardless of differing sub surface paints, if any.

4.3 POLYCHLORINATED BIPHENYLS

Due to height restrictions and the risk of electrical shock in handling operational light fixtures, the ballasts present in the fixtures observed within the subject buildings were not removed for comparison to the PCB Guide. The visible labels of ballasts in several fixtures were inspected for comparison to the PCB Guide.

Conclusions and recommendations regarding the presence of PCBs within the subject buildings are based on Stantec's limited observations in combination with information provided by staff regarding lighting renovations (where requested by Stantec based on observations) and is presented to provide guidance regarding the likelihood that PCB-containing equipment is or is not present within the subject buildings. The exact extent and/or number of fluorescent lamp ballasts containing PCBs, if any, within the subject buildings will not be commented on.

4.4 MERCURY

Visual assessment for the presence of mercury-containing equipment within the subject buildings was conducted in accessible areas only. Additional mercury or mercury-containing equipment may be present in inaccessible areas including, but not limited to, ceiling spaces and wall cavities, or as internal parts of HVAC mechanisms.

4.5 MOULD

Visual assessment for the presence of suspected visible mould and/or suitable conditions for mould growth (e.g., moist and/or water-stained building materials) were conducted in accessed portions of the subject buildings only. The assessment was not intrusive in nature and included visual assessment of exposed surfaces and closer inspection of known problem areas.



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The conclusions made in this report provide description(s) of the potential source(s) of moisture within the subject buildings that may have led to suitable conditions for mould growth, only in those cases where potential source(s) of moisture were identified. These conclusions will not necessarily identify all sources of moisture leading to suitable conditions for mould growth within the subject buildings or within the impacted area(s).

This assessment does not constitute a building envelope/building systems assessment for any of the subject buildings, which would include an intrusive investigation to assess the internal condition, potential moisture sources, and expected remaining service life of the various components and systems comprising the envelope of a building.

4.6 OZONE DEPLETING SUBSTANCES

Visual assessment for the presence of ODSs within the subject buildings was conducted in accessible areas only. Additional ODS-containing equipment may be present in inaccessible areas including, but not limited to, ceiling spaces and wall cavities. In addition, portable equipment that may contain ODSs (refrigerators, drink coolers, etc.) was not considered as part of this assessment.

4.7 SILICA

Visual assessment for the presence of silica-containing materials within the subject buildings was conducted in accessible areas only. Additional silica-containing materials may be present in inaccessible areas including, but not limited to, ceiling spaces and wall cavities.

5.0 FINDINGS

The results of our assessment are provided on a building-by-building basis in Appendix 5.1 through Appendix 5.6. Each Appendix contains the following (where applicable):

- Separate sections with written summaries of findings pertaining to each hazardous building material, including the following:
 - Listing of suspect materials observed
 - Tables that provide summaries of the sample types, locations, and analytical results
 - Interpretations of observations and/or sample analytical results
- Information pertaining to condition evaluation of identified hazardous building materials
- Recommendations for identified hazardous building materials found to be in “non-compliant” condition (e.g., damaged ACMs, mould-impacted materials, etc.), where applicable
- Floor plan drawings for the buildings/structures, which include locations of the samples collected during this assessment, and locations of identified hazardous building materials (where practical)
- Copies of the analytical certificates for suspected ACM samples collected/analyzed
- Copies of the analytical certificates for all suspected LCP samples collected/analyzed



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Findings

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5.1 MATERIAL CONDITION EVALUATION

In evaluating the condition of identified hazardous building materials, Stantec followed the protocols outlined in the Hazardous Building Materials Management Plan developed for the Victoria Coast Guard Base. The condition evaluation criteria for the various hazardous building materials considered are summarized below.

5.1.1 Asbestos-Containing Materials

The criteria are generally based on the June 5, 2017 PSPC Asbestos Management Standard and industry standards of practice for asbestos.

5.1.1.1 Friable ACMs other than Mechanical Insulation

In evaluating the condition of ACM spray friable ACMs other than mechanical insulation (e.g., spray-applied as fireproofing, texture, decorative or acoustic finishes), the following criteria apply:

Good

Surface of material shows no significant signs of damage, deterioration, or delamination. Up to one percent visible damage to surface is allowed within range of **GOOD**. Evaluation of sprayed fireproofing requires the assessor to be familiar with the irregular surface texture typical of sprayed asbestos products. **GOOD** condition includes un-encapsulated or unpainted fireproofing or texture finishes, where no delamination or damage is observed, and encapsulated fireproofing or texture finishes where the encapsulation has been applied after the damage or fallout occurred.

Fair

FAIR condition is not utilized or considered as a valid criterion in the evaluation of sprayed fireproofing, sprayed insulation, or texture coat finishes.

Poor

Sprayed materials show signs of damage, delamination, or deterioration. More than 1% damage to surface of hazardous building material spray.

In observation areas, where damage exists in isolated locations, both **GOOD** and **POOR** condition may be reported. The extent or percentage of each condition will be recorded on the assessor's reassessment form.

The evaluation of ACM spray applied as fireproofing, non-mechanical thermal insulation, or texture, decorative or acoustic finishes that are present above ceilings, may be limited by the number of observations made, and by building components such as ducts or full height walls that obstruct the above ceiling observations. BC Reg. 296/97 requires Moderate Risk operations for the removal of all or part of a false ceiling to obtain access to a work area, if asbestos-containing material is likely to be lying on the surface of the false ceiling.



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5.1.1.2 Mechanical Insulation

In evaluating the condition of ACM mechanical insulation (on boilers, breeching, ductwork, piping, tanks, equipment etc.) the following criteria are used:

Good

Insulation is completely covered in jacketing and exhibits no evidence of damage or deterioration.

No insulation is exposed. Includes conditions where the jacketing has minor surface damage (i.e., scuffs or stains), but the jacketing is not penetrated.

Fair

Minor penetration damage to jacketed insulation (cuts, tears, nicks, deterioration or delamination) or undamaged insulation that has never been jacketed. Insulation is exposed but not showing surface disintegration. The extent of missing insulation ranges should be minor to none.

Poor

Original insulation jacket is missing, damaged, deteriorated or delaminated. Insulation is exposed and significant areas have been dislodged. Damage cannot be readily repaired.

The evaluation of ACM mechanical insulation may be limited by the number of observations made and building components such as ducts or full height walls that obstruct observations. In these circumstances, it is not possible to observe each foot of mechanical insulation from all angles.

5.1.1.3 Non-Friable Materials

Non-friable ACMs generally have little potential to release airborne fibres, even when damaged by mechanical breakage. However, some non-friable materials, i.e., exterior asbestos cement products, may have deteriorated so that the binder no longer effectively contains the asbestos fibres. In such cases of significantly deteriorated non-friable material, the material will be treated as a friable product, and evaluated per the above criteria.

5.1.2 Lead

For general lead-containing materials (e.g., solder used on copper domestic pipes; caulking on bell fittings of cast iron drainage pipes; electrical equipment/wiring; batteries [e.g., emergency exit signage batteries]; lead sheeting [e.g., x-ray rooms]; vent and pipe flashings), condition evaluation is based on function. If the function is compromised, the material would be considered in “poor” condition, and would likely require replacement. Given that the exposure hazards associated with such replacements are typically low and/or simplistic to control, condition evaluation pertaining to such materials is not conducted or discussed herein.



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5.1.2.1 Lead-Containing Paint

The criteria for condition evaluation pertaining to LCPs described herein are generally based on the United States Housing and Urban Development (HUD) 2012 *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*.

When evaluating the condition of LCPs, an attempt should be made to determine whether the deterioration is due to a moisture problem or some other existing building deficiency.

“**Poor**” surfaces are considered to be a hazard and should be corrected. “**Fair**” surfaces should be repaired, but are not yet considered to be a hazard; if not repaired, they should be monitored frequently. “**Good/intact**” surfaces should be monitored to ensure that they remain in a nonhazardous condition.

In addition, the presence of paint debris must be considered in evaluating condition. Given the variety of paint uses, there are many applications that can have a tendency for the paint to “wear” from the surface slowly, over an extended period of time. Conditions where paint has worn from a surface are worth noting for maintenance discussions (i.e., related to re-coating the surface should, for example, the coating provide weather protection), however, in the absence of loose paint chip debris/dust, such conditions would not represent a potential exposure situation related to lead.

The condition evaluation criteria for LCPs are summarized in Table 5-1, below.

Table 5-1 Lead-Containing Paint Condition Categories

Type of Building Component ¹	Total Area of Deteriorated Paint on Each Component		
	Good/Intact	Fair ²	Poor ³
Exterior components with large surface areas	Entire surface is intact	Less than or equal to 10 ft ²	More than 10 ft ²
Interior components with large surface areas (walls, ceilings, floors, doors)	Entire surface is intact	Less than or equal to 2 ft ²	More than 2 ft ²
Interior and exterior components with small surface areas (window sills, baseboards, soffits, trim)	Entire surface is intact	Less than or equal to 10% of the total surface area of the component	More than 10% of the total surface area of the component
NOTES: ¹ Building component in this table refers to each individual component or side of building, not the combined surface area of all similar components in a room (e.g., a wall with 1 square foot of deteriorated paint is in “fair” condition, even if the other three walls in a room are intact). ² Surfaces in “fair” condition should be repaired and/or monitored, but are not considered to be “lead-containing paint hazards”. ³ Surfaces in “poor” condition are considered to be “lead-containing paint hazards” and should be addressed through abatement or interim controls.			



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5.1.3 Mould and Moisture-Impacted Building Materials

The condition of building materials impacted by moisture or mould is typically considered “**poor**” or “**requiring action**”. Additional details are provided below:

- Non-porous building materials (e.g., glass, metal) that can be cleaned and dried without losing function would be considered to be in “**fair condition**” if wet, and “**poor condition**” only if visible mould growth is present on surfaces (typically indicating the surfaces are covered with a layer of dirt, as mould will not grow on non-porous, inorganic materials)
- Semi-porous and porous materials (e.g., wood framing, gypsum board, carpets, furniture) that are impacted by moisture (without mould contamination) are considered to be in “**fair**” condition—representative of a situation that requires moisture intrusion correction and drying of affected surfaces only:
 - Depending on the building material, the water impacts may have degraded the material itself to a point where replacement is required (e.g., gypsum, insulation)
- Semi-porous and porous materials that are impacted by moisture (current or previous) and have evidence of mould contamination are considered to be in “**poor**” condition

5.1.4 Other Hazardous Building Materials

For other hazardous building materials (e.g., equipment with PCBs, equipment with mercury, equipment with ODSs, materials containing silica), condition evaluation is based on function. If the function is compromised, the material would be considered in “**poor**” condition, and would likely require replacement. Given that the exposure hazards associated with such replacements are typically low, simplistic to control and/or paramount to the removal process (e.g., review of ballasts for PCBs as they are decommissioned; in-tact removal of mercury-containing items; recovery of ODSs; implementation of dust control when disturbing/removing silica-containing materials), condition evaluation pertaining to such materials is not conducted or discussed herein.

6.0 GENERAL RECOMMENDATIONS

Building-specific recommendations pertaining to the identified hazardous building materials that require action are provided in Appendix 5.1 through Appendix 5.6. General recommendations pertaining to management of identified hazardous building materials in good condition are provided below.



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6.1 ASBESTOS

For buildings with identified ACMs, Stantec recommends the following with regards to meeting the requirements of the COHSR and BC Reg. 296/97 as they pertain to managing asbestos in the workplace:

Identified ACMs in good condition can be managed in place in accordance with the Hazardous Building Materials Management Plan developed for the Victoria Coast Guard Base.

- Suspected ACMs deemed visually similar to the ACMs identified in this report (on a building-by-building basis) should be considered asbestos-containing and handled as such, unless proven otherwise, through analytical testing.
- Asbestos-containing materials that may be impacted during renovation or demolition work activities should be removed by appropriately trained personnel (e.g., asbestos abatement contractor personnel), in accordance with the requirements of BC Reg. 296/97 and the Asbestos Guide, and prior to the initiation of project work that will disturb them.
- Should a material suspected to contain asbestos fibres become uncovered during renovation and/or demolition activities, all work in the areas that may disturb the material should be stopped. Samples of the suspect material should be submitted for laboratory analysis to determine if asbestos fibres are present. Confirmed asbestos materials should be handled in accordance with applicable guidelines and regulations.
- If masonry block walls are to be impacted by renovation or demolition work, and these walls have not been checked for the presence of vermiculite insulation, intrusive assessments for vermiculite should be undertaken prior to renovation/or demolition work. If vermiculite insulation is suspected to be present, this material should be treated as an ACM until testing can show otherwise.
- Asbestos-containing cement pipe may be present below ground—caution should be used at any time when excavation is required
- Ensure asbestos containing waste is handled, stored, and disposed of in accordance with the requirements of the Federal Transportation of Dangerous Goods Regulation and the British Columbia Hazardous Waste Regulation (BC Reg. 63/88).

6.2 LEAD

Lead-containing materials, including paints, in good condition can be managed in place in accordance with the Hazardous Building Materials Management Plan developed for the Victoria Coast Guard Base.

If LCPs or other lead-containing equipment/materials within the subject buildings are to be disturbed and/or removed, including for work associated with debris removal or preparing surfaces with LCPs for re-painting, ensure compliance with the following:

- Exposure protection requirements of BC Reg. 296/97, including the provisions of the Lead Guideline
- Transportation and disposal requirements of BC Reg. 63/88
- Transportation requirements of the Federal Transportation of Dangerous Goods Regulation



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General Recommendations

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Corrective action or remedial work on paint applications containing any concentration of lead should be undertaken in a manner so as to avoid generating fine particulate matter or dust (i.e., avoid sanding). Airborne lead dust or fumes should not exceed the COHSR and BC Reg. 296/97 8-hour Occupational Exposure Limit (OEL) of 0.05 milligram per cubic metre (mg/m³) during the removal of paints and products containing any concentration of lead. The use of personal protective equipment is recommended to reduce the potential for over-exposure to lead dust. This can be achieved by:

- Providing workers with protective clothing and PPE or devices as necessary to protect the worker against the hazards to which the worker may be exposed
- Providing workers with adequate training in the care and use of clothing, equipment or device before wearing or using it
- Wetting the surface of the materials to prevent dust emissions
- Providing workers with washing facilities with clean water, soap and individual towels to properly wash prior to exiting the work area

To avoid the inhalation of lead, it is essential to have the following control methods in place:

- Engineering controls
- Work practices and hygiene practices
- Respirators and personal protective equipment
- Training

The work tasks required and the ways in which lead-containing materials (including paints) will be impacted will determine the appropriate respirators, measures and procedures that should be followed to protect workers from lead exposure.

6.2.1 Welding, Burning or Torch Cutting

Any paint coating on a metal surface to be welded, burned or torch-cut must be removed prior to that action is undertaken, unless a project-specific or tasks-specific risk assessment and safe work practices are developed by a qualified person. Development of such risk assessments and work practices will involve consideration of information including, but not limited to, the following:

- Composition of the material to be disturbed
- Lead content of the paint coating
- Methods and tools to be used, including exhaust ventilation
- Duration of the work/work shift
- Training of the personnel conducting the task
- Respiratory protection program in effect



HAZARDOUS BUILDING MATERIALS ASSESSMENTS

General Recommendations

March 18, 2019

6.3 POLYCHLORINATED BIPHENYLS

Fluorescent lamp ballasts that may contain PCBs can be managed in place in accordance with the Hazardous Building Materials Management Plan developed for the Victoria Coast Guard Base, where these items are operating and in good condition. No further action is currently required until such time that renovation or demolition activities are to be conducted, or until 2025, when PCB-containing ballasts will require removal and disposal.

When fluorescent fixtures are decommissioned, verify the PCB content of fluorescent lamp ballasts as per the PCB Guide, or equivalent reference.

Should a material suspected to contain PCBs become uncovered during renovation activities (i.e., dielectric fluids, hydraulic fluids), all work in the areas that may disturb the material should be stopped. Samples of the suspect material should be submitted for laboratory analysis to determine if PCBs are present.

If PCB-containing items are identified for removal and disposal, these should be handled, transported, stored and disposed of in accordance with the following:

- Transportation and disposal requirements of BC Reg. 63/88
- Transportation requirements of the Federal Transportation of Dangerous Goods Regulation
- Requirements of the Federal PCB Regulations (SOR/2008-273)

6.4 MERCURY

Identified mercury-containing items can be managed in place in accordance with the Hazardous Building Materials Management Plan developed for the Victoria Coast Guard Base. Mercury vapour within light tubes poses no risk to workers or occupants provided the mercury containers remain intact and undisturbed.

Complete removal of mercury-containing equipment is required prior to renovation or demolition activities that may disturb the equipment. When mercury-containing items (e.g., fluorescent light bulbs/tubes, thermostats) are removed, ensure all mercury waste is handled, stored and disposed of in accordance with the requirements the following:

- Transportation and disposal requirements of BC Reg. 63/88
- Transportation requirements of the Federal Transportation of Dangerous Goods Regulation

Precautions should be taken if workers may potentially be exposed to mercury or mercury vapours to ensure that workers exposure levels do not exceed the occupational exposure limit of 0.025 mg/m³ as per the COHSR and BC Reg. 296/97. This can be achieved by providing respiratory and skin protection applicable to the hazard and task to be completed.



HAZARDOUS BUILDING MATERIALS ASSESSMENTS

General Recommendations

March 18, 2019

6.5 MOULD

Documents published by Health Canada, Ontario Ministry of Health, American Industrial Hygiene Association (AIHA), American Conference of Governmental Industrial Hygienists (ACGIH) and others, provide guidance for interpreting the results of mold investigations. The Health Canada Guide states that:

“...current knowledge supports the need to prevent damp conditions and mold growth and to remediate any fungal contamination in buildings.”

In general, mould-impacted building materials will require action (e.g., abatement/removal or cleaning). Recommendations pertaining to mould are provided in the building-by-building information included in Appendix 5.1 through Appendix 5.6.

6.6 OZONE DEPLETING SUBSTANCES

ODS-containing equipment can be managed in place in accordance with the Hazardous Building Materials Management Plan developed for the Victoria Coast Guard Base, and must be serviced by licensed refrigeration technicians (as defined in the *Federal Halocarbon Regulations*).

If ODS-containing equipment is to be removed for renovation or demolition activities, ODSs must be recovered, handled, recycled, stored, and/or disposed of in accordance with the requirements of the following:

- British Columbia *Waste Management Act*—Ozone Depleting Substances and Other Halocarbons Regulation (BC Reg. 387/99 as amended by BC Reg. 109/2002)
- Transportation requirements of the Federal Transportation of Dangerous Goods Regulation
- Federal Halocarbons Regulations

6.7 SILICA

Silica-containing materials can be managed in place in accordance with the Hazardous Building Materials Management Plan developed for the Victoria Coast Guard Base.

If silica-containing materials are to be removed or destructively altered (drilled, chipped, abraded, etc.), ensure dust control measures are employed such that airborne silica dust concentrations do not exceed the exposure limit as stipulated by the COHSR and BC Reg. 296/97 (0.025 mg/m³). This would include, but not be limited to, the following:

- Providing workers with respiratory protection
- Wetting the surface of the materials to prevent dust emissions
- Providing workers with facilities to properly wash prior to exiting the work area
- Providing dust control to mitigate the potential for demolition dust to escape from the work area into public and/or adjacent areas



HAZARDOUS BUILDING MATERIALS ASSESSMENTS

Closure

March 18, 2019

7.0 CLOSURE

This report has been prepared by Stantec Consulting Ltd. for the sole benefit of Public Services and Procurement Canada and Fisheries and Oceans Canada. Any use that a third party makes of this report, or any reliance on decisions to be made based on it, is the responsibility of such third parties. Stantec Consulting Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

The information and conclusions contained in this report are based upon work undertaken by trained professionals and technical staff in accordance with generally accepted engineering, scientific and occupational health and safety practices current at the time the work was performed. Conclusions presented in this report should not be construed as legal advice.

The conclusions presented represent the best judgment of the assessors based on current environmental, health and safety standards and the site conditions observed on the dates cited within this report. This report is based on, and limited by, circumstances and conditions stated herein, and on information available at the time of preparation of the report. Due to the limited nature of the investigation and the limited data available, Stantec Consulting Ltd. cannot warrant against undiscovered environmental, health and/or safety liabilities. It is possible that additional, concealed hazardous materials may become evident during renovation and/or demolition activities within the subject buildings.

If any conditions become apparent that differ significantly from our understanding of conditions as presented in this report, we request that we be notified immediately to reassess the conclusions provided herein.

We trust that the report meets your current requirements. Should you have any questions or concerns regarding the above, please do not hesitate to contact the undersigned.

Respectfully submitted,

Stantec Consulting Ltd.



APPENDIX 1

SITE PLAN

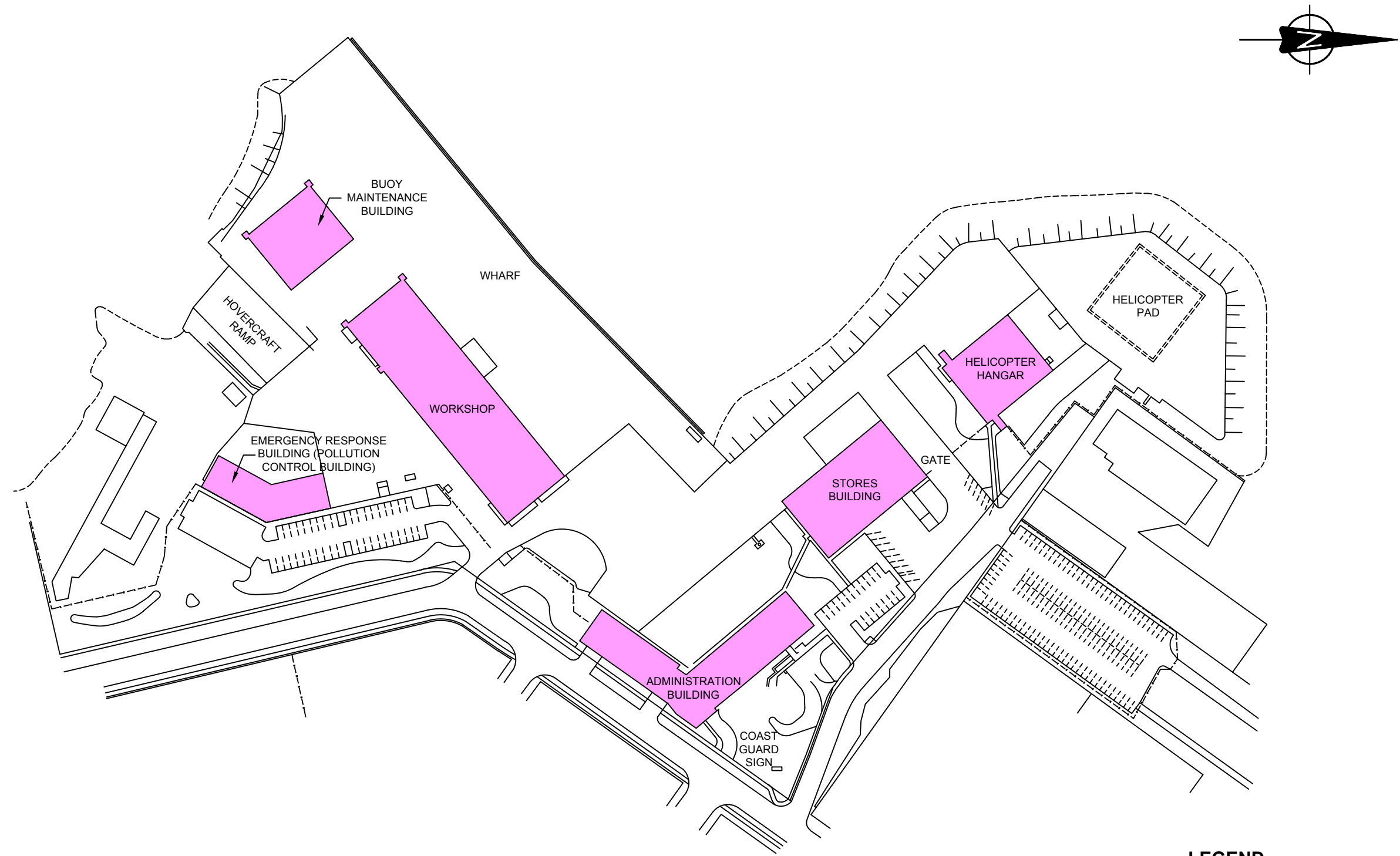
HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 1 Building List
March 2019

Appendix 1 BUILDING LIST

Appendix	Building Name	Year of Construction
5.1	Administration Building	1979
5.2	Buoy Maintenance Facility	1998
5.3	Emergency Response Building (Pollution Control Building)	Unknown
5.4	Helicopter Hangar	1977
5.5	Stores Warehouse Building	1978
5.6	Workshops Building	1979






LEGEND

 BUILDINGS ASSESSED

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

<div>SITE PLAN</div> <div>VICTORIA COAST GUARD BASE</div> <div>25 HURON STREET, VICTORIA, BC</div>		Project No.: 123221268.400	<div>Dwg. No.:</div> <div>1</div> <div></div>
		Scale: N.T.S.	
		Date: 19/01/11	
		Dwn. By: CD _{VM} SL2019010139	
Client: PUBLIC SERVICES AND PROCUREMENT CANADA		App'd By: TW	

APPENDIX 5.1

FINDINGS AND RECOMMENDATIONS—ADMINISTRATION BUILDING

Appendix 5.1 FINDINGS AND RECOMMENDATIONS— ADMINISTRATION BUILDING

The Administration Building (subject building) was reportedly constructed in 1979. The typical structural components and finishes associated with this one-story building consist of exterior concrete walls; suspended ceiling tiles, texture coat and drywall ceilings; drywall and masonry block interior walls; concrete, ceramic tile, carpet, vinyl floor tile and vinyl sheet flooring; and a flat tar and gravel roof.

The results of the assessment for each of the considered hazardous materials within the subject building are provided in the following sub-sections.

Floor plan drawings, which include locations of the samples collected during this assessment and locations of identified hazardous building materials (where practical), are attached to this Appendix.

5.1-1 ASBESTOS

The Previous Reports indicated the presence of the following ACMs:

- Red duct mastic (WSP Admin Report, 2018 & Golder Report, 2004)
 - Observed to be present in good condition
 - Additional samples were collected by Stantec during the current assessment, confirming this as ACM
- 12"x12" beige floor tile with brown and grey (Golder Report, 2004)
 - Observed to be present in good condition
 - Additional samples were collected by Stantec during the current assessment, confirming this as ACM
- Beige mosaic pattern (referred to as pebble pattern in the current assessment) sheet flooring (Golder Report, 2004)
 - Observed to be present in good condition
 - Additional samples were collected by Stantec during the current assessment, confirming this as ACM

In addition to the above, Stantec identified and sampled various additional suspected ACMs, collected confirmatory samples of previously identified ACMs, and collected samples to supplement the results from previous assessments (additional samples to appropriately characterize a material's asbestos content, based on current standards pertaining to minimum sample numbers). The samples collected were submitted to EMSL for analysis of asbestos content and nature.

A summary of the materials sampled as part of the current assessment, along with the sample locations and analytical results is presented in Table 5.1-1, below. A copy of the certificate of analysis provided by EMSL for the suspected ACM samples submitted as part of this assessment is attached at the end of this Appendix.



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.1 Findings and Recommendations—Administration Building
March 2019

**Table 5.1-1 Suspected ACM Sample Collection and Analysis Summary
Administration Building**

Material/Homogenous Application Description	Sample Number	Sample Location	Result (%/type asbestos)
Ceiling texture coat applied to drywall ceilings	AB-CTC-01A	Interior south vestibule	1% Chrysotile
	AB-CTC-01B	Exterior south vestibule	1% Chrysotile
	AB-CTC-01C	Exterior south vestibule	None Detected
Grey door frame caulking applied between door frames and concrete walls	AB-DFC-01A	Exterior doors	None Detected
	AB-DFC-01B	Exterior doors	None Detected
	AB-DFC-01C	Exterior doors	None Detected
Black mechanical gasket in flanges of heating water supply	AB-MG-01	Mechanical room, heating water supply flange	None Detected
Drywall joint compound applied to walls and ceilings throughout	AB-DJC-01A	Female washroom, ceiling	None Detected
	AB-DJC-01B	South office, wall	None Detected
	AB-DJC-01C	South cubicle space, wall	None Detected
	AB-DJC-01D	South storage room, wall	None Detected
	AB-DJC-01E	Mail/files room, wall	None Detected
	AB-DJC-01F	Northwest office, wall	None Detected
	AB-DJC-01G	West copy room, wall	None Detected
Brown flashing mastic applied to seams of roof flashing	AB-RFM-01A	Exterior roof flashing	None Detected
	AB-RFM-01B	Exterior roof flashing	None Detected
	AB-RFM-01C	Exterior roof flashing	None Detected
Black window pane caulking applied to skylights	AB-WPC-01A	Exterior roof skylight	None Detected
	AB-WPC-01B	Exterior roof skylight	None Detected
	AB-WPC-01C	Exterior roof skylight	None Detected
Black foundation mastic applied to exterior concrete	AB-FM-01A	Exterior foundation	None Detected
	AB-FM-01B	Exterior foundation	None Detected
	AB-FM-01C	Exterior foundation	None Detected
Black electrical penetration putty applied to floor	AB-EPP-01A	Electrical/telephone room, floor penetration	12.1% Chrysotile
	AB-EPP-01B	Electrical/telephone room, floor penetration	Positive Stop (Not Analyzed)
	AB-EPP-01C	Electrical/telephone room, floor penetration	Positive Stop (Not Analyzed)
Grey seam caulking applied to seams of HVAC ducting	AB-SC-01A	Mechanical room, HVAC seams	None Detected
	AB-SC-01B	Mechanical room, HVAC seams	None Detected
	AB-SC-01C	Mechanical room, HVAC seams	None Detected



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.1 Findings and Recommendations—Administration Building
March 2019

**Table 5.1-1 Suspected ACM Sample Collection and Analysis Summary
Administration Building**

Material/Homogenous Application Description	Sample Number	Sample Location	Result (%/type asbestos)
White insulation sealant	AB-IS-01A	Mechanical room, insulation within HVAC	None Detected
	AB-IS-01B	Mechanical room, insulation within HVAC	None Detected
	AB-IS-01C	Mechanical room, insulation within HVAC	None Detected
Tan pipe sealant applied to threads of heating water supply	AB-PS-01A	Mechanical room	None Detected
	AB-PS-01B	Mechanical room	None Detected
	AB-PS-01C	Mechanical room	None Detected
2'x4' fissure and pinhole pattern ceiling tile	AB-CT-01A	Lunch room	None Detected
	AB-CT-01B	Conference room	None Detected
	AB-CT-01C	Conference room	None Detected
2'x2' pinhole pattern ceiling tile	AB-CT-02A	Northwest office	None Detected
	AB-CT-02B	Northwest office	None Detected
	AB-CT-02C	Northwest office	None Detected
Red duct mastic applied to seams of HVAC ducting	AB-DM-01A	Mechanical room	1.2% Chrysotile
	AB-DM-01B	Mechanical room	Positive Stop (Not Analyzed)
	AB-DM-01C	Mechanical room	Positive Stop (Not Analyzed)
Aqua smears vinyl sheet flooring	AB-VSF-01	Lunch room	None Detected
Beige pebble pattern vinyl sheet flooring	AB-VSF-02	Janitor room	15.0% Chrysotile
Cream 12"x12" pattern vinyl sheet flooring	AB-VSF-03	Male washroom	None Detected
Tan vinyl sheet flooring	AB-VSF-04	Male washroom under cream 12"x12" pattern sheet flooring	10.2% Chrysotile
Light beige pebble pattern vinyl sheet flooring	AB-VSF-05	Mail/files room	None Detected
12"x12" cream vinyl floor tile with beige smudges	AB-VFT-01	Electrical/telephone room	1.3% Chrysotile
Black floor tile mastic associated with 12"x12" cream vinyl floor tile with beige smudges	AB-FTM-01	Mail/files room	None Detected
Grey window frame caulking applied between frame and concrete	AB-WFC-01A	Exterior window	None Detected
	AB-WFC-01B	Exterior window	None Detected
	AB-WFC-01C	Exterior window	None Detected
NOTE: Bold, highlighted text indicates confirmed ACM			





HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.1 Findings and Recommendations—Administration Building March 2019

Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of the results of suspected ACM samples analyzed through the current assessment along with our review of the information provided in the Previous Reports, the materials presented in Table 5.1-2, below were identified as ACMs.

**Table 5.1-2 Summary of Identified ACMs
Administration Building**



Identified ACM Description and Condition Information		Photo
Texture coat applied to drywall ceiling in the front entrance vestibule, which is continuous with the exterior soffit in this area.		
Friability	Non-friable in situ—may become friable if disturbed.	
Condition	Good	
Total Quantity	Approximately 20 m ²	
Content	1% Chrysotile	
Black electrical penetration putty on the floor penetration in the Electrical/Telephone room.		
Friability	Non-friable	
Condition	Good	
Total Quantity	One penetration	
Content	12.1% Chrysotile	



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.1 Findings and Recommendations—Administration Building
March 2019

**Table 5.1-2 Summary of Identified ACMs
Administration Building**



Identified ACM Description and Condition Information		Photo
Red mastic applied to seams of HVAC ducting throughout.		
Friability	Non-friable	
Condition	Good	
Total Quantity	HVAC seams throughout	
Content	1.2% Chrysotile (current assessment) 5.7% Chrysotile (WSP Admin Report, 2018) 10–25% Chrysotile (Golder Report, 2004)	
Beige pebble patterned vinyl sheet flooring in the Janitor Room and Female Washroom.		
Friability	Non-friable	
Condition	Good	
Total Quantity	Approximately 25 m ²	
Content	15.0% Chrysotile (current assessment) 10–25% Chrysotile (Golder Report, 2004)	



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.1 Findings and Recommendations—Administration Building
March 2019

**Table 5.1-2 Summary of Identified ACMs
Administration Building**

Identified ACM Description and Condition Information		Photo
Tan vinyl sheet flooring beneath cream 12"x12" patterned vinyl sheet flooring in the Male Washroom.		
Friability	Non-friable	
Condition	Good	
Total Quantity	Approximately 15 m ²	
Content	10.2% Chrysotile	
12"x12" cream vinyl floor tile with beige smudges in the Electrical/Telephone room and west portion of the Mail/Files room.		
Friability	Non-friable	
Condition	Good	
Total Quantity	Approximate 25 m ²	
Content	1.3% Chrysotile (current assessment) 1-10% Chrysotile (Golder Report, 2004)	



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.1 Findings and Recommendations—Administration Building
March 2019

5.1.1.1. Potential Asbestos-Containing Vermiculite Insulation

As part of the assessment, Stantec assessed the subject building for areas where vermiculite insulation, a potential ACM, would likely be present. This included making note of attic spaces, floor cavities and masonry block or brick walls, which are typical areas where vermiculite is found. The following observations we made regarding areas where vermiculite is potentially present:

- Walls of the subject building are comprised of masonry block walls. To assess for the presence of vermiculite insulation the block wall cavities were drilled in two locations. No vermiculite was observed in the locations where drilling was conducted.
- No other locations that may potentially contain vermiculite (that could not otherwise be assessed) were observed

5.1-2 LEAD

Lead is expected to be present in the following:

- Lead-acid batteries used in emergency lighting
- Older electrical wiring materials and sheathing
- Solder used on domestic water lines
- Solder used in bell fittings for cast iron pipes and in electrical equipment
- Ceramic tile glaze
- Vent and pipe flashings

With respect to paint, LCPs were not identified through the Previous Reports. As such, chip samples were obtained by Stantec from the predominant suspected LCP applications within the subject building. A summary of the sample types, locations and analytical results is presented in Table 5.1-3, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

**Table 5.1-3 Suspected LCP Sample Collection and Analysis Summary
Administration Building**

Sample No.	Sample Colour/Substrate	Sample Location	Lab Result (ppm)
AB-P-01	White on concrete	Janitor room, wall	800
AB-P-02	Dark blue on drywall	South storage room, wall	160
AB-P-03	Light blue on drywall	South storage room, wall	<81
AB-P-04	Grey on concrete	Mechanical room, floor	3,600
AB-P-05	Beige on drywall	Northwest office, wall	130
AB-P-06	Brown on metal	Exterior trim	<160
NOTE: Bold, highlighted text indicates confirmed LCP			





HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.1 Findings and Recommendations—Administration Building
March 2019

Based on our observations and on our interpretations of suspected LCP sample analytical results, the paints presented in Table 5.1-4, below were identified as LCPs:

**Table 5.1-4 Summary of Identified LCPs
Administration Building**

Identified LCP Description		Photo
Paint colour	White	
Substrate	Concrete	
Location/approx. extent	Interior walls	
Lead content	800 ppm	
Condition	Good	
Paint colour	Grey	
Substrate	Concrete	
Location/approx. extent	Mechanical room floor	
Lead content	3,600 ppm	
Condition	Good in general, worn from surface in localized areas	

5.1-1 POLYCHLORINATED BIPHENYLS

PCBs may be present in the fluorescent light ballasts of the approximately 100 light fixtures observed. As the ballasts were energized, they could not be inspected at the time of the assessment for health and safety reasons.

5.1-2 MERCURY

Mercury vapour is present in the light tubes within the approximately 100 fluorescent light fixtures observed.

5.1-3 MOULD

Suspect mould or moisture-impacted building materials were not observed at the time of the assessment.



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.1 Findings and Recommendations—Administration Building
March 2019

5.1-4 OZONE-DEPLETING SUBSTANCES

Building related cooling, refrigeration or fire suppression equipment suspected to be ODS-containing was not observed.

5.1-5 SILICA

Silica is expected to be present in the following, which were observed in various locations throughout:









- Cement products such as:
 - Concrete—foundations, floors, walls, blocks
 - Brick/masonry units and associated grout and mortar
 - Ceramic floor tiles and associated grouts and mortars
- Gypsum and associated wall/ceiling finish materials
- Suspended ceiling tiles
- Asphalt and asphalt products containing rock or stone (e.g., roof membrane)

6.1 RECOMMENDATIONS

In general, identified hazardous building materials were observed to be in good condition and do not appear to require specific action to maintain compliance with applicable regulations for continued operations and maintenance. Refer to Section 6.0 of the main body of this report for applicable material-by-material general recommendations.



LEGEND

-  ASBESTOS BULK SAMPLE
-  LEAD PAINT SAMPLE
-  INTRUSIVE INVESTIGATION FOR VERMICULITE
-  ASBESTOS-CONTAINING ELECTRICAL PENETRATION PUTTY
-  ASBESTOS-CONTAINING VINYL FLOOR TILES
-  ASBESTOS-CONTAINING CEILING TEXTURE COAT
-  ASBESTOS-CONTAINING VINYL SHEET FLOORING
-  ASBESTOS-CONTAINING CONCEALED VINYL SHEET FLOORING

NOTES: 1. RED MASTIC ON SEAMS OF HVAC DUCTING THROUGHOUT IS ASBESTOS-CONTAINING.

2. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

CANADIAN COAST GUARD
25 HURON STREET, VICTORIA, BRITISH COLUMBIA

Client: PUBLIC SERVICES AND PROCUREMENT CANADA

Project No.: 123221268

Scale: N.T.S.

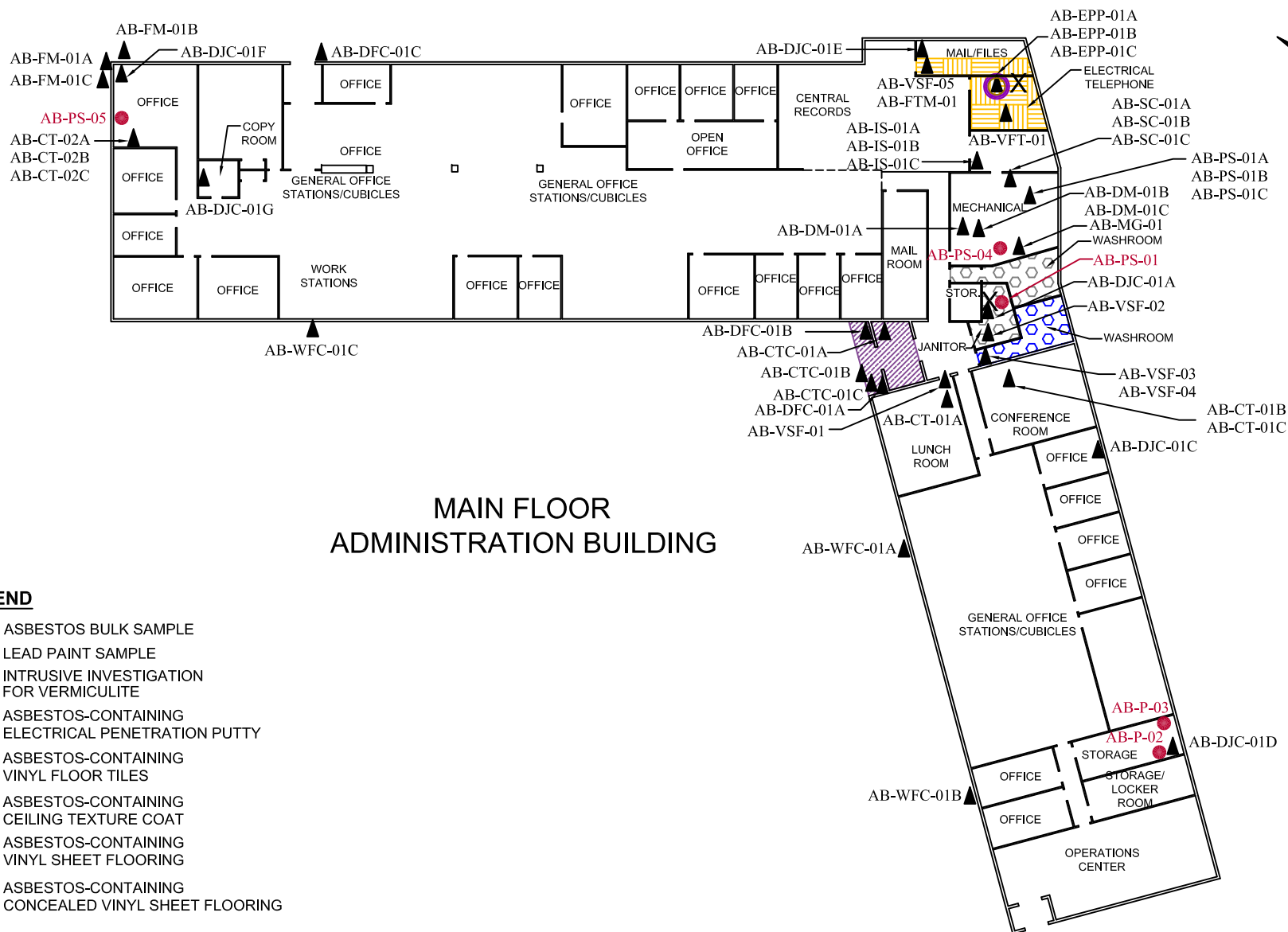
Date: 19/02/01

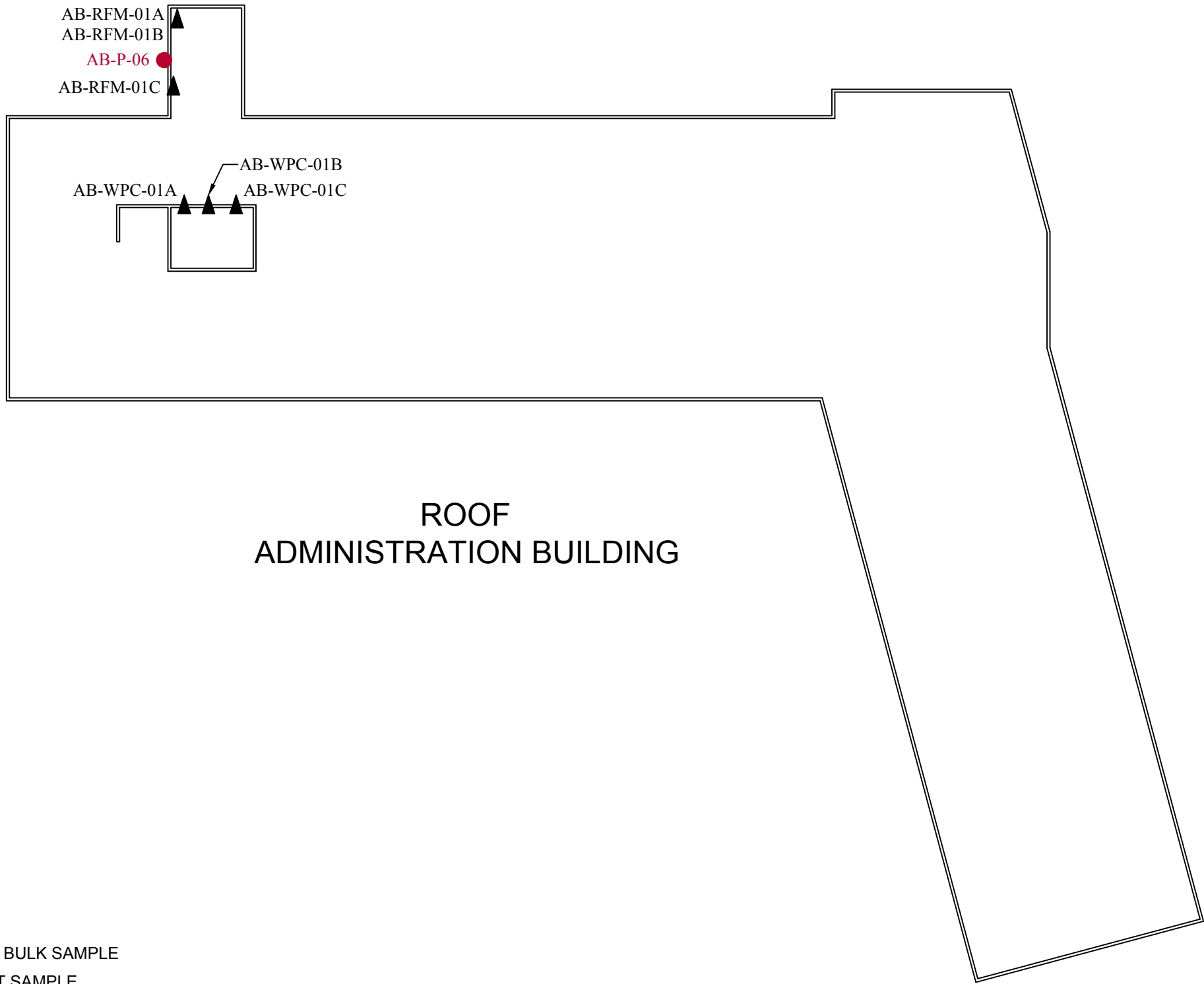
Dwn. By: CD_{VM} SL2019020643

App'd By: TW

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1.1





LEGEND

- ▲ ASBESTOS BULK SAMPLE
- LEAD PAINT SAMPLE

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS CANADIAN COAST GUARD 25 HURON STREET, VICTORIA, BRITISH COLUMBIA	Project No.: 123221268	Dwg. No.: 1.2	
	Scale: N.T.S.		
	Date: 19/02/01		
	Dwn. By: CD _{VM} SL2019020733		
Client: PUBLIC SERVICES AND PROCUREMENT CANADA	App'd By: TW		



EMSL Canada Inc.

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EMSL Canada Order 691900013
 Customer ID: 55JACQ30L
 Customer PO: 123221268.400
 Project ID:

Attn: Kim Wiese
 Stantec Consulting Ltd.
 500 - 4730 Kingsway
 Burnaby, BC V5H 0C6

Phone: (604) 412-3004
Fax:
Collected:
Received: 1/03/2019
Analyzed: 1/10/2019

Proj: 123221268.400 / ADMINISTRATION BUILDING (AB)

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: AB-CTC-01A **Lab Sample ID:** 691900013-0001

Sample Description: Exterior south vestibule/Ceiling texture coat

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	0.0%	99.0%	1% Chrysotile	

Client Sample ID: AB-CTC-01B **Lab Sample ID:** 691900013-0002

Sample Description: Exterior south vestibule/Ceiling texture coat

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	0.0%	99.0%	1% Chrysotile	

Client Sample ID: AB-CTC-01C **Lab Sample ID:** 691900013-0003

Sample Description: Exterior south vestibule/Ceiling texture coat

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: AB-DFC-01A **Lab Sample ID:** 691900013-0004

Sample Description: Exterior doors/Grey door frame caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Black	0.0%	100.0%	None Detected	

Client Sample ID: AB-DFC-01B **Lab Sample ID:** 691900013-0005

Sample Description: Exterior doors/Grey door frame caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Black	0.0%	100.0%	None Detected	

Client Sample ID: AB-DFC-01C **Lab Sample ID:** 691900013-0006

Sample Description: Exterior doors/Grey door frame caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Black	0.0%	100.0%	None Detected	

Client Sample ID: AB-MG-01 **Lab Sample ID:** 691900013-0007

Sample Description: Mechanical room, heating water supply flange/Black mechanical gasket

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Black	0.0%	100.0%	None Detected	



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EMSL Canada Order 691900013
 Customer ID: 55JACQ30L
 Customer PO: 123221268.400
 Project ID:

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: AB-DJC-01A **Lab Sample ID:** 691900013-0008

Sample Description: Female washroom, ceiling/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: AB-DJC-01B **Lab Sample ID:** 691900013-0009

Sample Description: South office, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: AB-DJC-01C **Lab Sample ID:** 691900013-0010

Sample Description: South cubicle space, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: AB-DJC-01D **Lab Sample ID:** 691900013-0011

Sample Description: South storage room, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: AB-DJC-01E **Lab Sample ID:** 691900013-0012

Sample Description: Mail/files room, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: AB-DJC-01F **Lab Sample ID:** 691900013-0013

Sample Description: Northwest office, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: AB-DJC-01G **Lab Sample ID:** 691900013-0014

Sample Description: West copy room, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: AB-RFM-01A **Lab Sample ID:** 691900013-0015

Sample Description: Exterior roof flashing/Brown flashing mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Black	0.0%	100%	None Detected	



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 Customer ID: 55JACQ30L
 Customer PO: 123221268.400
 Project ID:

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: AB-RFM-01B **Lab Sample ID:** 691900013-0016

Sample Description: Exterior roof flashing/Brown flashing mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Black	0.0%	100%	None Detected	

Client Sample ID: AB-RFM-01C **Lab Sample ID:** 691900013-0017

Sample Description: Exterior roof flashing/Brown flashing mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Black	0.0%	100%	None Detected	

Client Sample ID: AB-WPC-01A **Lab Sample ID:** 691900013-0018

Sample Description: Exterior roof skylight/Black window pane caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Black	0.0%	100%	None Detected	

Client Sample ID: AB-WPC-01B **Lab Sample ID:** 691900013-0019

Sample Description: Exterior roof skylight/Black window pane caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Black	0.0%	100%	None Detected	

Client Sample ID: AB-WPC-01C **Lab Sample ID:** 691900013-0020

Sample Description: Exterior roof skylight/Black window pane caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Black	0.0%	100%	None Detected	

Client Sample ID: AB-FM-01A **Lab Sample ID:** 691900013-0021

Sample Description: Exterior foundation/Black foundation mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Black	0.0%	100.0%	None Detected	

Client Sample ID: AB-FM-01B **Lab Sample ID:** 691900013-0022

Sample Description: Exterior foundation/Black foundation mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Black	0.0%	100.0%	None Detected	

Client Sample ID: AB-FM-01C **Lab Sample ID:** 691900013-0023

Sample Description: Exterior foundation/Black foundation mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Black	0.0%	100.0%	None Detected	



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Client Sample ID: AB-EPP-01A **Lab Sample ID:** 691900013-0024

Sample Description: Electrical/telephone room, floor penetration/Black electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Black	0.0%	87.9%	12.1% Chrysotile	

Client Sample ID: AB-EPP-01B **Lab Sample ID:** 691900013-0025

Sample Description: Electrical/telephone room, floor penetration/Black electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019				Positive Stop (Not Analyzed)	

Client Sample ID: AB-EPP-01C **Lab Sample ID:** 691900013-0026

Sample Description: Electrical/telephone room, floor penetration/Black electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019				Positive Stop (Not Analyzed)	

Client Sample ID: AB-SC-01A **Lab Sample ID:** 691900013-0027

Sample Description: Mechanical room, HVAC seams/Grey seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Gray	0.0%	100.0%	None Detected	

Client Sample ID: AB-SC-01B **Lab Sample ID:** 691900013-0028

Sample Description: Mechanical room, HVAC seams/Grey seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Gray	0.0%	100.0%	None Detected	

Client Sample ID: AB-SC-01C **Lab Sample ID:** 691900013-0029

Sample Description: Mechanical room, HVAC seams/Grey seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Gray	0.0%	100.0%	None Detected	

Client Sample ID: AB-IS-01A **Lab Sample ID:** 691900013-0030

Sample Description: Mechanical room, insulation within HVAC/White insulation sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Beige	0.0%	100%	None Detected	

Client Sample ID: AB-IS-01B **Lab Sample ID:** 691900013-0031

Sample Description: Mechanical room, insulation within HVAC/White insulation sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Beige	0.0%	100%	None Detected	



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Client Sample ID: AB-IS-01C **Lab Sample ID:** 691900013-0032

Sample Description: Mechanical room, insulation within HVAC/White insulation sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Black	0.0%	100%	None Detected	

Client Sample ID: AB-PS-01A **Lab Sample ID:** 691900013-0033

Sample Description: Mechanical room/Tan pipe sealant applied to threads of heating water supply

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Tan	0.81%	99.2%	None Detected	

Client Sample ID: AB-PS-01B **Lab Sample ID:** 691900013-0034

Sample Description: Mechanical room/Tan pipe sealant applied to threads of heating water supply

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Tan	0.0%	100%	None Detected	

Client Sample ID: AB-PS-01C **Lab Sample ID:** 691900013-0035

Sample Description: Mechanical room/Tan pipe sealant applied to threads of heating water supply

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Tan	0.91%	99.1%	None Detected	

Client Sample ID: AB-CT-01A **Lab Sample ID:** 691900013-0036

Sample Description: Lunch room/2'x4' fissure and pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Brown	70.0%	30.0%	None Detected	

Client Sample ID: AB-CT-01B **Lab Sample ID:** 691900013-0037

Sample Description: Conference room/2'x4' fissure and pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Brown	80.0%	20.0%	None Detected	

Client Sample ID: AB-CT-01C **Lab Sample ID:** 691900013-0038

Sample Description: Conference room/2'x4' fissure and pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Gray	80.0%	20.0%	None Detected	

Client Sample ID: AB-CT-02A **Lab Sample ID:** 691900013-0039

Sample Description: Northwest office/2'x2' pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Gray	70.0%	30.0%	None Detected	



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Client Sample ID: AB-CT-02B **Lab Sample ID:** 691900013-0040
Sample Description: Northwest office/2'x2' pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Gray	80.0%	20.0%	None Detected	

Client Sample ID: AB-CT-02C **Lab Sample ID:** 691900013-0041
Sample Description: Northwest office/2'x2' pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Gray	80.0%	20.0%	None Detected	

Client Sample ID: AB-DM-01A **Lab Sample ID:** 691900013-0042
Sample Description: Mechanical room/Red duct mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Brown	0.0%	98.8%	1.2% Chrysotile	

Client Sample ID: AB-DM-01B **Lab Sample ID:** 691900013-0043
Sample Description: Mechanical room/Red duct mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019				Positive Stop (Not Analyzed)	

Client Sample ID: AB-DM-01C **Lab Sample ID:** 691900013-0044
Sample Description: Mechanical room/Red duct mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019				Positive Stop (Not Analyzed)	

Client Sample ID: AB-VSF-01 **Lab Sample ID:** 691900013-0045
Sample Description: Lunch room/Aqua smears sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	White/Blue/Green	0.0%	100%	None Detected	

Client Sample ID: AB-VSF-02 **Lab Sample ID:** 691900013-0046
Sample Description: Janitor room/Beige pebble pattern sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	White	0.0%	85.0%	15.0% Chrysotile	

Client Sample ID: AB-VSF-03 **Lab Sample ID:** 691900013-0047
Sample Description: Male washroom/Cream 12"x12" pattern sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Gray	0.0%	100%	None Detected	



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Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: AB-VSF-04 **Lab Sample ID:** 691900013-0048

Sample Description: Male washroom under cream 12"x12" pattern sheet flooring/Tan sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Tan	0.0%	89.8%	10.2% Chrysotile	

Client Sample ID: AB-VSF-05 **Lab Sample ID:** 691900013-0049

Sample Description: Mail/files room/Light beige pebble pattern sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Gray/White	0.0%	100%	None Detected	

Client Sample ID: AB-VFT-01 **Lab Sample ID:** 691900013-0050

Sample Description: Electrical/telephone room/12"x12" cream floor tile with beige smudges

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	White/Black	0.0%	98.7%	1.3% Chrysotile	

Client Sample ID: AB-FTM-01 **Lab Sample ID:** 691900013-0051

Sample Description: Mail/files room/Black floor tile mastic associated with 12"x12" cream floor tile with beige smudges

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Black	0.0%	100%	None Detected	

Client Sample ID: AB-WFC-01A **Lab Sample ID:** 691900013-0052

Sample Description: Exterior windows/Grey window frame caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Gray	0.0%	100.0%	None Detected	

Client Sample ID: AB-WFC-01B **Lab Sample ID:** 691900013-0053

Sample Description: Exterior windows/Grey window frame caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Gray	0.0%	100.0%	None Detected	

Client Sample ID: AB-WFC-01C **Lab Sample ID:** 691900013-0054

Sample Description: Exterior windows/Grey window frame caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Gray	0.0%	100.0%	None Detected	



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Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Analyst(s):

Chloe Huang PLM (19)
PLM Grav. Reduction (17)
Nicole Yeo PLM (10)
PLM Grav. Reduction (4)

Reviewed and approved by:

Nicole Yeo, Laboratory Manager
or Other Approved Signatory

None Detected = <0.1%. EMSL maintains liability limited to cost of analysis. This report 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. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP of any agency of the U.S. Government.

Samples analyzed by EMSL Canada Inc. Burnaby, BC

Report amended: 02/20/2019 16:30:37 Replaces initial report from: 01/10/2019 16:18:27 Reason Code: Client-Change to Appearance

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EMSL Canada Or 551900059
CustomerID: 55JACQ30L
CustomerPO: 123221268-400
ProjectID:

Attn: **Kim Wiese**
Stantec Consulting Ltd.
500 - 4730 Kingsway
Burnaby, BC V5H 0C6

Phone: (604) 412-3004
Fax:
Received: 01/04/19 11:30 AM
Collected:

Project: **123221268-400****Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)***

<i>Client Sample</i>	<i>Description</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>RDL</i>	<i>Lead Concentration</i>
AB-P-01 551900059-0016	Site: Administration Building (AB) - Janitor room, wall Desc: White on concrete		1/7/2019	0.2454 g	81 ppm	800 ppm
AB-P-02 551900059-0017	Site: Administration Building (AB) - South storage room, wall Desc: Dark blue on drywall		1/7/2019	0.2467 g	81 ppm	160 ppm
AB-P-03 551900059-0018	Site: Administration Building (AB) - South storage room, wall Desc: Light blue on drywall		1/7/2019	0.2474 g	81 ppm	<81 ppm
AB-P-04 551900059-0019	Site: Administration Building (AB) - Mechanical room, floor Desc: Grey on concrete		1/7/2019	0.2496 g	80 ppm	3600 ppm
AB-P-05 551900059-0020	Site: Administration Building (AB) - Northwest office, wall Desc: Beige on drywall		1/7/2019	0.2451 g	82 ppm	130 ppm
AB-P-06 551900059-0021	Site: Administration Building (AB) - Exterior trim Desc: Brown on metal Insufficient sample to reach reporting limit.		1/7/2019	0.1257 g	160 ppm	<160 ppm

Rowena Fanto, Lead Supervisor
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report 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. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON A2LA Accredited Environmental Testing Cert #2845.08

Initial report from 01/11/2019 09:22:49

APPENDIX 5.2

FINDINGS AND RECOMMENDATIONS— BUOY MAINTENANCE FACILITY

Appendix 5.2 FINDINGS AND RECOMMENDATIONS— BUOY MAINTENANCE FACILITY

The Buoy Maintenance Facility (subject building) was reportedly constructed in 1998. The typical structural components and finishes associated with this one-story building consist of exterior corrugated metal walls; ceiling tiles and open metal ceilings; drywall, concrete and metal corrugated interior walls; concrete and vinyl sheet flooring; and built-up asphalt roof membrane.

The results of the assessment for each of the considered hazardous materials within the subject building are provided in the following sub-sections.

Floor plan drawings, which include locations of the samples collected during this assessment and locations of identified hazardous building materials (where practical), are attached to this Appendix.

5.2-1 ASBESTOS

No asbestos was detected in samples collected previously, based on our review of the Previous Reports.

Based on the construction date of the subject building, ACMs are unlikely to be present. However, as a measure of diligence, Stantec collected samples from various materials that were present and may still contain asbestos. The samples collected were submitted to EMSL for analysis of asbestos content and nature.

A summary of the materials sampled as part of the current assessment, along with the sample locations and analytical results is presented in Table 5.2-1, below. A copy of the certificate of analysis provided by EMSL for the suspected ACM samples submitted as part of this assessment is attached at the end of this Appendix.

**Table 5.2-1 Suspected ACM Sample Collection and Analysis Summary
Buoy Maintenance Facility**

Material/Homogenous Application Description	Sample Number	Sample Location	Result (%/type asbestos)
Black penetration putty	BM-PP-01A	Exterior upper roof penetration	None Detected
	BM-PP-01B	Exterior upper roof penetration	None Detected
	BM-PP-01C	Exterior upper roof penetration	None Detected
Grey penetration putty	BM-PP-02A	Exterior lower roof penetration	None Detected
	BM-PP-02B	Exterior lower roof penetration	None Detected
	BM-PP-02C	Exterior lower roof penetration	None Detected



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.2 Findings and Recommendations—Buoy Maintenance Facility
March 2019

**Table 5.2-1 Suspected ACM Sample Collection and Analysis Summary
Buoy Maintenance Facility**

Material/Homogenous Application Description	Sample Number	Sample Location	Result (%/type asbestos)
White flashing mastic applied to seams of lower roof flashing	BM-FM-01A	Exterior lower roof flashing	None Detected
	BM-FM-01B	Exterior lower roof flashing	None Detected
	BM-FM-01C	Exterior lower roof flashing	None Detected
Blue flashing mastic applied to seams of upper roof flashing	BM-FM-02A	Exterior upper roof flashing	None Detected
	BM-FM-02B	Exterior upper roof flashing	None Detected
	BM-FM-02C	Exterior upper roof flashing	None Detected
Black window pane caulking on perimeter windows	BM-WPC-01A	Office window	None Detected
	BM-WPC-01B	Corridor window	None Detected
	BM-WPC-01C	Vestibule window	None Detected
Black window pane caulking on partition windows	BM-WPC-02A	Window between vestibule and corridor	None Detected
	BM-WPC-02B	Door window between vestibule and corridor	None Detected
	BM-WPC-02C	Door window between office and corridor	None Detected
Blue pipe sealant applied to threads of wash station pipes	BM-PS-01A	General buoy maintenance and assembly area	1% Chrysotile
	BM-PS-01B	General buoy maintenance and assembly area	Positive Stop (Not Analyzed)
	BM-PS-01C	General buoy maintenance and assembly area	Positive Stop (Not Analyzed)
Blue pipe sealant applied to threads of sprinkler lines	BM-PS-02A	Mechanical room	None Detected
	BM-PS-02B	Mechanical room	None Detected
	BM-PS-02C	Mechanical room	None Detected
Cream pipe sealant applied to threads of compressed air lines	BM-PS-03A	Mezzanine	<0.36% Chrysotile (see 5.2.1.1)
	BM-PS-03B	Mezzanine	None Detected (see 5.2.1.1)
	BM-PS-03C	Mezzanine	<1% Chrysotile (see 5.2.1.1)
Drywall joint compound applied to walls and ceilings	BM-DJC-01A	Corridor, wall	None Detected
	BM-DJC-01B	Corridor, wall	None Detected
	BM-DJC-01C	Corridor, wall	None Detected
Tan window frame caulking	BM-WFC-01A	Corridor windows	None Detected
	BM-WFC-01B	Corridor windows	None Detected
	BM-WFC-01C	Corridor windows	None Detected



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.2 Findings and Recommendations—Buoy Maintenance Facility
March 2019

**Table 5.2-1 Suspected ACM Sample Collection and Analysis Summary
Buoy Maintenance Facility**

Material/Homogenous Application Description	Sample Number	Sample Location	Result (%/type asbestos)
White window frame caulking applied between frame and metal siding	BM-WFC-02A	Exterior windows	None Detected
	BM-WFC-02B	Exterior windows	None Detected
	BM-WFC-02C	Exterior windows	None Detected
2'x4' standard fissure and pinhole pattern ceiling tile	BM-CT-01A	Paint shop	None Detected
	BM-CT-01B	Paint shop	None Detected
	BM-CT-01C	Paint shop	None Detected
Grey duct mastic painted cream	BM-DM-01A	Paint kitchen, exhaust	None Detected
	BM-DM-01B	Paint kitchen, exhaust	None Detected
	BM-DM-01C	Paint kitchen, exhaust	None Detected
White seam caulking	BM-SC-01A	Exterior walls between concrete and HVAC	None Detected
	BM-SC-01B	Exterior walls between concrete and HVAC	None Detected
	BM-SC-01C	Exterior walls between concrete and HVAC	None Detected
Light grey seam caulking	BM-SC-02A	Exterior lower roof	None Detected
	BM-SC-02B	Exterior lower roof	None Detected
	BM-SC-02C	Exterior lower roof	None Detected
Roof membrane	BM-RM-01A	Exterior lower rooftop	None Detected
	BM-RM-01B	Exterior lower rooftop	None Detected
	BM-RM-01C	Exterior lower rooftop	None Detected
Blue with white and dark speckled sheet flooring	BM-VSF-01	Enviro. Crew office	None Detected
Blue with sparkle sheet flooring	BM-VSF-02	Corridor	None Detected
NOTE: Bold, highlighted text indicates confirmed ACM			


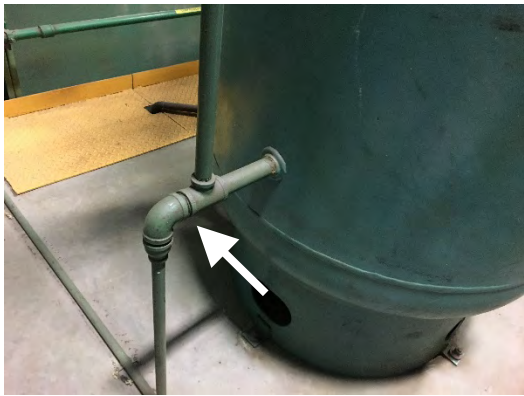
Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of the results of suspected ACM samples analyzed through the current assessment along with our review of the information provided in the Previous Reports, the materials presented in Table 5.2-2, below were identified as ACMs.



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.2 Findings and Recommendations—Buoy Maintenance Facility
March 2019

**Table 5.2-2 Summary of Identified ACMs
Building BM—Buoy Maintenance Facility**

Identified ACM Description and Condition Information		Photo
Blue pipe sealant applied to threads of the wash station pipes.		
Friability	Non-friable	
Condition	Good	
Total Quantity	Wash station pipe fittings	
Content	1% Chrysotile	
Cream pipe sealant applied to threads of compressed air lines throughout. See section 5.2.1.1		
Friability	Non-friable	
Condition	Good	
Total Quantity	Compressed air line fittings throughout	
Content	<0.36—<1% Chrysotile	

5.2.1.1. Cream Pipe Sealant

Although trace amounts of asbestos (not confirmed to be greater than 0.5%) were detected in two of the three samples of this material collected from this building, the cream pipe sealant applied to threads of compressed air lines should be considered ACM for the following reasons:

- Asbestos was detected in 2 of 3 samples collected from this building
- This sealant is similar in appearance and application to the other sealant (in threaded joints of sprinkler lines) which was identified as an ACM
- Asbestos content of materials like pipe sealant can be inconsistent

Additional sampling may serve to clarify results. However, until such additional sampling is completed, this material should be considered ACM.



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.2 Findings and Recommendations—Buoy Maintenance Facility
March 2019

5.2.1.2. Potential Asbestos-Containing Vermiculite Insulation

As part of the assessment, Stantec assessed the subject building for areas where vermiculite insulation, a potential ACM, would likely be present. This included making note of attic spaces, floor cavities and masonry block or brick walls, which are typical areas where vermiculite is found. Based on our observations and on the construction date of the building, asbestos-containing vermiculite is not anticipated to be present.

5.2-2 LEAD

Lead is expected to be present in the following:

- Lead-acid batteries used in emergency lighting
- Ceramic tile glaze

With respect to paint, LCPs were not identified through the Previous Reports. As such, chip samples were obtained by Stantec from the predominant suspected LCP applications within the subject building. A summary of the sample types, locations and analytical results is presented in Table 5.2-3, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

**Table 5.2-3 Suspected LCP Sample Collection and Analysis Summary
Buoy Maintenance Facility**

Sample No.	Sample Colour/Substrate	Sample Location	Lab Result (ppm)
BM-P-01	Yellow on metal	Exterior, vestibule, door and frame	<86
BM-P-02	White on drywall	Envir. Crew storage, walls and ceiling	<83
BM-P-03	Blue on metal	Envir, Crew storage, door and trim	<130
BM-P-04	Yellow on concrete	General buoy maintenance and assembly area, floor tiles	<130
BM-P-05	Green on metal	General buoy maintenance and assembly area, structural steel	<82
BM-P-06	Grey on metal	General buoy maintenance and assembly area, structural steel	100
BM-P-07	Light green on concrete	Paint kitchen, floor	<83
BM-P-08	Grey on concrete	Mechanical room, floor	150
BM-P-09	Light green on concrete	Wash down booth, walls	<82
BM-P-10	Yellow on metal	Mezzanine railing	690
BM-P-11	Light grey on metal	Exterior walls	<83
BM-P-12	Yellow on metal	Exterior rooftop HVAC unit	<81



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.2 Findings and Recommendations—Buoy Maintenance Facility
March 2019

**Table 5.2-3 Suspected LCP Sample Collection and Analysis Summary
Buoy Maintenance Facility**

Sample No.	Sample Colour/Substrate	Sample Location	Lab Result (ppm)
BM-P-13	Dark blue on metal	Exterior siding and flashing	<130
BM-P-14	Yellow on metal	Exterior bollard	240
NOTE: Bold, highlighted text indicates confirmed LCP			

Based on our observations and on our interpretations of suspected LCP sample analytical results, the paint presented in Table 5.2-4, below was identified as an LCP:

**Table 5.2-4 Summary of Identified LCPs
Buoy Maintenance Facility**

Identified LCP Description		Photo
Paint colour	Yellow	
Substrate	Metal	
Location/approx. extent	Mezzanine railings and ladder	
Lead content	690 ppm	
Condition	Good	

5.2-1 POLYCHLORINATED BIPHENYLS

Based on the construction date of the subject building, PCBs are not anticipated to be present.

5.2-2 MERCURY

Mercury vapour is present in the light tubes within the approximately 50 fluorescent light fixtures observed.

5.2-3 MOULD

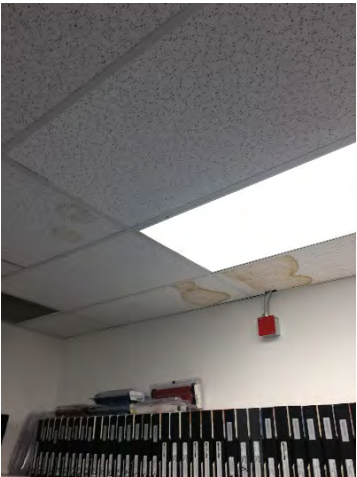

The observations pertaining to mould and/or moisture that were made during this assessment are summarized in Table 5.2-5, below.



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.2 Findings and Recommendations—Buoy Maintenance Facility
March 2019

**Table 5.2-5 Mould/Moisture Observations Summary—December 18, 2018
Buoy Maintenance Facility**

Building Area	Observation	Suspected Source of Moisture	Photo
Office and Paint Shop	Moisture stained ceiling tiles	Pipe leaks, condensation tray overflow	
Envir. Crew Storage	Moisture impacted drywall ceiling	Pipe leaks, condensation tray overflow, roof leaks	

5.2-4 OZONE-DEPLETING SUBSTANCES

Building related cooling, refrigeration or fire suppression equipment suspected to be ODS-containing was not observed.



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.2 Findings and Recommendations—Buoy Maintenance Facility
March 2019

5.2-5 SILICA

Silica is expected to be present in the following, which were observed in various locations throughout:

- Cement products such as:
 - Concrete—foundations, floors, walls, blocks
 - Masonry units and associated grout and mortar
 - Ceramic floor tiles and associated grouts and mortars
- Gypsum and associated wall/ceiling finish materials
- Suspended ceiling tiles
- Asphalt and asphalt products containing rock or stone (e.g., roof membrane)

6.2 RECOMMENDATIONS

In general, identified hazardous building materials were observed to be in good condition and do not appear to require specific action to maintain compliance with applicable regulations for continued operations and maintenance. Refer to Section 6.0 of the main body of this report for applicable material-by-material general recommendations.

Additional building-specific recommendations to be considered are provided below.

6.2-5 MOULD

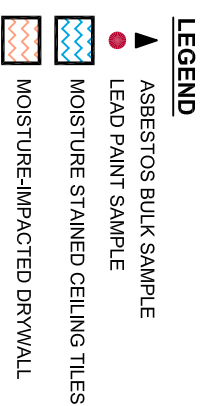
Documents published by Health Canada, Ontario Ministry of Health, American Industrial Hygiene Association (AIHA), American Conference of Governmental Industrial Hygienists (ACGIH) and others, provide guidance for interpreting the results of mold investigations. The Health Canada Guide states that:

“...current knowledge supports the need to prevent damp conditions and mold growth and to remediate any fungal contamination in buildings.”

To this end, Stantec recommends the following course of action within the subject building:

- Remove and dispose of moisture impacted ceiling tiles with new tiles. If staining re-appears on the new tiles, the source of moisture should be identified and corrected.
 - This work can be conducted by regular facility maintenance staff, if conducted prior to the onset of mould growth
- Remove and dispose of approximately 2 m² of moisture impacted drywall ceiling in the Envir. Crew Storage room
- Identify and correct the source of moisture prior to reinstating new drywall materials to this area
 - This work can be conducted by regular facility maintenance staff, if conducted prior to the onset of mould growth





FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS

AND BULK SAMPLE LOCATIONS

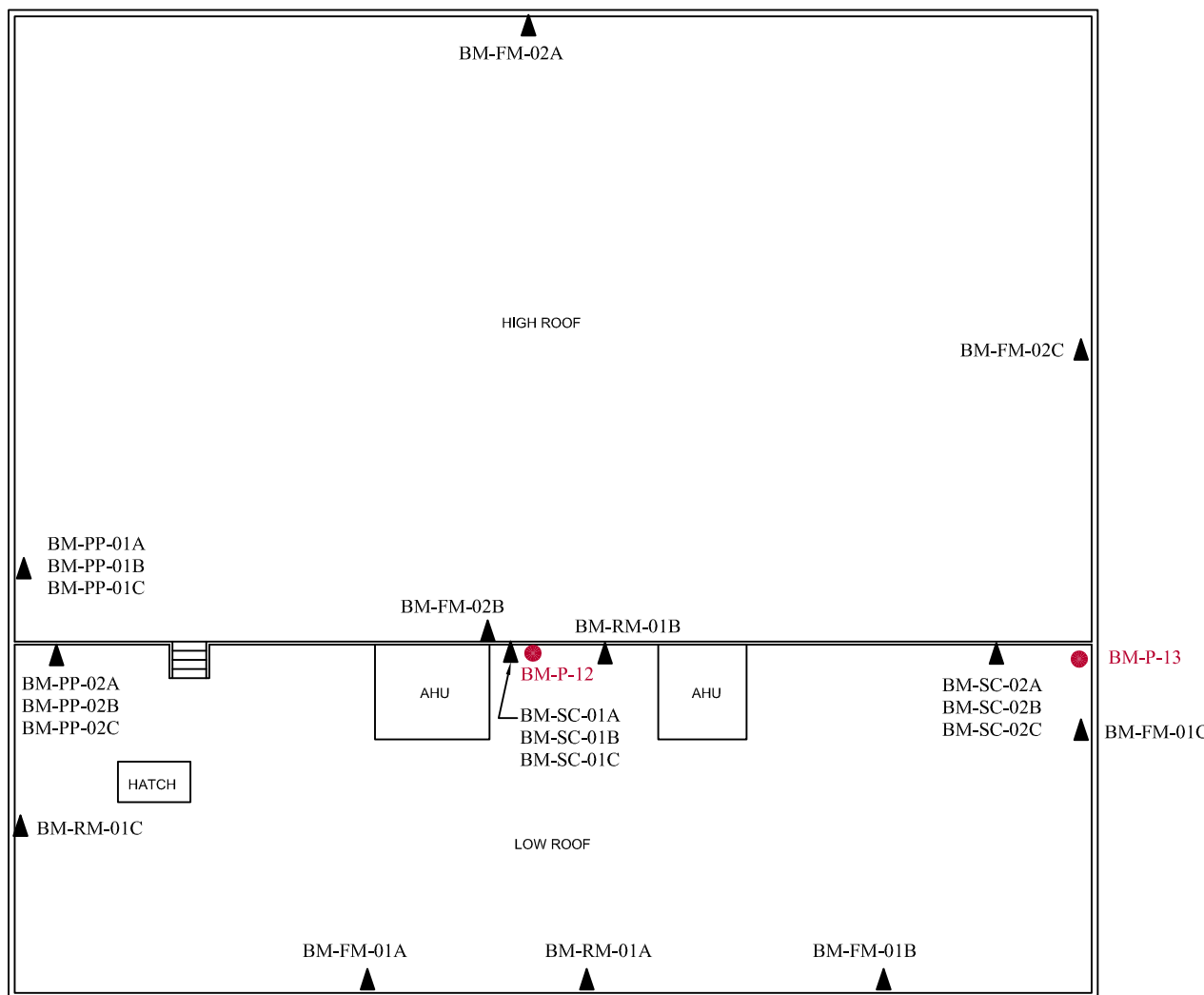
CANADIAN COAST GUARD

25 HURON STREET, VICTORIA, BRITISH COLUMBIA

Client: PUBLIC SERVICES AND PROCUREMENT CANADA

Project No.:	123221268
Scale:	N.T.S.
Date:	19/02/01
Dwn. By:	CD VM SL2019020641
App'd By:	TW

Dwg. No.:



ROOF BUOY MAINTENANCE FACILITY

LEGEND

- ▲ ASBESTOS BULK SAMPLE
- LEAD PAINT SAMPLE

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

CANADIAN COAST GUARD
25 HURON STREET, VICTORIA, BRITISH COLUMBIA

Client: PUBLIC SERVICES AND PROCUREMENT CANADA

Project No.: 123221268

Scale: N.T.S.

Date: 19/02/01

Dwn. By: CD_{VM} SL2019020642

App'd By: TW

Dwg. No.:

2.2





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 Customer PO: 123221268.400
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Phone: (604) 412-3004
Fax:
Collected:
Received: 1/03/2019
Analyzed: 1/09/2019

Proj: 123221268.400 / BUOY MAINTENANCE (BM)

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: BM-PP-01A **Lab Sample ID:** 691900014-0001

Sample Description: Exterior upper roof penetration/Black penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: BM-PP-01B **Lab Sample ID:** 691900014-0002

Sample Description: Exterior upper roof penetration/Black penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: BM-PP-01C **Lab Sample ID:** 691900014-0003

Sample Description: Exterior upper roof penetration/Black penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: BM-PP-02A **Lab Sample ID:** 691900014-0004

Sample Description: Exterior lower roof penetration/Grey penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	

Client Sample ID: BM-PP-02B **Lab Sample ID:** 691900014-0005

Sample Description: Exterior lower roof penetration/Grey penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	

Client Sample ID: BM-PP-02C **Lab Sample ID:** 691900014-0006

Sample Description: Exterior lower roof penetration/Grey penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Black	0.0%	100.0%	None Detected	

Client Sample ID: BM-FM-01A **Lab Sample ID:** 691900014-0007

Sample Description: Exterior lower roof flashing/White flashing mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	White	0.0%	100.0%	None Detected	



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Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: BM-FM-01B **Lab Sample ID:** 691900014-0008
Sample Description: Exterior lower roof flashing/White flashing mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: BM-FM-01C **Lab Sample ID:** 691900014-0009
Sample Description: Exterior lower roof flashing/White flashing mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: BM-FM-02A **Lab Sample ID:** 691900014-0010
Sample Description: Exterior upper roof flashing/Blue flashing mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Blue	0.0%	100%	None Detected	

Client Sample ID: BM-FM-02B **Lab Sample ID:** 691900014-0011
Sample Description: Exterior upper roof flashing/Blue flashing mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Blue	0.0%	100%	None Detected	

Client Sample ID: BM-FM-02C **Lab Sample ID:** 691900014-0012
Sample Description: Exterior upper roof flashing/Blue flashing mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Blue	0.0%	100.0%	None Detected	

Client Sample ID: BM-WPC-01A **Lab Sample ID:** 691900014-0013
Sample Description: Office window/Black window pane caulking on perimeter windows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	

Client Sample ID: BM-WPC-01B **Lab Sample ID:** 691900014-0014
Sample Description: Corridor window/Black window pane caulking on perimeter windows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	

Client Sample ID: BM-WPC-01C **Lab Sample ID:** 691900014-0015
Sample Description: Vestibule window/Black window pane caulking on perimeter windows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Black	0.0%	100.0%	None Detected	



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Client Sample ID: BM-WPC-02A **Lab Sample ID:** 691900014-0016

Sample Description: Window between vestibule and corridor/Black window pane caulking on partition windows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	

Client Sample ID: BM-WPC-02B **Lab Sample ID:** 691900014-0017

Sample Description: Door window between vestibule and corridor/Black window pane caulking on partition windows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Black	0.0%	100.0%	None Detected	

Client Sample ID: BM-WPC-02C **Lab Sample ID:** 691900014-0018

Sample Description: Door window between office and corridor/Black window pane caulking on partition windows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	

Client Sample ID: BM-PS-01A **Lab Sample ID:** 691900014-0019

Sample Description: General buoy maintenance and assembly area/Blue pipe sealant applied to threads of wash station pipes

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Blue	3.0%	96.0%	1% Chrysotile	

Client Sample ID: BM-PS-01B **Lab Sample ID:** 691900014-0020

Sample Description: General buoy maintenance and assembly area/Blue pipe sealant applied to threads of wash station pipes

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019				Positive Stop (Not Analyzed)	

Client Sample ID: BM-PS-01C **Lab Sample ID:** 691900014-0021

Sample Description: General buoy maintenance and assembly area/Blue pipe sealant applied to threads of wash station pipes

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019				Positive Stop (Not Analyzed)	

Client Sample ID: BM-PS-02A **Lab Sample ID:** 691900014-0022

Sample Description: Mechanical room/Blue pipe sealant applied to threads of sprinkler lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Blue	3.0%	97.0%	None Detected	

Client Sample ID: BM-PS-02B **Lab Sample ID:** 691900014-0023

Sample Description: Mechanical room/Blue pipe sealant applied to threads of sprinkler lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Gray/Blue	2.0%	98.0%	None Detected	



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Client Sample ID: BM-PS-02C **Lab Sample ID:** 691900014-0024

Sample Description: Mechanical room/Blue pipe sealant applied to threads of sprinkler lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Blue	0.0%	100.0%	None Detected	

Client Sample ID: BM-PS-03A **Lab Sample ID:** 691900014-0025

Sample Description: Mezzanine/Cream pipe sealant applied to threads of compressed air lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Beige	0.0%	100%	<0.36% Chrysotile	

Client Sample ID: BM-PS-03B **Lab Sample ID:** 691900014-0026

Sample Description: Mezzanine/Cream pipe sealant applied to threads of compressed air lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Beige	1.1%	98.9%	None Detected	

Client Sample ID: BM-PS-03C **Lab Sample ID:** 691900014-0027

Sample Description: Mezzanine/Cream pipe sealant applied to threads of compressed air lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Beige	0.0%	100.0%	<1% Chrysotile	Insufficient material for gravimetric reduction.

Client Sample ID: BM-DJC-01A **Lab Sample ID:** 691900014-0028

Sample Description: Corridor, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: BM-DJC-01B **Lab Sample ID:** 691900014-0029

Sample Description: Corridor, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: BM-DJC-01C **Lab Sample ID:** 691900014-0030

Sample Description: Corridor, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: BM-WFC-01A **Lab Sample ID:** 691900014-0031

Sample Description: Corridor windows/Tan window frame caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Tan	0.0%	100%	None Detected	



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Client Sample ID: BM-WFC-01B **Lab Sample ID:** 691900014-0032
Sample Description: Corridor windows/Tan window frame caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Tan	0.0%	100.0%	None Detected	

Client Sample ID: BM-WFC-01C **Lab Sample ID:** 691900014-0033
Sample Description: Corridor windows/Tan window frame caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Tan	0.0%	100.0%	None Detected	

Client Sample ID: BM-WFC-02A **Lab Sample ID:** 691900014-0034
Sample Description: Exterior windows/White window frame caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: BM-WFC-02B **Lab Sample ID:** 691900014-0035
Sample Description: Exterior windows/White window frame caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: BM-WFC-02C **Lab Sample ID:** 691900014-0036
Sample Description: Exterior windows/White window frame caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: BM-CT-01A **Lab Sample ID:** 691900014-0037
Sample Description: Paint shop/2'x4' standard fissure and pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	Gray	80.0%	20.0%	None Detected	

Client Sample ID: BM-CT-01B **Lab Sample ID:** 691900014-0038
Sample Description: Paint shop/2'x4' standard fissure and pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	Gray	80.0%	20.0%	None Detected	

Client Sample ID: BM-CT-01C **Lab Sample ID:** 691900014-0039
Sample Description: Paint shop/2'x4' standard fissure and pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	Gray	80.0%	20.0%	None Detected	



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Customer PO: 123221268.400
Project ID:

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: BM-DM-01A **Lab Sample ID:** 691900014-0040

Sample Description: Paint kitchen, exhaust/Grey duct mastic painted cream

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Gray	0.0%	100.0%	None Detected	

Client Sample ID: BM-DM-01B **Lab Sample ID:** 691900014-0041

Sample Description: Paint kitchen, exhaust/Grey duct mastic painted cream

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Gray	0.0%	100.0%	None Detected	

Client Sample ID: BM-DM-01C **Lab Sample ID:** 691900014-0042

Sample Description: Paint kitchen, exhaust/Grey duct mastic painted cream

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Gray	0.0%	100.0%	None Detected	

Client Sample ID: BM-SC-01A **Lab Sample ID:** 691900014-0043

Sample Description: Exterior walls between concrete and HVAC/White seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	White	0.0%	100%	None Detected	

Client Sample ID: BM-SC-01B **Lab Sample ID:** 691900014-0044

Sample Description: Exterior walls between concrete and HVAC/White seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: BM-SC-01C **Lab Sample ID:** 691900014-0045

Sample Description: Exterior walls between concrete and HVAC/White seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: BM-SC-02A **Lab Sample ID:** 691900014-0046

Sample Description: Exterior lower roof/Light grey seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: BM-SC-02B **Lab Sample ID:** 691900014-0047

Sample Description: Exterior lower roof/Light grey seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	



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EMSL Canada Order 691900014
 Customer ID: 55JACQ30L
 Customer PO: 123221268.400
 Project ID:

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: BM-SC-02C **Lab Sample ID:** 691900014-0048

Sample Description: Exterior lower roof/Light grey seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: BM-RM-01A **Lab Sample ID:** 691900014-0049

Sample Description: Exterior lower rooftop/Roof membrane

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	

Client Sample ID: BM-RM-01B **Lab Sample ID:** 691900014-0050

Sample Description: Exterior lower rooftop/Roof membrane

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	

Client Sample ID: BM-RM-01C **Lab Sample ID:** 691900014-0051

Sample Description: Exterior lower rooftop/Roof membrane

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	

Client Sample ID: BM-VSF-01 **Lab Sample ID:** 691900014-0052

Sample Description: Enviro. Crew office/Blue with white and dark speckled sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Blue	0.0%	100%	None Detected	

Client Sample ID: BM-VSF-02 **Lab Sample ID:** 691900014-0053

Sample Description: Corridor/Blue with sparkle sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Blue	0.0%	100%	None Detected	



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EMSL Canada Order 691900014
Customer ID: 55JACQ30L
Customer PO: 123221268.400
Project ID:

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Analyst(s):

Khaledeh Tahmasbipoor	PLM (2)
Michelle Lung	PLM (14) PLM Grav. Reduction (4)
Natalie D'Amico	PLM (12) PLM Grav. Reduction (19)

Reviewed and approved by:

Nicole Yeo, Laboratory Manager
or Other Approved Signatory

None Detected = <0.1%. EMSL maintains liability limited to cost of analysis. This report 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. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP of any agency of the U.S. Government.

Samples analyzed by EMSL Canada Inc. Mississauga, ON NVLAP Lab Code 200877-0

Initial report from: 01/10/2019 11:53:43

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EMSL Canada Or 551900059
CustomerID: 55JACQ30L
CustomerPO: 123221268-400
ProjectID:

Attn: **Kim Wiese**
Stantec Consulting Ltd.
500 - 4730 Kingsway
Burnaby, BC V5H 0C6

Phone: (604) 412-3004
Fax:
Received: 01/04/19 11:30 AM
Collected:

Project: 123221268-400

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

<i>Client Sample</i>	<i>Description</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>RDL</i>	<i>Lead Concentration</i>
BM-P-01 551900059-0022	Site: Buoy Maintenance (BM) - Exterior, vestibule, door and frame Desc: Yellow on metal		1/7/2019	0.2335 g	86 ppm	<86 ppm
BM-P-02 551900059-0023	Site: Buoy Maintenance (BM) - Envir. Crew storage, walls and ceiling Desc: White on drywall		1/7/2019	0.2423 g	83 ppm	<83 ppm
BM-P-03 551900059-0024	Site: Buoy Maintenance (BM) - Envir. Crew storage, door and trim Desc: Blue on metal Insufficient sample to reach reporting limit.		1/7/2019	0.1581 g	130 ppm	<130 ppm
BM-P-04 551900059-0025	Site: Buoy Maintenance (BM) - General buoy maintenance and assembly area, floor tiles Desc: Yellow on concrete Insufficient sample to reach reporting limit.		1/7/2019	0.1552 g	130 ppm	<130 ppm
BM-P-05 551900059-0026	Site: Buoy Maintenance (BM) - General buoy maintenance and assembly area, structural steel Desc: Green on metal		1/7/2019	0.2440 g	82 ppm	<82 ppm
BM-P-06 551900059-0027	Site: Buoy Maintenance (BM) - General buoy maintenance and assembly area, structural steel Desc: Grey on metal		1/7/2019	0.2484 g	81 ppm	100 ppm
BM-P-07 551900059-0028	Site: Buoy Maintenance (BM) - Paint kitchen, floor Desc: Light green on concrete		1/7/2019	0.2424 g	83 ppm	<83 ppm

Rowena Fanto, Lead Supervisor
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report 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. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON A2LA Accredited Environmental Testing Cert #2845.08

Initial report from 01/11/2019 09:24:21

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CustomerID: 55JACQ30L
CustomerPO: 123221268-400
ProjectID:

Attn: **Kim Wiese**
Stantec Consulting Ltd.
500 - 4730 Kingsway
Burnaby, BC V5H 0C6

Phone: (604) 412-3004
Fax:
Received: 01/04/19 11:30 AM
Collected:

Project: **123221268-400****Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)***

<i>Client Sample</i>	<i>Description</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>RDL</i>	<i>Lead Concentration</i>
BM-P-08 551900059-0029	Site: Buoy Maintenance (BM) - Mechanical room, floor Desc: Grey on concrete		1/7/2019	0.2458 g	81 ppm	150 ppm
BM-P-09 551900059-0030	Site: Buoy Maintenance (BM) - Wash down booth, walls Desc: Light green on concrete		1/7/2019	0.2431 g	82 ppm	<82 ppm
BM-P-10 551900059-0031	Site: Buoy Maintenance (BM) - Mezzanine raining Desc: Yellow on metal		1/7/2019	0.1409 g	140 ppm	690 ppm
BM-P-11 551900059-0032	Site: Buoy Maintenance (BM) - Exterior walls Desc: Light grey on metal		1/7/2019	0.2407 g	83 ppm	<83 ppm
BM-P-12 551900059-0033	Site: Buoy Maintenance (BM) - Exterior rooftop HVAC unit Desc: Yellow on metal		1/7/2019	0.2454 g	81 ppm	<81 ppm
BM-P-13 551900059-0034	Site: Buoy Maintenance (BM) - Exterior siding and flashing Desc: Dark blue on metal Insufficient sample to reach reporting limit.		1/7/2019	0.1484 g	130 ppm	<130 ppm
BM-P-14 551900059-0035	Site: Buoy Maintenance (BM) - Exterior bollard Desc: Yellow on metal		1/7/2019	0.2433 g	82 ppm	240 ppm

Rowena Fanto, Lead Supervisor
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report 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. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON A2LA Accredited Environmental Testing Cert #2845.08

Initial report from 01/11/2019 09:24:21

APPENDIX 5.3

FINDINGS AND RECOMMENDATIONS—EMERGENCY RESPONSE BUILDING (POLLUTION CONTROL BUILDING)

HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.3 Findings and Recommendations—Emergency Response Building (Pollution Control Building)
March 2019

Appendix 5.3 FINDINGS AND RECOMMENDATIONS— EMERGENCY RESPONSE BUILDING (POLLUTION CONTROL BUILDING)

The Emergency Response Building (Pollution Control Building) (subject building) was constructed at an unknown date. The typical structural components and finishes associated with this two-story building consist of exterior concrete walls; drywall, ceiling tile and corrugated metal ceilings; concrete and masonry block interior walls; concrete, vinyl floor tile and vinyl sheet flooring; and a built-up asphalt roof membrane.

The results of the assessment for each of the considered hazardous materials within the subject building are provided in the following sub-sections.

Floor plan drawings, which include locations of the samples collected during this assessment and locations of identified hazardous building materials (where practical), are attached to this Appendix.

5.3-1 ASBESTOS

No asbestos was detected in samples collected previously, based on our review of the Previous Reports.

Stantec identified and sampled various additional suspected ACMs. The samples collected were submitted to EMSL for analysis of asbestos content and nature.

A summary of the materials sampled as part of the current assessment, along with the sample locations and analytical results is presented in Table 5.3-1 below. A copy of the certificate of analysis provided by EMSL for the suspected ACM samples submitted as part of this assessment is attached at the end of this Appendix.

**Table 5.3-1 Suspected ACM Sample Collection and Analysis Summary
Emergency Response Building (Pollution Control Building)**

Material/Homogenous Application Description	Sample Number	Sample Location	Result (%/type asbestos)
Blue pipe sealant applied to the threads of sprinkler lines	ER-PS-01A	Room 4, workshop	None Detected
	ER-PS-01B	Room 4, workshop	None Detected
	ER-PS-01C	Room 4, workshop	None Detected
Cream pipe sealant applied to the threads of eye wash station lines	ER-PS-02A	Room 9, battery charging	None Detected
	ER-PS-02B	Room 9, battery charging	None Detected
	ER-PS-02C	Room 9, battery charging	None Detected



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.3 Findings and Recommendations—Emergency Response Building (Pollution Control Building)
March 2019

**Table 5.3-1 Suspected ACM Sample Collection and Analysis Summary
Emergency Response Building (Pollution Control Building)**

Material/Homogenous Application Description	Sample Number	Sample Location	Result (%/type asbestos)
Grey electrical penetration putty	ER-EPP-01A	Exterior electrical penetration	None Detected
	ER-EPP-01B	Exterior electrical penetration	None Detected
	ER-EPP-01C	Exterior electrical penetration	None Detected
Black electrical penetration putty	ER-EPP-02A	Exterior roof vents	None Detected
	ER-EPP-02B	Exterior roof vents	None Detected
	ER-EPP-02C	Exterior roof vents	None Detected
Grey door frame caulking	ER-DFC-01A	Exterior door frame	None Detected
	ER-DFC-01B	Exterior door frame	None Detected
	ER-DFC-01C	Exterior door frame	None Detected
12"x12" aqua smudge floor tile	ER-VFT-01	Room M1, small equipment storage mezzanine	None Detected
Grey pebble pattern sheet flooring	ER-VSF-01	Hallway outside room 2, washroom	None Detected
2'x4' standard fissure and pinhole pattern ceiling tile	ER-CT-01A	Room 3, conference room/lunch room	None Detected
	ER-CT-01B	Room 3, conference room/lunch room	None Detected
	ER-CT-01C	Room 3, conference room/lunch room	None Detected
Brown window frame caulking	ER-WFC-01A	Exterior door frame	None Detected
	ER-WFC-01B	Exterior door frame	None Detected
	ER-WFC-01C	Exterior door frame	None Detected
Light grey vent caulking	ER-VC-01A	Exterior roof vents	None Detected
	ER-VC-01B	Exterior roof vents	None Detected
	ER-VC-01C	Exterior roof vents	None Detected
Roofing tar	ER-RT-01A	Exterior roof	None Detected
	ER-RT-01B	Exterior roof	None Detected
	ER-RT-01C	Exterior roof	None Detected
Clear flashing mastic applied to seams of roof flashing	ER-FM-01A	Exterior roof flashings	None Detected
	ER-FM-01B	Exterior roof flashings	None Detected
	ER-FM-01C	Exterior roof flashings	None Detected
Black electrical caulking	ER-BC-01A	Bolts for electrical wiring on roof	None Detected
	ER-BC-01B	Bolts for electrical wiring on roof	None Detected
	ER-BC-01C	Bolts for electrical wiring on roof	None Detected
Drywall joint compound applied to walls and ceilings	ER-DJC-01A	Room 2, washroom, wall	None Detected
	ER-DJC-01B	Room 1, office, wall	None Detected
	ER-DJC-01C	Hallway hot water heater room by room 2, washroom	None Detected



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.3 Findings and Recommendations—Emergency Response Building (Pollution Control Building)
March 2019

**Table 5.3-1 Suspected ACM Sample Collection and Analysis Summary
Emergency Response Building (Pollution Control Building)**

Material/Homogenous Application Description	Sample Number	Sample Location	Result (%/type asbestos)
Light grey duct mastic	ER-DM-01A	Room M1, small equipment storage mezzanine	None Detected
	ER-DM-01B	Room M1, small equipment storage mezzanine	None Detected
	ER-DM-01C	Room M1, small equipment storage mezzanine	None Detected

Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of the results of suspected ACM samples analyzed through the current assessment, along with our review of the information provided in the Previous Reports, no ACMs were identified.

5.3.1.1 Potential Asbestos-Containing Vermiculite Insulation

As part of the assessment, Stantec assessed the subject building for areas where vermiculite insulation, a potential ACM, would likely be present. This included making note of attic spaces, floor cavities and masonry block or brick walls, which are typical areas where vermiculite is found. The following observations we made regarding areas where vermiculite is potentially present:

- Walls of the subject building are comprised of masonry block walls. To assess for the presence of vermiculite insulation the block wall cavities were drilled in two locations. No vermiculite was observed in the locations where drilling was conducted.
- No other locations that may potentially contain vermiculite (that could not otherwise be assessed) were observed

5.3-2 LEAD

Lead is expected to be present in the following:

- Lead-acid batteries used in emergency lighting
- Older electrical wiring materials and sheathing
- Solder used on domestic water lines
- Solder used in bell fittings for cast iron pipes and in electrical equipment
- Vent and pipe flashings

With respect to paint, LCPs were not identified through the Previous Reports. As such, chip samples were obtained by Stantec from the predominant suspected LCP applications within the subject building. A summary of the sample types, locations and analytical results is presented in Table 5.3-2, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.



HAZARDOUS BUILDING MATERIALS ASSESSMENT


Appendix 5.3 Findings and Recommendations—Emergency Response Building (Pollution Control Building)
March 2019

**Table 5.3-2 Suspected LCP Sample Collection and Analysis Summary
Emergency Response Building (Pollution Control Building)**

Sample No.	Sample Colour/Substrate	Sample Location	Lab Result (ppm)
ER-P-01	Beige on drywall	Room 2, washroom, wall	<80
ER-P-02	Red on metal	Room 4, workshop, structural steel	<120
ER-P-03	White on concrete	Hallway hot water heater room by room 2, washroom, wall	710
ER-P-04	Brown on metal	Room 5, boat/boom storage, door and frame	110
ER-P-05	Yellow on concrete	Room 6, miscellaneous equipment storage, floor lines	<83
ER-P-06	Brown on metal	Exterior door frames	39,000
ER-P-07	Blue on metal	Room 7, barge and slicklicker storage mezzanine structure	3,100
ER-P-08	Brown on metal	Exterior siding and flashing	460
NOTE: Bold, highlighted text indicates confirmed LCP			

Based on our observations and on our interpretations of suspected LCP sample analytical results, the paints presented in Table 5.3-3, below were identified as LCPs:

**Table 5.3-3 Summary of Identified LCPs
Emergency Response Building (Pollution Control Building)**

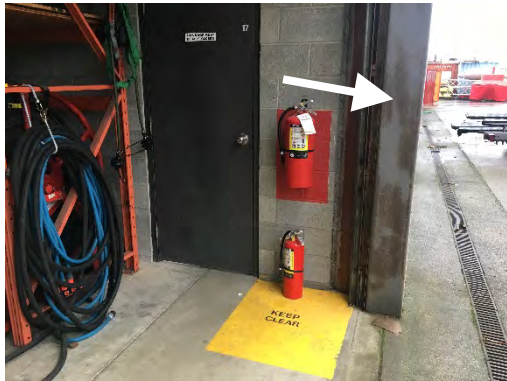

Identified LCP Description		Photo
Paint colour	White	
Substrate	Concrete	
Location/approx. extent	Interior walls	
Lead content	710 ppm	
Condition	Good	



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.3 Findings and Recommendations—Emergency Response Building (Pollution Control Building)
March 2019

**Table 5.3-3 Summary of Identified LCPs
Emergency Response Building (Pollution Control Building)**

Identified LCP Description		Photo
Paint colour	Brown	
Substrate	Metal	
Location/approx. extent	Exterior door frames	
Lead content	39,000 ppm	
Condition	Good	
Paint colour	Blue	
Substrate	Metal	
Location/approx. extent	Mezzanine structure	
Lead content	3,100 ppm	
Condition	Good	

5.3-1 POLYCHLORINATED BIPHENYLS

PCBs may be present in the fluorescent light ballasts of the approximately 80 light fixtures observed. As the ballasts were energized, they could not be inspected at the time of the assessment for health and safety reasons.

5.3-2 MERCURY

Mercury vapour is present in the light tubes within the approximately 80 fluorescent light fixtures observed.

5.3-3 MOULD

Suspect mould or moisture-impacted building materials were not observed at the time of the assessment.



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.3 Findings and Recommendations—Emergency Response Building (Pollution Control Building)
March 2019

5.3-4 OZONE-DEPLETING SUBSTANCES

Building related cooling, refrigeration or fire suppression equipment suspected to be ODS-containing was not observed.

5.3-5 SILICA

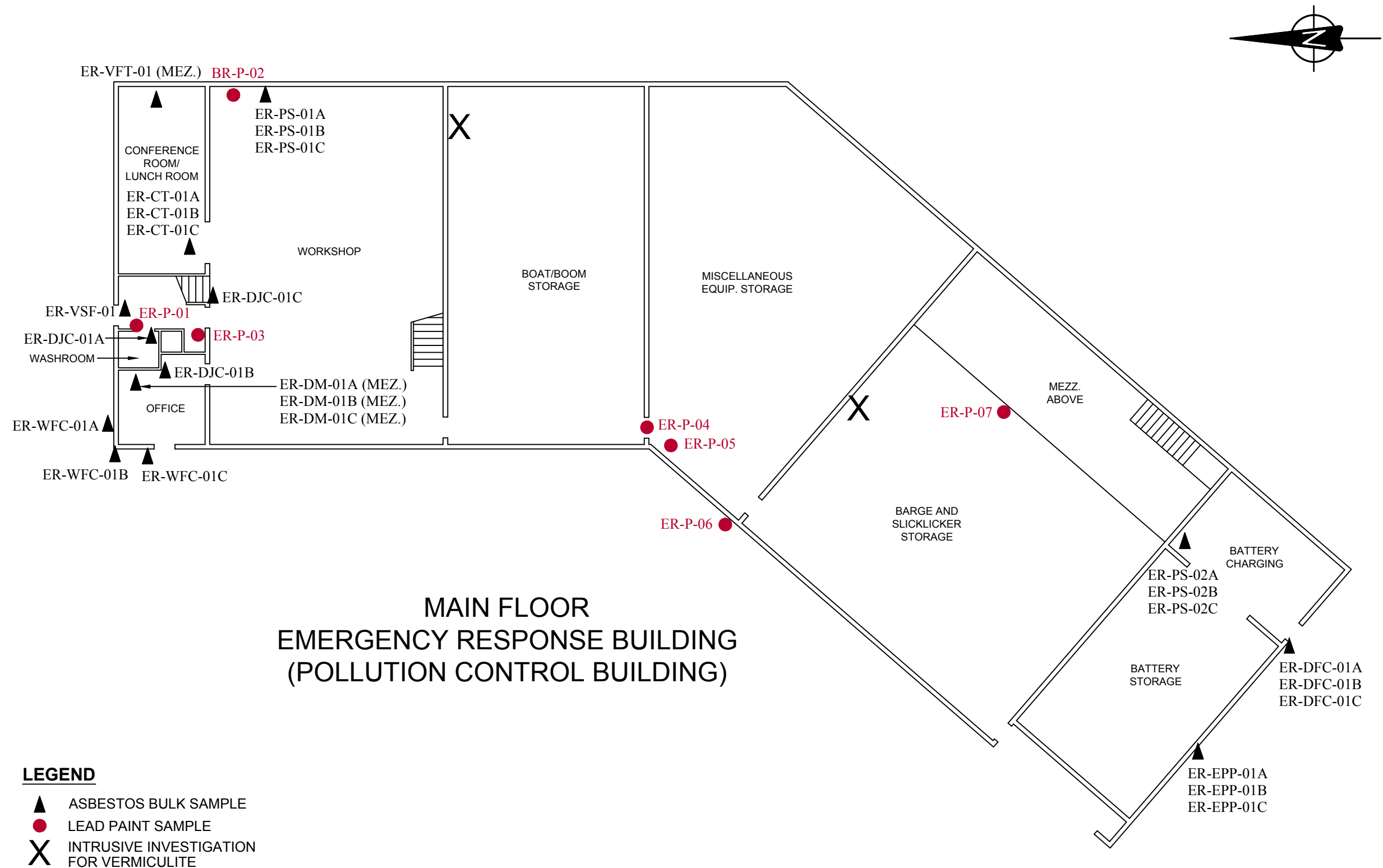
Silica is expected to be present in the following, which were observed in various locations throughout:

- Cement products such as:
 - Concrete—foundations, floors, walls, blocks
 - Masonry units and associated grout and mortar
- Gypsum and associated wall/ceiling finish materials
- Suspended ceiling tiles
- Asphalt and asphalt products containing rock or stone (e.g., roof membrane)


6.3 RECOMMENDATIONS

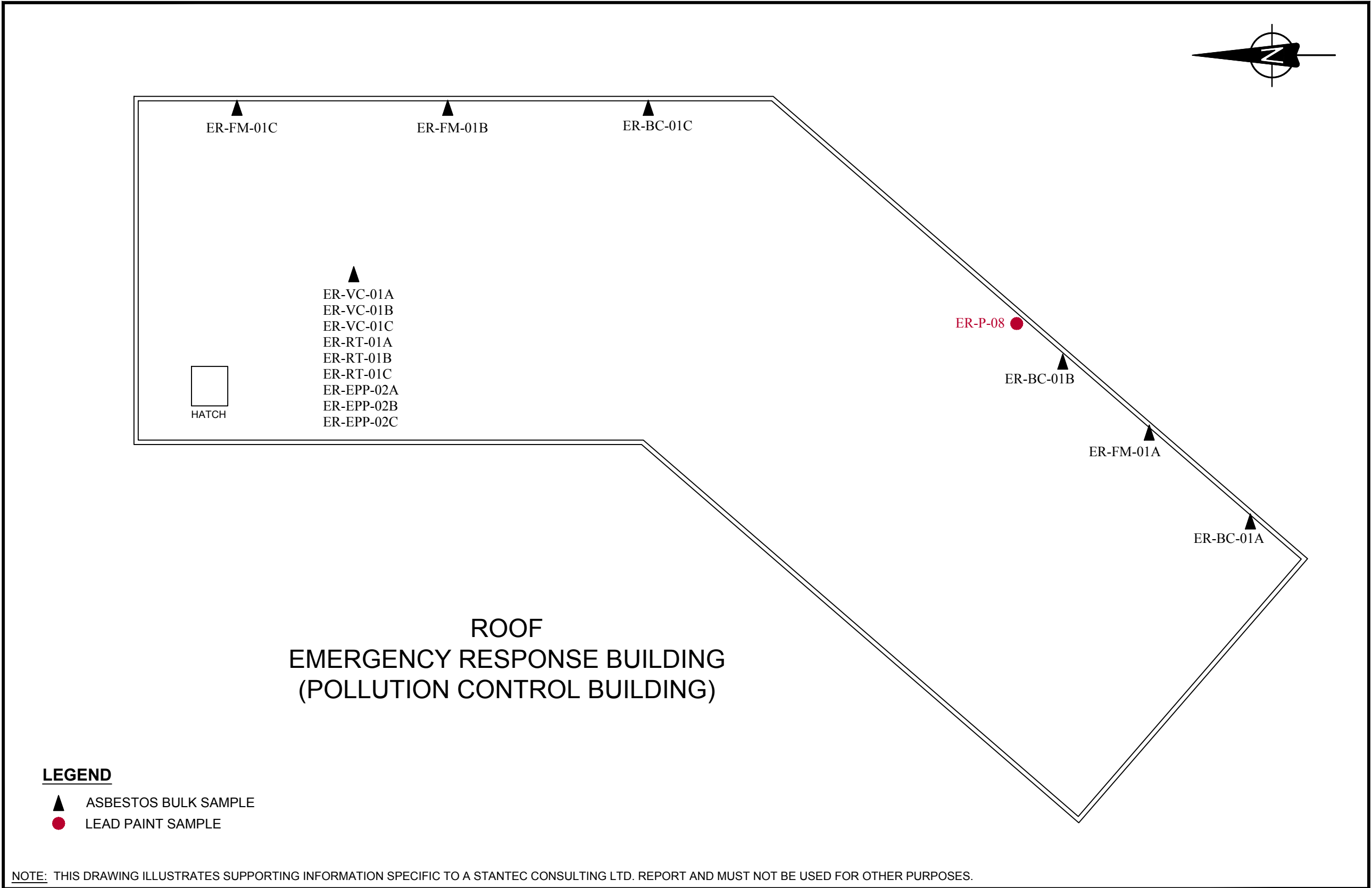
In general, identified hazardous building materials were observed to be in good condition and do not appear to require specific action to maintain compliance with applicable regulations for continued operations and maintenance. Refer to Section 6.0 of the main body of this report for applicable material-by-material general recommendations.





NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

<div>FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS</div> <div>CANADIAN COAST GUARD</div> <div>25 HURON STREET, VICTORIA, BRITISH COLUMBIA</div>	Project No.: 123221268	<div>Dwg. No.:</div> <div>3.1</div> <div></div>
	Scale: N.T.S.	
	Date: 19/02/01	
	Dwn. By: CD _{VM} SL2019020639	
	App'd By: TW	
Client: PUBLIC SERVICES AND PROCUREMENT CANADA		



NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS CANADIAN COAST GUARD 25 HURON STREET, VICTORIA, BRITISH COLUMBIA	Project No.: 123221268	Dwg. No.: 3.2	
	Scale: N.T.S.		
	Date: 19/02/01		
	Dwn. By: CD _{VM} SL2019020640		
Client: PUBLIC SERVICES AND PROCUREMENT CANADA	App'd By: TW		



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EMSL Canada Order 691900012
 Customer ID: 55JACQ30L
 Customer PO: 123221268.400
 Project ID:

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Phone: (604) 412-3004
Fax:
Collected:
Received: 1/03/2019
Analyzed: 1/09/2019

Proj: 123221268.400 / HELICOPTER HANGAR (HH)

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: HH-FP-01A **Lab Sample ID:** 691900012-0001

Sample Description: Boiler room, ceiling/Spray applied fire proofing

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	Gray	15.0%	85.0%	None Detected	

Client Sample ID: HH-FP-01B **Lab Sample ID:** 691900012-0002

Sample Description: Electrical room, ceiling/Spray applied fire proofing

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	Gray	15.0%	85.0%	None Detected	

Client Sample ID: HH-FP-01C **Lab Sample ID:** 691900012-0003

Sample Description: Stock room, ceiling/Spray applied fire proofing

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	Gray	15.0%	85.0%	None Detected	

Client Sample ID: HH-FI-01A **Lab Sample ID:** 691900012-0004

Sample Description: Boiler room/Fitting insulation on heating water elbows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	White	6.0%	94.0%	None Detected	

Client Sample ID: HH-FI-01B **Lab Sample ID:** 691900012-0005

Sample Description: Boiler room/Fitting insulation on heating water elbows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	White	30.0%	70.0%	None Detected	

Client Sample ID: HH-FI-01C **Lab Sample ID:** 691900012-0006

Sample Description: Boiler room/Fitting insulation on heating water elbows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	White	30.0%	70.0%	None Detected	

Client Sample ID: HH-FI-02A **Lab Sample ID:** 691900012-0007

Sample Description: Hangar/Fitting insulation on domestic water elbows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	White	30.0%	70.0%	None Detected	



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 Customer PO: 123221268.400
 Project ID:

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: HH-FI-02B **Lab Sample ID:** 691900012-0008
Sample Description: Hangar/Fitting insulation on domestic water elbows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	White	30.0%	70.0%	None Detected	

Client Sample ID: HH-FI-02C **Lab Sample ID:** 691900012-0009
Sample Description: Hangar/Fitting insulation on domestic water elbows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	White	30.0%	70.0%	None Detected	

Client Sample ID: HH-MG-01 **Lab Sample ID:** 691900012-0010
Sample Description: Exterior natural gas flange/Cork mechanical gasket

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	Tan	0.0%	100.0%	None Detected	

Client Sample ID: HH-RM-01A **Lab Sample ID:** 691900012-0011
Sample Description: Exterior roof/Roofing membrane

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray/Black	1.7%	98.3%	None Detected	

Client Sample ID: HH-RM-01B **Lab Sample ID:** 691900012-0012
Sample Description: Exterior roof/Roofing membrane

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray/Black	2.4%	97.6%	None Detected	

Client Sample ID: HH-RM-01C **Lab Sample ID:** 691900012-0013
Sample Description: Exterior roof/Roofing membrane

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray/Black	2.0%	98.0%	None Detected	

Client Sample ID: HH-TS-01A **Lab Sample ID:** 691900012-0014
Sample Description: Exterior roof on electrical penetration/Tar sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Black	0.0%	100%	<0.25% Chrysotile	

Client Sample ID: HH-TS-01B **Lab Sample ID:** 691900012-0015
Sample Description: Exterior roof on electrical penetration/Tar sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Black	0.0%	100%	<0.25% Chrysotile	



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Client Sample ID: HH-TS-01C **Lab Sample ID:** 691900012-0016
Sample Description: Exterior roof on electrical penetration/Tar sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Black	0.0%	100%	<0.25% Chrysotile	

Client Sample ID: HH-EPP-01A **Lab Sample ID:** 691900012-0017
Sample Description: Exterior roof electrical penetration/Brown electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Brown	0.0%	100%	None Detected	

Client Sample ID: HH-EPP-01B **Lab Sample ID:** 691900012-0018
Sample Description: Exterior roof electrical penetration/Brown electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Brown	0.0%	100%	None Detected	

Client Sample ID: HH-EPP-01C **Lab Sample ID:** 691900012-0019
Sample Description: Exterior roof electrical penetration/Brown electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Brown	0.0%	100%	None Detected	

Client Sample ID: HH-EPP-02A **Lab Sample ID:** 691900012-0020
Sample Description: Exterior electrical penetration/Grey electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray	<0.25%	100%	None Detected	

Client Sample ID: HH-EPP-02B **Lab Sample ID:** 691900012-0021
Sample Description: Exterior electrical penetration/Grey electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: HH-EPP-02C **Lab Sample ID:** 691900012-0022
Sample Description: Exterior electrical penetration/Grey electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: HH-PS-01A **Lab Sample ID:** 691900012-0023
Sample Description: Boiler room/Blue pipe sealant applied to threads of sprinkler lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Blue	7.1%	92.9%	None Detected	



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Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: HH-PS-01B **Lab Sample ID:** 691900012-0024

Sample Description: Boiler room/Blue pipe sealant applied to threads of sprinkler lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Blue	5.8%	94.2%	None Detected	

Client Sample ID: HH-PS-01C **Lab Sample ID:** 691900012-0025

Sample Description: Boiler room/Blue pipe sealant applied to threads of sprinkler lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray/Blue	5.0%	95.0%	None Detected	

Client Sample ID: HH-PS-02A **Lab Sample ID:** 691900012-0026

Sample Description: Electrical room/Blue pipe sealant applied to threads of natural gas lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray/Yellow	5.5%	94.5%	None Detected	

Client Sample ID: HH-PS-02B **Lab Sample ID:** 691900012-0027

Sample Description: Electrical room/Blue pipe sealant applied to threads of natural gas lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	White/Yellow	1.5%	98.5%	None Detected	

Client Sample ID: HH-PS-02C **Lab Sample ID:** 691900012-0028

Sample Description: Electrical room/Blue pipe sealant applied to threads of natural gas lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	White/Yellow	1.8%	98.2%	None Detected	

Client Sample ID: HH-PS-03A **Lab Sample ID:** 691900012-0029

Sample Description: Electrical shop/Cream pipe sealant applied to threads of eye wash station

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray/Pink	2.5%	97.5%	None Detected	

Client Sample ID: HH-PS-03B **Lab Sample ID:** 691900012-0030

Sample Description: Electrical shop/Cream pipe sealant applied to threads of eye wash station

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray/White/Pink	3.7%	96.3%	None Detected	

Client Sample ID: HH-PS-03C **Lab Sample ID:** 691900012-0031

Sample Description: Electrical shop/Cream pipe sealant applied to threads of eye wash station

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray/Pink	0.92%	99.1%	None Detected	



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Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: HH-WS-01A **Lab Sample ID:** 691900012-0032

Sample Description: Exterior wall seams between concrete and door frame/Brown wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Black	0.0%	100%	None Detected	

Client Sample ID: HH-WS-01B **Lab Sample ID:** 691900012-0033

Sample Description: Exterior wall seams between concrete and window frame/Brown wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Black	0.0%	100%	None Detected	

Client Sample ID: HH-WS-01C **Lab Sample ID:** 691900012-0034

Sample Description: Exterior wall seams between concrete and window frame/Brown wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Black	0.0%	100%	None Detected	

Client Sample ID: HH-WS-02A **Lab Sample ID:** 691900012-0035

Sample Description: Exterior wall seams between concrete/Tan wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Brown/Tan	<0.25%	100%	None Detected	

Client Sample ID: HH-WS-02B **Lab Sample ID:** 691900012-0036

Sample Description: Exterior wall seams between concrete/Tan wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Brown/Gray	<0.25%	100%	None Detected	

Client Sample ID: HH-WS-02C **Lab Sample ID:** 691900012-0037

Sample Description: Exterior wall seams between concrete/Tan wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Brown	<0.25%	100%	None Detected	

Client Sample ID: HH-WS-03A **Lab Sample ID:** 691900012-0038

Sample Description: Exterior wall seams between concrete/Grey wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray/Black	<0.25%	100%	None Detected	

Client Sample ID: HH-WS-03B **Lab Sample ID:** 691900012-0039

Sample Description: Exterior wall seams between concrete/Grey wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray	<0.25%	100%	None Detected	



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Client Sample ID: HH-WS-03C **Lab Sample ID:** 691900012-0040

Sample Description: Exterior wall seams between concrete/Grey wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray	0.0%	98.5%	1.5% Chrysotile	

Client Sample ID: HH-WS-04A **Lab Sample ID:** 691900012-0041

Sample Description: Exterior wall seams between concrete/Beige wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Beige	0.0%	100%	None Detected	

Client Sample ID: HH-WS-04B **Lab Sample ID:** 691900012-0042

Sample Description: Exterior wall seams between concrete/Beige wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Beige	0.0%	100%	None Detected	

Client Sample ID: HH-WS-04C **Lab Sample ID:** 691900012-0043

Sample Description: Exterior wall seams between concrete/Beige wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Beige	0.0%	100%	None Detected	

Client Sample ID: HH-VSF-01 **Lab Sample ID:** 691900012-0044

Sample Description: Second floor, lunch room/Cream 12"x12" pattern sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Tan/White	<0.25%	100%	None Detected	

Client Sample ID: HH-WPC-01A **Lab Sample ID:** 691900012-0045

Sample Description: Second floor north stairwell/Black window pane caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Black	0.0%	98.6%	1.4% Chrysotile	

Client Sample ID: HH-WPC-01B **Lab Sample ID:** 691900012-0046

Sample Description: Second floor hallway/Black window pane caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019				Positive Stop (Not Analyzed)	

Client Sample ID: HH-WPC-01C **Lab Sample ID:** 691900012-0047

Sample Description: Second floor south stairwell/Black window pane caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019				Positive Stop (Not Analyzed)	



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 Customer PO: 123221268.400
 Project ID:

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: HH-CT-01A **Lab Sample ID:** 691900012-0048

Sample Description: Workshop/2'x4' long fissure and pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	Gray	50.0%	50.0%	None Detected	

Client Sample ID: HH-CT-01B **Lab Sample ID:** 691900012-0049

Sample Description: Workshop/2'x4' long fissure and pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	Gray	50.0%	50.0%	None Detected	

Client Sample ID: HH-CT-01C **Lab Sample ID:** 691900012-0050

Sample Description: Workshop/2'x4' long fissure and pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	Gray/White	50.0%	50.0%	None Detected	

Client Sample ID: HH-DJC-01A **Lab Sample ID:** 691900012-0051

Sample Description: North stairwell, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	White	0.0%	100.0%	None Detected	Inseparable paint / coating layer included in analysis.

Client Sample ID: HH-DJC-01B **Lab Sample ID:** 691900012-0052

Sample Description: Second floor, lunch room, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	White	0.0%	100.0%	None Detected	Inseparable paint / coating layer included in analysis.

Client Sample ID: HH-DJC-01C **Lab Sample ID:** 691900012-0053

Sample Description: Second floor, washroom, bulkhead/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
400 PLM Pt Ct	1/09/2019	Beige	0.00%	99.75%	0.25% Chrysotile	

Client Sample ID: HH-DJC-01D **Lab Sample ID:** 691900012-0054

Sample Description: Second floor, general office, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	Beige	0.0%	100.0%	None Detected	Inseparable paint / coating layer included in analysis.

Client Sample ID: HH-DJC-01E **Lab Sample ID:** 691900012-0055

Sample Description: Second floor, general office, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	White	0.0%	100.0%	None Detected	



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Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Analyst(s):

Melissa Hartwig PLM (17)
PLM Grav. Reduction (35)
Peter Donato 400 PLM Pt Ct (1)

Reviewed and approved by:

Nicole Yeo, Laboratory Manager
or Other Approved Signatory

None Detected = <0.1%. EMSL maintains liability limited to cost of analysis. This report 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. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP of any agency of the U.S. Government.

Samples analyzed by EMSL Analytical, Inc. Rochester, NY NVLAP Lab Code 600183-0, NYS ELAP 12088

Report amended: 02/20/2019 16:32:40 Replaces initial report from: 01/10/2019 11:57:01 Reason Code: Client-Change to Appearance

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Attn: **Kim Wiese**
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Phone: (604) 412-3004
Fax:
Received: 01/04/19 11:30 AM
Collected:

Project: **123221268-400****Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)***

<i>Client Sample</i>	<i>Description</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>RDL</i>	<i>Lead Concentration</i>
ER-P-01 551900059-0001	Site: Emergency Response Building (ER) - Room 2, washroom, wall Desc: Beige on drywall		1/7/2019	0.2493 g	80 ppm	<80 ppm
ER-P-02 551900059-0002	Site: Emergency Response Building (ER) - Room 4, workshop, structural steel Desc: Red on metal Insufficient sample to reach reporting limit.		1/7/2019	0.1677 g	120 ppm	<120 ppm
ER-P-03 551900059-0003	Site: Emergency Response Building (ER) - Hallway hot water heater room by room 2, washroom, wall Desc: White on concrete		1/7/2019	0.2451 g	82 ppm	710 ppm
ER-P-04 551900059-0004	Site: Emergency Response Building (ER) - Room 5, boat/boom storage, door and frame Desc: Brown on metal		1/7/2019	0.2407 g	83 ppm	110 ppm
ER-P-05 551900059-0005	Site: Emergency Response Building (ER) - Room 6, miscellaneous equipment storage, floor lines Desc: Yellow on concrete		1/7/2019	0.2419 g	83 ppm	<83 ppm
ER-P-06 551900059-0006	Site: Emergency Response Building (ER) - Exterior door frames Desc: Brown on metal		1/7/2019	0.2459 g	1600 ppm	39000 ppm
ER-P-07 551900059-0007	Site: Emergency Response Building (ER) - Room 7, barge and slicklicker storage mezzanine structure Desc: Blue on metal		1/7/2019	0.2435 g	82 ppm	3100 ppm

Rowena Fanto, Lead Supervisor
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report 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. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON A2LA Accredited Environmental Testing Cert #2845.08

Initial report from 01/11/2019 09:20:18

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CustomerID: 55JACQ30L
CustomerPO: 123221268-400
ProjectID:

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Burnaby, BC V5H 0C6

Phone: (604) 412-3004
Fax:
Received: 01/04/19 11:30 AM
Collected:

Project: 123221268-400

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

<i>Client Sample</i>	<i>Description</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>RDL</i>	<i>Lead Concentration</i>
ER-P-08			1/7/2019	0.1548 g	130 ppm	460 ppm
551900059-0008	Site: Emergency Response Building (ER) - Exterior siding and flashing Desc: Brown on metal					

Rowena Fanto, Lead Supervisor
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report 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. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

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Initial report from 01/11/2019 09:20:18

APPENDIX 5.4

FINDINGS AND RECOMMENDATIONS— HELICOPTER HANGAR

Appendix 5.4 FINDINGS AND RECOMMENDATIONS— HELICOPTER HANGAR

The Helicopter Hangar (subject building) was reportedly constructed in 1977. The typical structural components and finishes associated with this two-story building consist of exterior concrete walls; suspended ceiling tile, drywall and metal corrugated ceilings; drywall, concrete and masonry block interior walls; concrete, ceramic tile, carpet and vinyl sheet flooring; and a built-up asphalt roof membrane.

The results of the assessment for each of the considered hazardous materials within the subject building are provided in the following sub-sections.

Floor plan drawings, which include locations of the samples collected during this assessment and locations of identified hazardous building materials (where practical), are attached to this Appendix.

5.4-1 ASBESTOS

The Previous Reports indicated the presence of the following ACM:

- Spray on insulation (North West Bulk Sample 2016 Report, North West Bulk Sample 2017 Report and BC Hazmat 2017 Report)
 - Observed to remain and in good condition on the main level
 - Observed to have been removed from upper level ceiling spaces
 - Additional samples were collected by Stantec during the current assessment

In addition to the above, Stantec identified and sampled various additional suspected ACMs, collected confirmatory samples of previously identified ACMs, and collected samples to supplement the results from previous assessments (additional samples to appropriately characterize a material's asbestos content, based on current standards pertaining to minimum sample numbers). The samples collected were submitted to EMSL for analysis of asbestos content and nature.

A summary of the materials sampled as part of the current assessment, along with the sample locations and analytical results is presented in Table 5.4-1, below. A copy of the certificate of analysis provided by EMSL for the suspected ACM samples submitted as part of this assessment is attached at the end of this Appendix.



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.4 Findings and Recommendations—Helicopter Hangar
March 2019

**Table 5.4-1 Suspected ACM Sample Collection and Analysis Summary
Helicopter Hangar**

Material/Homogenous Application Description	Sample Number	Sample Location	Result (%/type asbestos)
Spray applied fire proofing on ceilings and structural steel	HH-FP-01A	Boiler room, ceiling	None Detected (See 5.4.1.1)
	HH-FP-01B	Electrical room, ceiling	None Detected (See 5.4.1.1)
	HH-FP-01C	Stock room, ceiling	None Detected (See 5.4.1.1)
Fitting insulation on heating water elbows	HH-FI-01A	Boiler room	None Detected
	HH-FI-01B	Boiler room	None Detected
	HH-FI-01C	Boiler room	None Detected
Fitting insulation on domestic water elbows	HH-FI-02A	Hangar	None Detected
	HH-FI-02B	Hangar	None Detected
	HH-FI-02C	Hangar	None Detected
Cork mechanical gasket in flanges of natural gas line	HH-MG-01	Exterior natural gas flange	None Detected
Roofing membrane	HH-RM-01A	Exterior roof	None Detected
	HH-RM-01B	Exterior roof	None Detected
	HH-RM-01C	Exterior roof	None Detected
Tar sealant	HH-TS-01A	Exterior roof on electrical penetration	<0.25% Chrysotile
	HH-TS-01B	Exterior roof on electrical penetration	<0.25% Chrysotile
	HH-TS-01C	Exterior roof on electrical penetration	<0.25% Chrysotile
Brown electrical penetration putty	HH-EPP-01A	Exterior roof electrical penetration	None Detected
	HH-EPP-01B	Exterior roof electrical penetration	None Detected
	HH-EPP-01C	Exterior roof electrical penetration	None Detected
Grey electrical penetration putty	HH-EPP-02A	Exterior electrical penetration	None Detected
	HH-EPP-02B	Exterior electrical penetration	None Detected
	HH-EPP-02C	Exterior electrical penetration	None Detected
Blue pipe sealant applied to threads of sprinkler lines	HH-PS-01A	Boiler room	None Detected
	HH-PS-01B	Boiler room	None Detected
	HH-PS-01C	Boiler room	None Detected
Blue pipe sealant applied to threads of natural gas lines	HH-PS-02A	Electrical room	None Detected
	HH-PS-02B	Electrical room	None Detected
	HH-PS-02C	Electrical room	None Detected



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.4 Findings and Recommendations—Helicopter Hangar
March 2019

**Table 5.4-1 Suspected ACM Sample Collection and Analysis Summary
Helicopter Hangar**

Material/Homogenous Application Description	Sample Number	Sample Location	Result (%/type asbestos)
Cream pipe sealant applied to threads of eye wash station	HH-PS-03A	Electrical shop	None Detected
	HH-PS-03B	Electrical shop	None Detected
	HH-PS-03C	Electrical shop	None Detected
Brown wall sealant	HH-WS-01A	Exterior wall seams between concrete and door frame	None Detected
	HH-WS-01B	Exterior wall seams between concrete and window frame	None Detected
	HH-WS-01C	Exterior wall seams between concrete and window frame	None Detected
Tan wall sealant	HH-WS-02A	Exterior wall seams between concrete	None Detected
	HH-WS-02B	Exterior wall seams between concrete	None Detected
	HH-WS-02C	Exterior wall seams between concrete	None Detected
Grey wall sealant	HH-WS-03A	Exterior wall seams between concrete	None Detected
	HH-WS-03B	Exterior wall seams between concrete	None Detected
	HH-WS-03C	Exterior wall seams between concrete	1.5% Chrysotile
Beige wall sealant	HH-WS-04A	Exterior wall seams between concrete	None Detected
	HH-WS-04B	Exterior wall seams between concrete	None Detected
	HH-WS-04C	Exterior wall seams between concrete	None Detected
Cream 12"x12" pattern vinyl sheet flooring	HH-VSF-01	Second floor, lunch room	None Detected
Black window pane caulking	HH-WPC-01A	Second floor north stairwell	1.4% Chrysotile
	HH-WPC-01B	Second floor hallway	Positive Stop (Not Analyzed)
	HH-WPC-01C	Second floor south stairwell	Positive Stop (Not Analyzed)
2'x4' long fissure and pinhole ceiling tile	HH-CT-01A	Workshop	None Detected
	HH-CT-01B	Workshop	None Detected
	HH-CT-01C	Workshop	None Detected
Drywall joint compound applied to walls and ceilings	HH-DJC-01A	North stairwell, wall	None Detected
	HH-DJC-01B	Second floor, lunch room, wall	None Detected
	HH-DJC-01C	Second floor, washroom, bulkhead	0.25% Chrysotile
	HH-DJC-01D	Second floor, general office, wall	None Detected
	HH-DJC-01E	Second floor, general office, wall	None Detected
NOTE: Bold, highlighted text indicates confirmed ACM			





HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.4 Findings and Recommendations—Helicopter Hangar March 2019

Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of the results of suspected ACM samples analyzed through the current assessment, along with our review of the information provided in the Previous Reports, the materials presented in Table 5.4-2, below were identified as ACMs.

**Table 5.4-2 Summary of Identified ACMs
Helicopter Hangar**


Identified ACM Description and Condition Information		Photo
Grey wall sealant applied to exterior concrete vertical seams.		
Friability	Non-friable	
Condition	Good	
Total Quantity	Vertical seams throughout exterior	
Content	1.5% Chrysotile	
Black window pane caulking applied to windows throughout.		
Friability	Non-friable	
Condition	Good	
Total Quantity	Windows throughout	
Content	1.4% Chrysotile	



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.4 Findings and Recommendations—Helicopter Hangar
March 2019

**Table 5.4-2 Summary of Identified ACMs
Helicopter Hangar**

Identified ACM Description and Condition Information		Photo
Spray on insulation/fireproofing applied to ceilings and structural steel (observed to have been removed from the mezzanine area). See section 5.4.1.1		
Friability	Friable	
Condition	Good	
Total Quantity	NICAD electrical shop, stock room, workshop, workshop stores, SNR. HEL. ENGR. Office, technical library, electrical room and boiler room	
Content	0.5% Actinolite (North West Bulk Sample 2016 Report) <0.5% Actinolite (North West Bulk Sample 2017 Report) Vermiculite detected (BC Hazmat 2017 Report)	

5.4.1.1 Fireproofing/Spray on Insulation

Although no asbestos was detected in the three samples of fireproofing/spray on insulation collected as part of this assessment, this material should still be considered ACM for the following reasons:

- Trace amounts of vermiculite (a known ACM) and forms of asbestos typically associated with vermiculite (actinolite, tremolite) have been detected in various samples of this friable material collected and analysed by others
- Asbestos content of vermiculite can vary significantly, and the asbestos content of a material of this nature may be difficult to determine when vermiculite is only a component of the material

5.4.1.2 Potential Asbestos-Containing Vermiculite Insulation

As part of the assessment, Stantec assessed the subject building for areas where vermiculite insulation, a potential ACM, would likely be present. This included making note of attic spaces, floor cavities and masonry block or brick walls, which are typical areas where vermiculite is found. The following observations we made regarding areas where vermiculite is potentially present:

- Walls of the subject building are comprised of masonry block walls. To assess for the presence of vermiculite insulation the block wall cavities were drilled in two locations. No vermiculite was observed in the locations where drilling was conducted.
- No other locations that may potentially contain vermiculite (that could not otherwise be assessed) were observed



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.4 Findings and Recommendations—Helicopter Hangar
March 2019

5.4-2 LEAD

Lead is expected to be present in the following:

- Lead-acid batteries used in emergency lighting
- Older electrical wiring materials and sheathing
- Solder used on domestic water lines
- Solder used in bell fittings for cast iron pipes and in electrical equipment
- Ceramic tile glaze
- Vent and pipe flashings

With respect to paint, LCPs were not identified through the Previous Reports. As such, chip samples were obtained by Stantec from the predominant suspected LCP applications within the subject building.

A summary of the sample types, locations and analytical results is presented in Table 5.4-3, below.

A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

**Table 5.4-3 Suspected LCP Sample Collection and Analysis Summary
Helicopter Hangar**

Sample No.	Sample Colour/Substrate	Sample Location	Lab Result (ppm)
HH-P-01	Brown on metal	Boiler room, door and frame	<83
HH-P-02	Blue/grey on concrete	Boiler room, floor	100
HH-P-03	White on concrete	Electrical shop, wall	780
HH-P-04	Orange on metal	South stairwell, door	20,000
HH-P-05	Brown on metal	Hangar, structural steel	7,300
HH-P-06	Brown on metal	Exterior metal flashing	<400
HH-P-07	Pink on metal	Exterior bay door	2,800
NOTE: Bold, highlighted text indicates confirmed LCP			


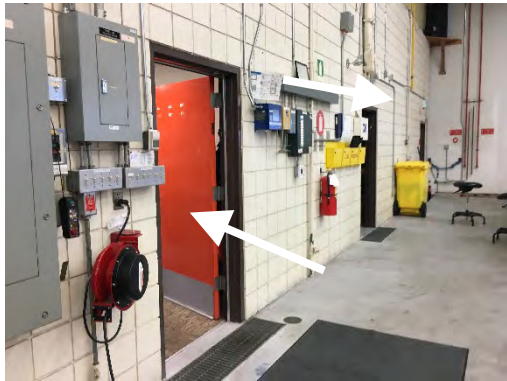

Based on our observations and on our interpretations of suspected LCP sample analytical results, the paints presented in Table 5.4-4, below were identified as LCPs:



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.4 Findings and Recommendations—Helicopter Hangar March 2019

**Table 5.4-4 Summary of Identified LCPs
Helicopter Hangar**


Identified LCP Description		Photo
Paint colour	White	
Substrate	Concrete	
Location/approx. extent	Interior walls	
Lead content	780 ppm	
Condition	Good	
Paint colour	Orange	
Substrate	Metal	
Location/approx. extent	Doors	
Lead content	20,000 ppm	
Condition	Good	
Paint colour	Brown	
Substrate	Metal	
Location/approx. extent	Structural steel	
Lead content	7,300 ppm	
Condition	Good	



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.4 Findings and Recommendations—Helicopter Hangar
March 2019

**Table 5.4-4 Summary of Identified LCPs
Helicopter Hangar**

Identified LCP Description		Photo
Paint colour	Pink	
Substrate	Metal	
Location/approx. extent	Exterior bay doors	
Lead content	2,800 ppm	
Condition	Good	

5.4-3 POLYCHLORINATED BIPHENYLS

PCBs may be present in the fluorescent light ballasts of the approximately 40 light fixtures observed. As the ballasts were energized, they could not be inspected at the time of the assessment for health and safety reasons.

5.4-4 MERCURY

Mercury vapour is present in the light tubes within the approximately 40 fluorescent light fixtures observed.

5.4-5 MOULD


The observations pertaining to mould and/or moisture that were made during this assessment are summarized in Table 5.4-5, below.



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.4 Findings and Recommendations—Helicopter Hangar
March 2019

**Table 5.4-5 Mould/Moisture Observations Summary—December 18, 2018
Helicopter Hangar**

Building Area	Observation	Suspected Source of Moisture	Photo
Workshop, workshop stores and SNR. HEL. ENGR office	Moisture stained ceiling tiles	Pipe leaks, condensation tray overflow, roof leaks	

5.4-6 OZONE-DEPLETING SUBSTANCES

Building related cooling, refrigeration or fire suppression equipment suspected to be ODS-containing was not observed.

5.4-7 SILICA

Silica is expected to be present in the following, which were observed in various locations throughout:

- Cement products such as:
 - Concrete—foundations, floors, walls, blocks
 - Masonry units and associated grout and mortar
 - Ceramic floor tiles and associated grouts and mortars
- Gypsum and associated wall/ceiling finish materials
- Suspended ceiling tiles
- Asphalt and asphalt products containing rock or stone (e.g., roof membrane)



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.4 Findings and Recommendations—Helicopter Hangar
March 2019

6.4 RECOMMENDATIONS

In general, identified hazardous building materials were observed to be in good condition and do not appear to require specific action to maintain compliance with applicable regulations for continued operations and maintenance. Refer to Section 6.0 of the main body of this report for applicable material-by-material general recommendations.

Additional building-specific recommendations to be considered are provided below.

6.4-5 MOULD

Documents published by Health Canada, Ontario Ministry of Health, American Industrial Hygiene Association (AIHA), American Conference of Governmental Industrial Hygienists (ACGIH) and others, provide guidance for interpreting the results of mold investigations. The Health Canada Guide states that:

“...current knowledge supports the need to prevent damp conditions and mold growth and to remediate any fungal contamination in buildings.”






To this end, Stantec recommends the following course of action within the subject building:

- Remove and dispose of moisture impacted ceiling tiles with new tiles. If staining re-appears on the new tiles, the source of moisture should be identified and corrected.
 - This work can be conducted by regular facility maintenance staff, if conducted prior to the onset of mould growth.





LEGEND

-  ASBESTOS BULK SAMPLE
-  LEAD PAINT SAMPLE
-  INTRUSIVE INVESTIGATION
FOR VERMICULITE
-  MOISTURE STAINED CEILING TILES
-  ASBESTOS-CONTAINING SPRAY ON
INSULATION/FIREPROOFING

3. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

Project No.: 123221268

Scale: N.T.S.

Date: 19/02/01

Dwn. By: CD_{VM} SL2019020633

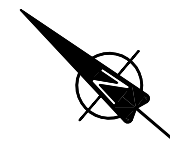
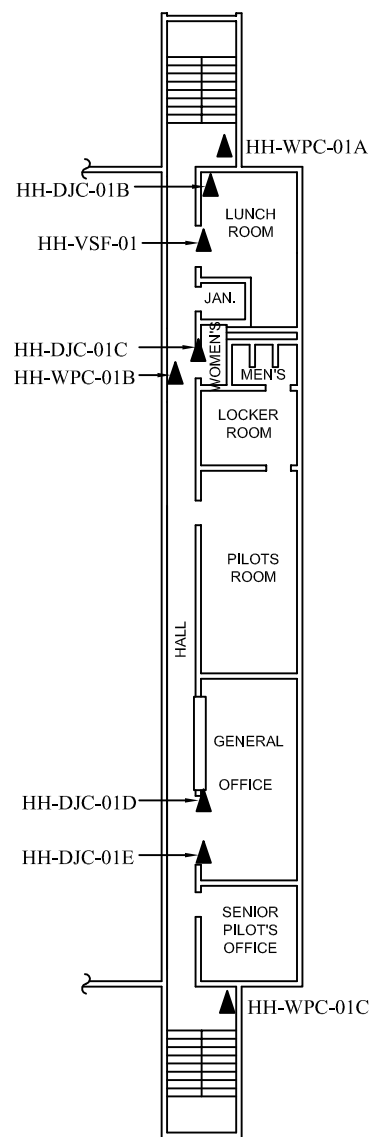
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Dwg. No.:

4.1



Client: PUBLIC SERVICES AND PROCUREMENT CANADA



SECOND FLOOR HELICOPTER HANGAR

LEGEND

▲ ASBESTOS BULK SAMPLE

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FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

CANADIAN COAST GUARD
25 HURON STREET, VICTORIA, BRITISH COLUMBIA

Client: PUBLIC SERVICES AND PROCUREMENT CANADA

Project No.: 123221268

Scale: N.T.S.

Date: 19/02/01

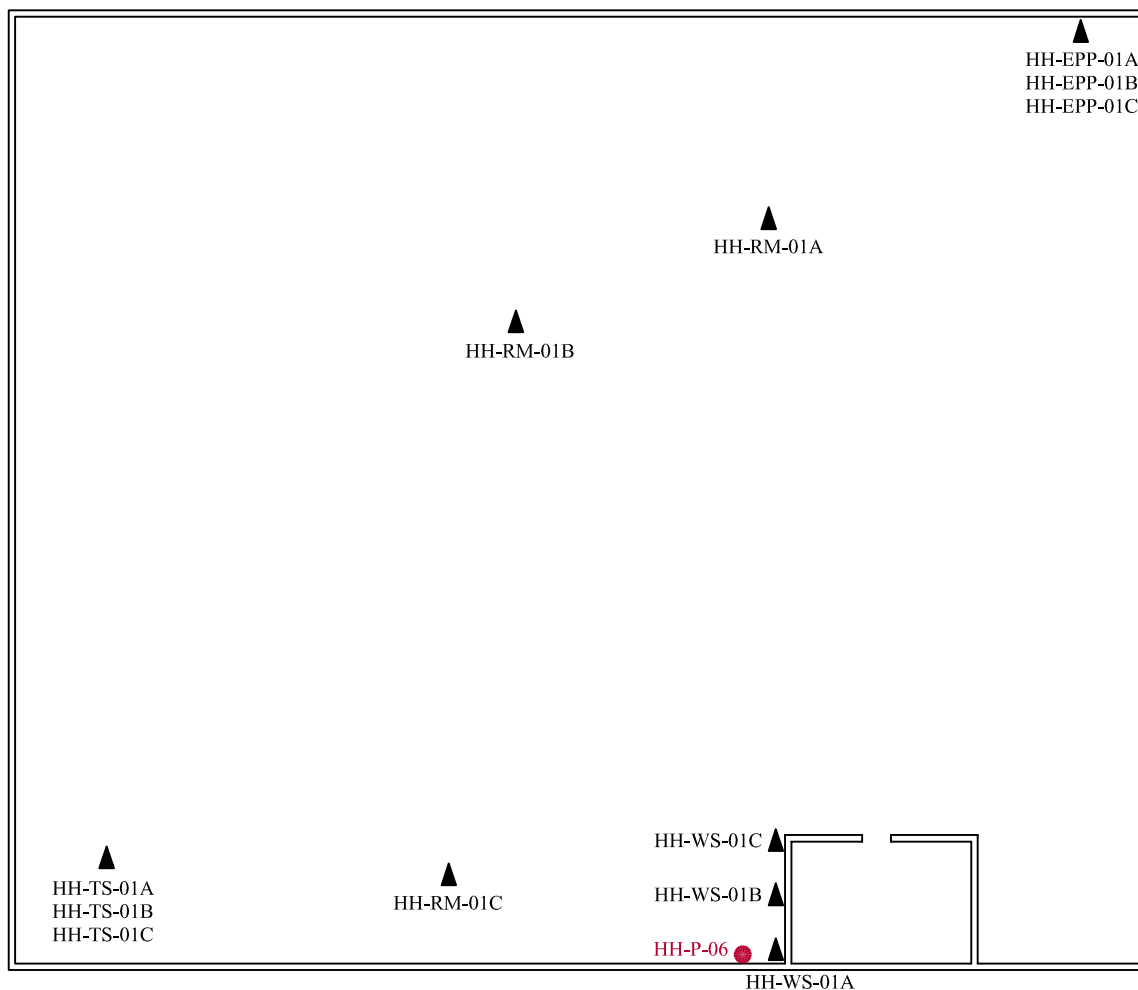
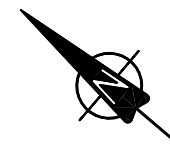
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ROOF HELICOPTER HANGAR

LEGEND

- ▲ ASBESTOS BULK SAMPLE
- LEAD PAINT SAMPLE

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

CANADIAN COAST GUARD
25 HURON STREET, VICTORIA, BRITISH COLUMBIA

Client: PUBLIC SERVICES AND PROCUREMENT CANADA

Project No.: 123221268

Scale: N.T.S.

Date: 19/02/01

Dwn. By: CD_{VM} SL2019020635

App'd By: TW

Dwg. No.:

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 Customer ID: 55JACQ30L
 Customer PO: 123221268.400
 Project ID:

Attn: Kim Wiese
 Stantec Consulting Ltd.
 500 - 4730 Kingsway
 Burnaby, BC V5H 0C6

Phone: (604) 412-3004
Fax:
Collected:
Received: 1/03/2019
Analyzed: 1/09/2019

Proj: 123221268.400 / HELICOPTER HANGAR (HH)

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: HH-FP-01A **Lab Sample ID:** 691900012-0001

Sample Description: Boiler room, ceiling/Spray applied fire proofing

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	Gray	15.0%	85.0%	None Detected	

Client Sample ID: HH-FP-01B **Lab Sample ID:** 691900012-0002

Sample Description: Electrical room, ceiling/Spray applied fire proofing

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	Gray	15.0%	85.0%	None Detected	

Client Sample ID: HH-FP-01C **Lab Sample ID:** 691900012-0003

Sample Description: Stock room, ceiling/Spray applied fire proofing

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	Gray	15.0%	85.0%	None Detected	

Client Sample ID: HH-FI-01A **Lab Sample ID:** 691900012-0004

Sample Description: Boiler room/Fitting insulation on heating water elbows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	White	6.0%	94.0%	None Detected	

Client Sample ID: HH-FI-01B **Lab Sample ID:** 691900012-0005

Sample Description: Boiler room/Fitting insulation on heating water elbows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	White	30.0%	70.0%	None Detected	

Client Sample ID: HH-FI-01C **Lab Sample ID:** 691900012-0006

Sample Description: Boiler room/Fitting insulation on heating water elbows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	White	30.0%	70.0%	None Detected	

Client Sample ID: HH-FI-02A **Lab Sample ID:** 691900012-0007

Sample Description: Hangar/Fitting insulation on domestic water elbows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	White	30.0%	70.0%	None Detected	



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 Customer PO: 123221268.400
 Project ID:

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: HH-FI-02B **Lab Sample ID:** 691900012-0008
Sample Description: Hangar/Fitting insulation on domestic water elbows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	White	30.0%	70.0%	None Detected	

Client Sample ID: HH-FI-02C **Lab Sample ID:** 691900012-0009
Sample Description: Hangar/Fitting insulation on domestic water elbows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	White	30.0%	70.0%	None Detected	

Client Sample ID: HH-MG-01 **Lab Sample ID:** 691900012-0010
Sample Description: Exterior natural gas flange/Cork mechanical gasket

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	Tan	0.0%	100.0%	None Detected	

Client Sample ID: HH-RM-01A **Lab Sample ID:** 691900012-0011
Sample Description: Exterior roof/Roofing membrane

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray/Black	1.7%	98.3%	None Detected	

Client Sample ID: HH-RM-01B **Lab Sample ID:** 691900012-0012
Sample Description: Exterior roof/Roofing membrane

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray/Black	2.4%	97.6%	None Detected	

Client Sample ID: HH-RM-01C **Lab Sample ID:** 691900012-0013
Sample Description: Exterior roof/Roofing membrane

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray/Black	2.0%	98.0%	None Detected	

Client Sample ID: HH-TS-01A **Lab Sample ID:** 691900012-0014
Sample Description: Exterior roof on electrical penetration/Tar sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Black	0.0%	100%	<0.25% Chrysotile	

Client Sample ID: HH-TS-01B **Lab Sample ID:** 691900012-0015
Sample Description: Exterior roof on electrical penetration/Tar sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Black	0.0%	100%	<0.25% Chrysotile	



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EMSL Canada Order 691900012
 Customer ID: 55JACQ30L
 Customer PO: 123221268.400
 Project ID:

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: HH-TS-01C **Lab Sample ID:** 691900012-0016
Sample Description: Exterior roof on electrical penetration/Tar sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Black	0.0%	100%	<0.25% Chrysotile	

Client Sample ID: HH-EPP-01A **Lab Sample ID:** 691900012-0017
Sample Description: Exterior roof electrical penetration/Brown electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Brown	0.0%	100%	None Detected	

Client Sample ID: HH-EPP-01B **Lab Sample ID:** 691900012-0018
Sample Description: Exterior roof electrical penetration/Brown electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Brown	0.0%	100%	None Detected	

Client Sample ID: HH-EPP-01C **Lab Sample ID:** 691900012-0019
Sample Description: Exterior roof electrical penetration/Brown electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Brown	0.0%	100%	None Detected	

Client Sample ID: HH-EPP-02A **Lab Sample ID:** 691900012-0020
Sample Description: Exterior electrical penetration/Grey electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray	<0.25%	100%	None Detected	

Client Sample ID: HH-EPP-02B **Lab Sample ID:** 691900012-0021
Sample Description: Exterior electrical penetration/Grey electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: HH-EPP-02C **Lab Sample ID:** 691900012-0022
Sample Description: Exterior electrical penetration/Grey electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: HH-PS-01A **Lab Sample ID:** 691900012-0023
Sample Description: Boiler room/Blue pipe sealant applied to threads of sprinkler lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Blue	7.1%	92.9%	None Detected	



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<http://www.EMSL.com> / vancouverlab@EMSL.com

EMSL Canada Order 691900012
 Customer ID: 55JACQ30L
 Customer PO: 123221268.400
 Project ID:

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: HH-PS-01B **Lab Sample ID:** 691900012-0024

Sample Description: Boiler room/Blue pipe sealant applied to threads of sprinkler lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Blue	5.8%	94.2%	None Detected	

Client Sample ID: HH-PS-01C **Lab Sample ID:** 691900012-0025

Sample Description: Boiler room/Blue pipe sealant applied to threads of sprinkler lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray/Blue	5.0%	95.0%	None Detected	

Client Sample ID: HH-PS-02A **Lab Sample ID:** 691900012-0026

Sample Description: Electrical room/Blue pipe sealant applied to threads of natural gas lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray/Yellow	5.5%	94.5%	None Detected	

Client Sample ID: HH-PS-02B **Lab Sample ID:** 691900012-0027

Sample Description: Electrical room/Blue pipe sealant applied to threads of natural gas lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	White/Yellow	1.5%	98.5%	None Detected	

Client Sample ID: HH-PS-02C **Lab Sample ID:** 691900012-0028

Sample Description: Electrical room/Blue pipe sealant applied to threads of natural gas lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	White/Yellow	1.8%	98.2%	None Detected	

Client Sample ID: HH-PS-03A **Lab Sample ID:** 691900012-0029

Sample Description: Electrical shop/Cream pipe sealant applied to threads of eye wash station

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray/Pink	2.5%	97.5%	None Detected	

Client Sample ID: HH-PS-03B **Lab Sample ID:** 691900012-0030

Sample Description: Electrical shop/Cream pipe sealant applied to threads of eye wash station

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray/White/Pink	3.7%	96.3%	None Detected	

Client Sample ID: HH-PS-03C **Lab Sample ID:** 691900012-0031

Sample Description: Electrical shop/Cream pipe sealant applied to threads of eye wash station

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray/Pink	0.92%	99.1%	None Detected	



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Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: HH-WS-01A **Lab Sample ID:** 691900012-0032

Sample Description: Exterior wall seams between concrete and door frame/Brown wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Black	0.0%	100%	None Detected	

Client Sample ID: HH-WS-01B **Lab Sample ID:** 691900012-0033

Sample Description: Exterior wall seams between concrete and window frame/Brown wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Black	0.0%	100%	None Detected	

Client Sample ID: HH-WS-01C **Lab Sample ID:** 691900012-0034

Sample Description: Exterior wall seams between concrete and window frame/Brown wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Black	0.0%	100%	None Detected	

Client Sample ID: HH-WS-02A **Lab Sample ID:** 691900012-0035

Sample Description: Exterior wall seams between concrete/Tan wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Brown/Tan	<0.25%	100%	None Detected	

Client Sample ID: HH-WS-02B **Lab Sample ID:** 691900012-0036

Sample Description: Exterior wall seams between concrete/Tan wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Brown/Gray	<0.25%	100%	None Detected	

Client Sample ID: HH-WS-02C **Lab Sample ID:** 691900012-0037

Sample Description: Exterior wall seams between concrete/Tan wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Brown	<0.25%	100%	None Detected	

Client Sample ID: HH-WS-03A **Lab Sample ID:** 691900012-0038

Sample Description: Exterior wall seams between concrete/Grey wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray/Black	<0.25%	100%	None Detected	

Client Sample ID: HH-WS-03B **Lab Sample ID:** 691900012-0039

Sample Description: Exterior wall seams between concrete/Grey wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray	<0.25%	100%	None Detected	



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 Project ID:

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: HH-WS-03C **Lab Sample ID:** 691900012-0040
Sample Description: Exterior wall seams between concrete/Grey wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Gray	0.0%	98.5%	1.5% Chrysotile	

Client Sample ID: HH-WS-04A **Lab Sample ID:** 691900012-0041
Sample Description: Exterior wall seams between concrete/Beige wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Beige	0.0%	100%	None Detected	

Client Sample ID: HH-WS-04B **Lab Sample ID:** 691900012-0042
Sample Description: Exterior wall seams between concrete/Beige wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Beige	0.0%	100%	None Detected	

Client Sample ID: HH-WS-04C **Lab Sample ID:** 691900012-0043
Sample Description: Exterior wall seams between concrete/Beige wall sealant

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Beige	0.0%	100%	None Detected	

Client Sample ID: HH-VSF-01 **Lab Sample ID:** 691900012-0044
Sample Description: Second floor, lunch room/Cream 12"x12" pattern sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Tan/White	<0.25%	100%	None Detected	

Client Sample ID: HH-WPC-01A **Lab Sample ID:** 691900012-0045
Sample Description: Second floor north stairwell/Black window pane caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/08/2019	Black	0.0%	98.6%	1.4% Chrysotile	

Client Sample ID: HH-WPC-01B **Lab Sample ID:** 691900012-0046
Sample Description: Second floor hallway/Black window pane caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019				Positive Stop (Not Analyzed)	

Client Sample ID: HH-WPC-01C **Lab Sample ID:** 691900012-0047
Sample Description: Second floor south stairwell/Black window pane caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019				Positive Stop (Not Analyzed)	



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 Customer ID: 55JACQ30L
 Customer PO: 123221268.400
 Project ID:

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: HH-CT-01A **Lab Sample ID:** 691900012-0048

Sample Description: Workshop/2'x4' long fissure and pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	Gray	50.0%	50.0%	None Detected	

Client Sample ID: HH-CT-01B **Lab Sample ID:** 691900012-0049

Sample Description: Workshop/2'x4' long fissure and pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	Gray	50.0%	50.0%	None Detected	

Client Sample ID: HH-CT-01C **Lab Sample ID:** 691900012-0050

Sample Description: Workshop/2'x4' long fissure and pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	Gray/White	50.0%	50.0%	None Detected	

Client Sample ID: HH-DJC-01A **Lab Sample ID:** 691900012-0051

Sample Description: North stairwell, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	White	0.0%	100.0%	None Detected	Inseparable paint / coating layer included in analysis.

Client Sample ID: HH-DJC-01B **Lab Sample ID:** 691900012-0052

Sample Description: Second floor, lunch room, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	White	0.0%	100.0%	None Detected	Inseparable paint / coating layer included in analysis.

Client Sample ID: HH-DJC-01C **Lab Sample ID:** 691900012-0053

Sample Description: Second floor, washroom, bulkhead/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
400 PLM Pt Ct	1/09/2019	Beige	0.00%	99.75%	0.25% Chrysotile	

Client Sample ID: HH-DJC-01D **Lab Sample ID:** 691900012-0054

Sample Description: Second floor, general office, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	Beige	0.0%	100.0%	None Detected	Inseparable paint / coating layer included in analysis.

Client Sample ID: HH-DJC-01E **Lab Sample ID:** 691900012-0055

Sample Description: Second floor, general office, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/07/2019	White	0.0%	100.0%	None Detected	



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Project ID:

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Analyst(s):

Melissa Hartwig PLM (17)
PLM Grav. Reduction (35)
Peter Donato 400 PLM Pt Ct (1)

Reviewed and approved by:

Nicole Yeo, Laboratory Manager
or Other Approved Signatory

None Detected = <0.1%. EMSL maintains liability limited to cost of analysis. This report 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. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP of any agency of the U.S. Government.

Samples analyzed by EMSL Analytical, Inc. Rochester, NY NVLAP Lab Code 600183-0, NYS ELAP 12088

Initial report from: 01/10/2019 11:56:55

**EMSL Canada Inc.**

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EMSL Canada Or 551900059
CustomerID: 55JACQ30L
CustomerPO: 123221268-400
ProjectID:

Attn: **Kim Wiese**
Stantec Consulting Ltd.
500 - 4730 Kingsway
Burnaby, BC V5H 0C6

Phone: (604) 412-3004
Fax:
Received: 01/04/19 11:30 AM
Collected:

Project: **123221268-400****Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)***

<i>Client Sample</i>	<i>Description</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>RDL</i>	<i>Lead Concentration</i>
HH-P-01 551900059-0009	Site: Helicopter Hangar (HH) - Boiler room, door and frame Desc: Brown on metal		1/7/2019	0.2407 g	83 ppm	<83 ppm
HH-P-02 551900059-0010	Site: Helicopter Hangar (HH) - Boiler room, floor Desc: Blue/grey on concrete		1/7/2019	0.2445 g	82 ppm	100 ppm
HH-P-03 551900059-0011	Site: Helicopter Hangar (HH) - Electrical shop, wall Desc: White on concrete		1/7/2019	0.2418 g	83 ppm	780 ppm
HH-P-04 551900059-0012	Site: Helicopter Hangar (HH) - South stairwell, door Desc: Orange on metal		1/7/2019	0.2406 g	830 ppm	20000 ppm
HH-P-05 551900059-0013	Site: Helicopter Hangar (HH) - Hangar, structural steel Desc: Brown on metal		1/7/2019	0.0763 g	260 ppm	7300 ppm
HH-P-06 551900059-0014	Site: Helicopter Hangar (HH) - Exterior metal flashing Desc: Brown on metal Insufficient sample to reach reporting limit.		1/7/2019	0.0500 g	400 ppm	<400 ppm
HH-P-07 551900059-0015	Site: Helicopter Hangar (HH) - Exterior bay door Desc: Pink on metal		1/7/2019	0.2415 g	83 ppm	2800 ppm

Rowena Fanto, Lead Supervisor
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report 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. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON A2LA Accredited Environmental Testing Cert #2845.08

Initial report from 01/11/2019 09:21:45

APPENDIX 5.5

FINDINGS AND RECOMMENDATIONS— STORES/WAREHOUSE BUILDING

HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.5 Findings and Recommendations—Stores/Warehouse Building
March 2019

Appendix 5.5 FINDINGS AND RECOMMENDATIONS— STORES/WAREHOUSE BUILDING

The Stores/Warehouse Building (subject building) was reportedly constructed in 1978 and is comprised of offices and a warehouse. The typical structural components and finishes associated with this two-story building consist of exterior metal siding; suspended ceiling tiles, q-deck and drywall ceilings; interior drywall, metal, masonry block and concrete walls; carpet, ceramic tile, concrete and vinyl sheet flooring; and a metal roof.

The results of the assessment for each of the considered hazardous materials within the subject building are provided in the following sub-sections.

Floor plan drawings, which include locations of the samples collected during this assessment and locations of identified hazardous building materials (where practical), are attached to this Appendix.

5.5-1 ASBESTOS

No asbestos was detected in samples collected previously, based on our review of the Previous Reports.

Stantec identified and sampled various additional suspected ACMs. The samples collected were submitted to EMSL for analysis of asbestos content and nature.

A summary of the materials sampled as part of the current assessment, along with the sample locations and analytical results is presented in Table 5.5-1 below. A copy of the certificate of analysis provided by EMSL for the suspected ACM samples submitted as part of this assessment is attached at the end of this Appendix.

**Table 5.5-1 Suspected ACM Sample Collection and Analysis Summary
Stores/Warehouse Building**

Material/Homogenous Application Description	Sample Number	Sample Location	Result (%/type asbestos)
2'x4' standard fissure and pinhole pattern ceiling tile	SWB-CT-01A	Lunch room	None Detected
	SWB-CT-01B	Lunch room	None Detected
	SWB-CT-01C	Lunch room	None Detected
2'x4' short fissure and pinhole pattern ceiling tile	SWB-CT-02A	North stairwell landing	None Detected
	SWB-CT-02B	North stairwell landing	None Detected
	SWB-CT-02C	North stairwell landing	None Detected
Cream pipe sealant applied to the threads of heating water lines	SWB-PS-01A	Mezzanine, storage	None Detected
	SWB-PS-01B	Mezzanine, storage	None Detected
	SWB-PS-01C	Mezzanine, storage	None Detected



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.5 Findings and Recommendations—Stores/Warehouse Building
March 2019

**Table 5.5-1 Suspected ACM Sample Collection and Analysis Summary
Stores/Warehouse Building**

Material/Homogenous Application Description	Sample Number	Sample Location	Result (%/type asbestos)
Black pipe sealant applied to the threads of sprinkler lines	SWB-PS-02A	Mezzanine, old file storage	None Detected
	SWB-PS-02B	Mezzanine, old file storage	None Detected
	SWB-PS-02C	Mezzanine, old file storage	None Detected
Drywall joint compound applied to walls and ceilings	SWB-DJC-01A	Board room, wall	None Detected
	SWB-DJC-01B	Board room, wall	1% Chrysotile
	SWB-DJC-01C	General office/cubicles, wall	2% Chrysotile
	SWB-DJC-01D	Warehouse office, wall	None Detected
	SWB-DJC-01E	General storage, wall	2% Chrysotile
	SWB-DJC-01F	East stairwell landing, wall	2% Chrysotile
	SWB-DJC-01G	Mezzanine storage, wall	2% Chrysotile
Spray applied fire proofing applied to ceilings	SWB-FP-01A	Mechanical room	None Detected
	SWB-FP-01B	Mechanical room	None Detected
	SWB-FP-01C	Mechanical room	None Detected
Light grey flashing mastic applied to seams of roof flashing	SWB-FM-01A	Exterior roof flashing	None Detected
	SWB-FM-01B	Exterior roof flashing	None Detected
	SWB-FM-01C	Exterior roof flashing	None Detected
Brown flashing mastic applied to seams of roof flashing	SWB-FM-02A	Exterior roof flashing	None Detected
	SWB-FM-02B	Exterior roof flashing	None Detected
	SWB-FM-02C	Exterior roof flashing	None Detected
Grey duct mastic applied to seams of HVAC ducting	SWB-DM-01A	Mezzanine, storage, HVAC ducting	None Detected
	SWB-DM-01B	Mezzanine, storage, HVAC ducting	None Detected
	SWB-DM-01C	Mezzanine, storage, HVAC ducting	None Detected
Grey exterior electrical penetration putty	SWB-EPP-01A	Exterior electrical penetration	None Detected
	SWB-EPP-01B	Exterior electrical penetration	None Detected
	SWB-EPP-01C	Exterior electrical penetration	None Detected
Grey HVAC electrical penetration putty	SWB-EPP-02A	Exterior electrical penetration	None Detected
	SWB-EPP-02B	Exterior electrical penetration	None Detected
	SWB-EPP-02C	Exterior electrical penetration	None Detected
Pipe fitting insulation on hard mud elbows	SWB-FI-01A	Mechanical room, on domestic cold-water pipe	None Detected
	SWB-FI-01B	Mechanical room, on domestic hot water pipe	None Detected
	SWB-FI-01C	Mechanical room, on domestic heating water pipe	None Detected
Off-white, blue and pink pebble pattern sheet flooring	SWB-VSF-01	Lunch room	None Detected



HAZARDOUS BUILDING MATERIALS ASSESSMENT


Appendix 5.5 Findings and Recommendations—Stores/Warehouse Building
March 2019

**Table 5.5-1 Suspected ACM Sample Collection and Analysis Summary
Stores/Warehouse Building**

Material/Homogenous Application Description	Sample Number	Sample Location	Result (%/type asbestos)
Light and dark grey pebble pattern sheet flooring	SWB-VSF-02	Warehouse office	None Detected
Cream sheet flooring with white spots	SWB-VSF-03	North stairwell landing	None Detected
12"x12" tan floor tile	SWB-VFT-01	North stairwell landing, under cream sheet flooring with white spots	None Detected
NOTE: Bold, highlighted text indicates confirmed ACM			

Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of the results of suspected ACM samples analyzed through the current assessment, along with our review of the information provided in the Previous Reports, the material presented in Table 5.5-2, below was identified as an ACM.

**Table 5.5-2 Summary of Identified ACMs
Stores/Warehouse Building**

Identified ACM Description and Condition Information		Photo
Drywall joint compound applied to walls and ceilings throughout.		
Friability	Non-friable in situ, can be made friable if disturbed	
Condition	Good	
Total Quantity	Approximately 1,000 m ²	
Content	1–2% Chrysotile	



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.5 Findings and Recommendations—Stores/Warehouse Building
March 2019

5.5.1.1 Potential Asbestos-Containing Vermiculite Insulation

As part of the assessment, Stantec assessed the subject building for areas where vermiculite insulation, a potential ACM, would likely be present. This included making note of attic spaces, floor cavities and masonry block or brick walls, which are typical areas where vermiculite is found. The following observations we made regarding areas where vermiculite is potentially present:

- Walls of the subject building are comprised of masonry block walls. To assess for the presence of vermiculite insulation the block wall cavities were drilled in two locations. No vermiculite was observed in the locations where drilling was conducted.
- No other locations that may potentially contain vermiculite (that could not otherwise be assessed) were observed

5.5-2 LEAD

Lead is expected to be present in the following:

- Lead-acid batteries used in emergency lighting
- Older electrical wiring materials and sheathing
- Solder used on domestic water lines
- Solder used in bell fittings for cast iron pipes and in electrical equipment
- Ceramic tile glaze
- Vent and pipe flashings

With respect to paint, LCPs were not identified through the Previous Reports. As such, chip samples were obtained by Stantec from the predominant suspected LCP applications within the subject building. A summary of the sample types, locations and analytical results is presented in Table 5.5-3, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

**Table 5.5-3 Suspected LCP Sample Collection and Analysis Summary
Stores/Warehouse Building**

Sample No.	Sample Colour/Substrate	Sample Location	Lab Result (ppm)
SWB-P-01	White on concrete	Elevator mechanical room, wall	<81
SWB-P-02	Grey on concrete	Elevator mechanical room, floor	180
SWB-P-03	Cream on drywall	Warehouse office, wall	<81
SWB-P-04	Light blue/grey on metal	Exterior siding	3,500
SWB-P-05	Red on metal	Electrical room, structural steel	920
SWB-P-06	Yellow on metal	Exterior bollard	<99
SWB-P-07	Yellow on concrete	General storage, floor lines	<80



HAZARDOUS BUILDING MATERIALS ASSESSMENT


Appendix 5.5 Findings and Recommendations—Stores/Warehouse Building
March 2019

**Table 5.5-3 Suspected LCP Sample Collection and Analysis Summary
Stores/Warehouse Building**

Sample No.	Sample Colour/Substrate	Sample Location	Lab Result (ppm)
SWB-P-08	Brown on metal	East stairwell, stairs and railing	3,800
SWB-P-09	Light brown on metal	East stairwell, door and frame	2,000
SWB-P-10	Orange on metal	North mezzanine storage, stairs and railing	3,200
SWB-P-11	Purple on metal	Exterior walls	2,000
SWB-P-12	Pink/peach on metal	Exterior walls	32,000
SWB-P-13	Blue on concrete and drywall	Boardroom, wall	270
SWB-P-14	Red on concrete and drywall	Boardroom, wall	<80
NOTE: Bold, highlighted text indicates confirmed LCP			

Based on our observations and on our interpretations of suspected LCP sample analytical results, the paints presented in Table 5.5-4, below were identified as LCPs:

**Table 5.5-4 Summary of Identified LCPs
Stores/Warehouse Building**



Identified LCP Description		Photo
Paint colour	Light blue/grey	
Substrate	Metal	
Location/approx. extent	Exterior siding	
Lead content	3,500 ppm	
Condition	Good	



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.5 Findings and Recommendations—Stores/Warehouse Building
March 2019

**Table 5.5-4 Summary of Identified LCPs
Stores/Warehouse Building**


Identified LCP Description		Photo
Paint colour	Light brown	
Substrate	Metal	
Location/approx. extent	Stairwell, door and frame	
Lead content	2,000 ppm	
Condition	Good	
Paint colour	Orange	
Substrate	Metal	
Location/approx. extent	Mezzanine storage, stairs and railing	
Lead content	3,200 ppm	
Condition	Good	
Paint colour	Purple	No photo
Substrate	Metal	
Location/approx. extent	Exterior walls	
Lead content	2,000 ppm	
Condition	Good	



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.5 Findings and Recommendations—Stores/Warehouse Building
March 2019

**Table 5.5-4 Summary of Identified LCPs
Stores/Warehouse Building**

Identified LCP Description		Photo
Paint colour	Pink/peach	
Substrate	Metal	
Location/approx. extent	Exterior walls	
Lead content	32,000 ppm	
Condition	Good in general, some localized damage	

5.5-3 POLYCHLORINATED BIPHENYLS

PCBs may be present in the fluorescent light ballasts of the approximately 120 light fixtures observed. As the ballasts were energized, they could not be inspected at the time of the assessment for health and safety reasons.

5.5-4 MERCURY

Mercury vapour is present in the light tubes within the approximately 120 fluorescent light fixtures observed.

5.5-5 MOULD

Suspect mould or moisture-impacted building materials were not observed at the time of the assessment.

5.5-6 OZONE-DEPLETING SUBSTANCES

Building related cooling, refrigeration or fire suppression equipment suspected to be ODS-containing was not observed within the interior of the subject building/subject area.



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.5 Findings and Recommendations—Stores/Warehouse Building
March 2019

5.5-7 SILICA

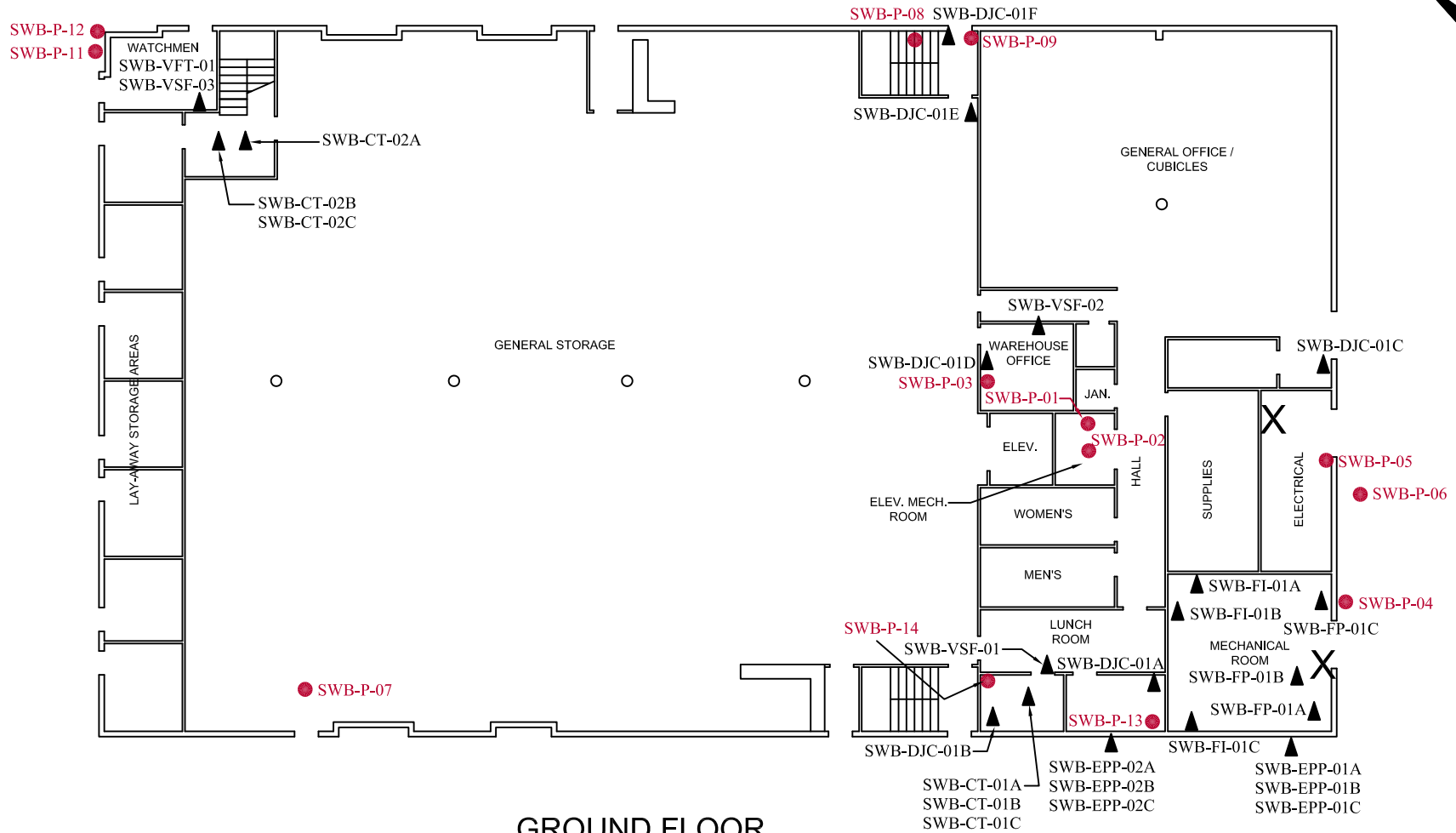
Silica is expected to be present in the following, which were observed in various locations throughout:

- Cement products such as:
 - Concrete—foundations, floors, walls, blocks
 - Masonry units and associated grout and mortar
 - Ceramic floor tiles and associated grouts and mortars
- Gypsum and associated wall/ceiling finish materials.
- Suspended ceiling tiles

6.5 RECOMMENDATIONS

In general, identified hazardous building materials were observed to be in good condition and do not appear to require specific action to maintain compliance with applicable regulations for continued operations and maintenance. Refer to Section 6.0 of the main body of this report for applicable material-by-material general recommendations.





GROUND FLOOR STORES/WAREHOUSE BUILDING

LEGEND

- ▲ ASBESTOS BULK SAMPLE
- LEAD PAINT SAMPLE
- X INTRUSIVE INVESTIGATION FOR VERMICULITE

NOTES: 1. DRYWALL JOINT COMPOUND APPLIED TO WALLS AND CEILINGS THROUGHOUT IS ASBESTOS-CONTAINING.

2. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

CANADIAN COAST GUARD
25 HURON STREET, VICTORIA, BRITISH COLUMBIA

Client: PUBLIC SERVICES AND PROCUREMENT CANADA

Project No.: 123221268

Scale: N.T.S.

Date: 19/02/01

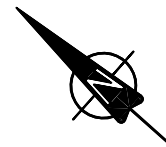
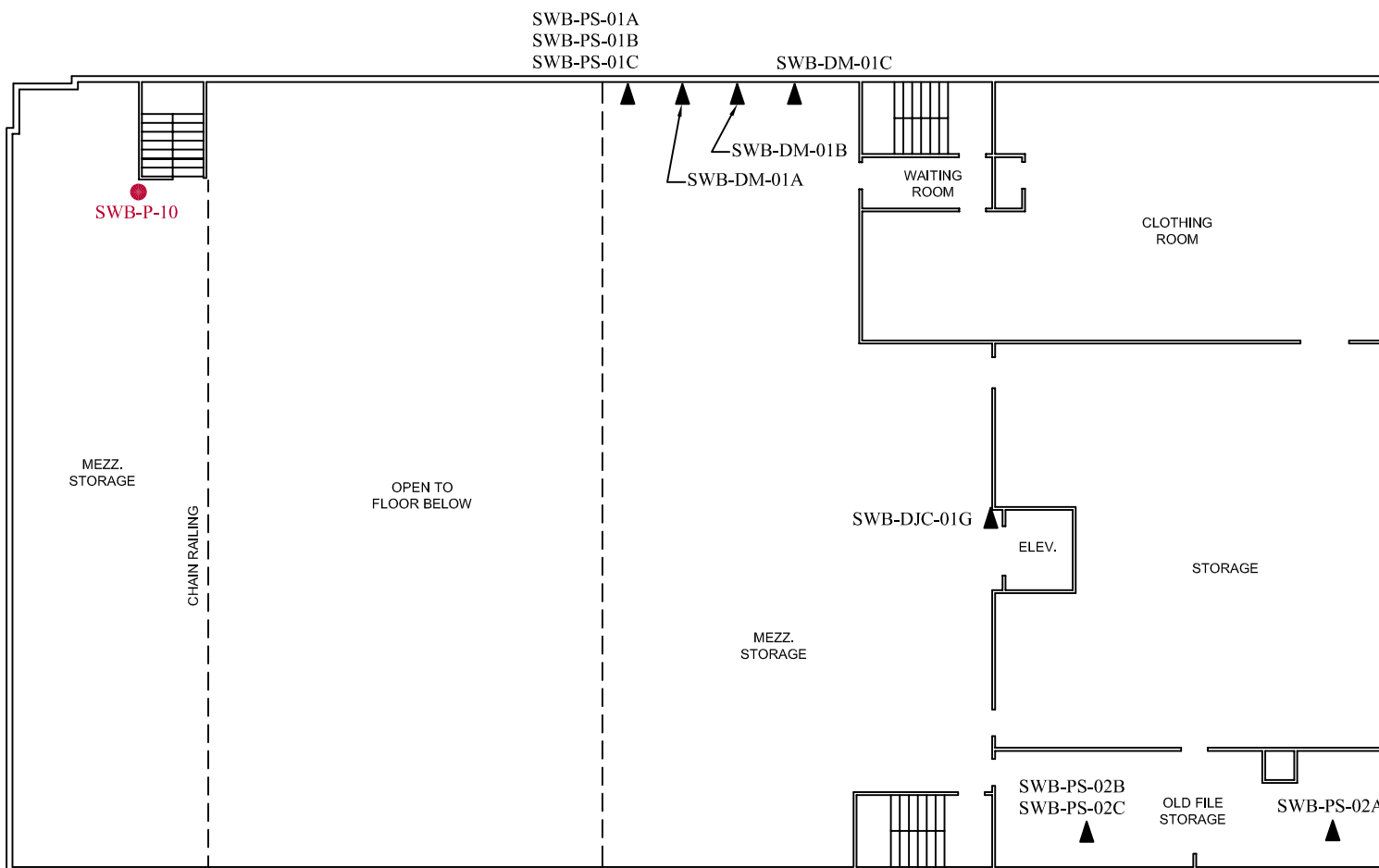
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App'd By: TW

Dwg. No.:

5.1





MEZZANINE STORES/WAREHOUSE BUILDING

LEGEND

- ▲ ASBESTOS BULK SAMPLE
- LEAD PAINT SAMPLE

NOTES: 1. DRYWALL JOINT COMPOUND APPLIED TO WALLS AND CEILINGS THROUGHOUT IS ASBESTOS-CONTAINING.

2. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

CANADIAN COAST GUARD
25 HURON STREET, VICTORIA, BRITISH COLUMBIA

Client: PUBLIC SERVICES AND PROCUREMENT CANADA

Project No.: 123221268

Scale: N.T.S.

Date: 19/02/01

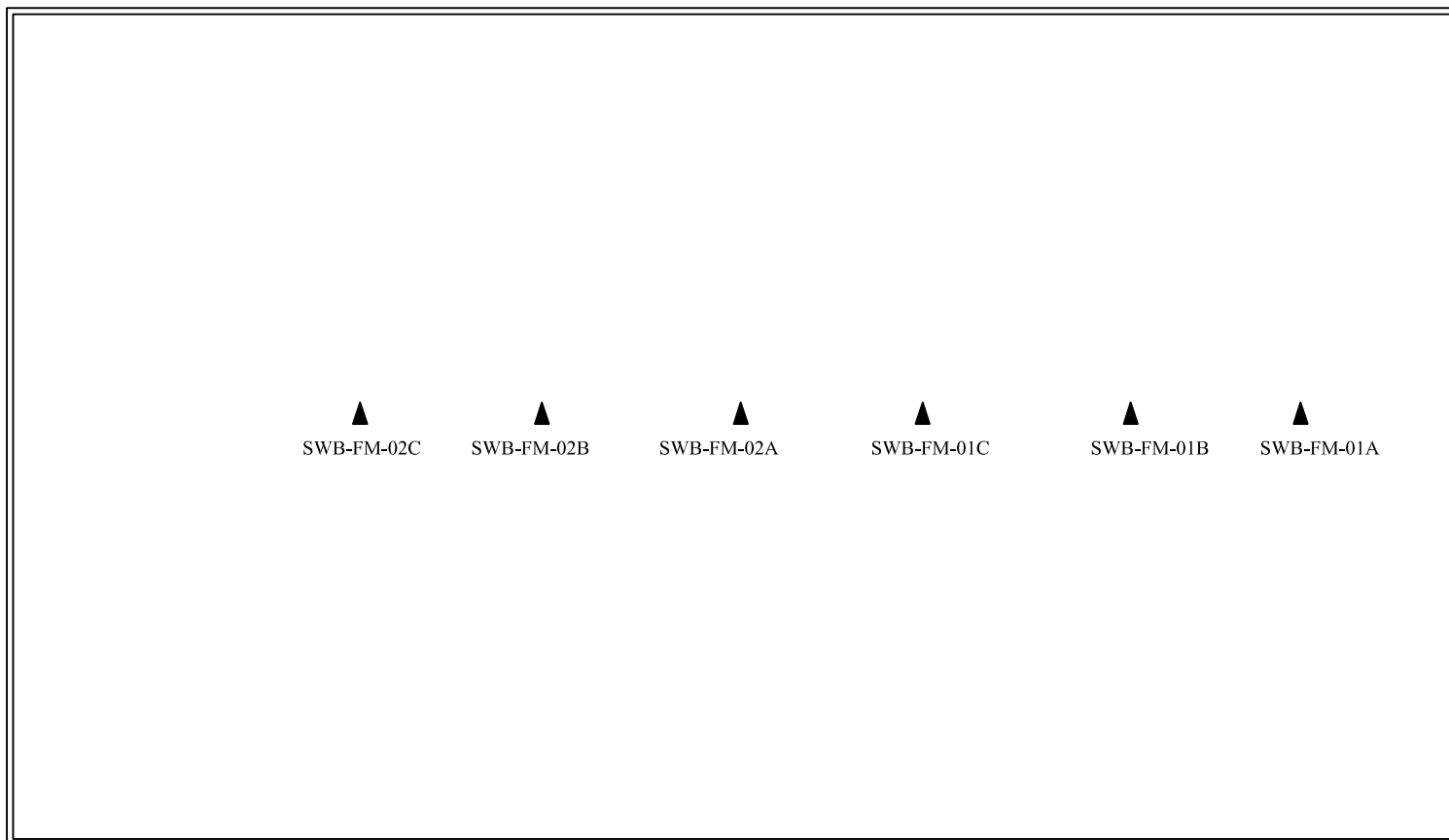
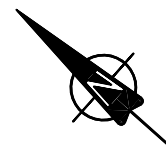
Dwn. By: CD_{VM} SL2019020637

App'd By: TW

Dwg. No.:

5.2






ROOF STORES/WAREHOUSE BUILDING

LEGEND

- ▲ ASBESTOS BULK SAMPLE
- LEAD PAINT SAMPLE

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

<div>FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS</div> <div>CANADIAN COAST GUARD</div> <div>25 HURON STREET, VICTORIA, BRITISH COLUMBIA</div>	Project No.: 123221268		<div>Dwg. No.:</div> <div>5.3</div> <div></div>
	Scale: N.T.S.		
	Date: 19/02/01		
	Dwn. By: CD VM SL2019020638		
Client: PUBLIC SERVICES AND PROCUREMENT CANADA	App'd By: TW		



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 Project ID:

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 500 - 4730 Kingsway
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Phone: (604) 412-3004
Fax:
Collected:
Received: 1/03/2019
Analyzed: 1/10/2019

Proj: 123221268.400 / STORES/WAREHOUSE BUILDING (SWB)

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: SWB-CT-01A **Lab Sample ID:** 691900015-0001

Sample Description: Lunch room/2'x4' standard fissure and pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Gray	80.0%	20.0%	None Detected	

Client Sample ID: SWB-CT-01B **Lab Sample ID:** 691900015-0002

Sample Description: Lunch room/2'x4' standard fissure and pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Gray	80.0%	20.0%	None Detected	

Client Sample ID: SWB-CT-01C **Lab Sample ID:** 691900015-0003

Sample Description: Lunch room/2'x4' standard fissure and pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Gray	80.0%	20.0%	None Detected	

Client Sample ID: SWB-CT-02A **Lab Sample ID:** 691900015-0004

Sample Description: North stairwell landing/2'x4' short fissure and pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Gray	60.0%	40.0%	None Detected	

Client Sample ID: SWB-CT-02B **Lab Sample ID:** 691900015-0005

Sample Description: North stairwell landing/2'x4' short fissure and pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Gray	60.0%	40.0%	None Detected	

Client Sample ID: SWB-CT-02C **Lab Sample ID:** 691900015-0006

Sample Description: North stairwell landing/2'x4' short fissure and pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Gray	80.0%	20.0%	None Detected	

Client Sample ID: SWB-PS-01A **Lab Sample ID:** 691900015-0007

Sample Description: Mezzanine, storage/Cream pipe sealant applied to the threads of heating water lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Beige	0.0%	100%	None Detected	



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 Project ID:

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: SWB-PS-01B **Lab Sample ID:** 691900015-0008

Sample Description: Mezzanine, storage/Cream pipe sealant applied to the threads of heating water lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Beige	0.0%	100%	None Detected	

Client Sample ID: SWB-PS-01C **Lab Sample ID:** 691900015-0009

Sample Description: Mezzanine, storage/Cream pipe sealant applied to the threads of heating water lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Beige	0.46%	99.5%	None Detected	

Client Sample ID: SWB-PS-02A **Lab Sample ID:** 691900015-0010

Sample Description: Mezzanine, old file storage/Black pipe sealant applied to the threads of sprinkler lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Red/Black	0.0%	100%	None Detected	

Client Sample ID: SWB-PS-02B **Lab Sample ID:** 691900015-0011

Sample Description: Mezzanine, old file storage/Black pipe sealant applied to the threads of sprinkler lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Red/Black	0.0%	100%	None Detected	

Client Sample ID: SWB-PS-02C **Lab Sample ID:** 691900015-0012

Sample Description: Mezzanine, old file storage/Black pipe sealant applied to the threads of sprinkler lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Red/Black	0.0%	100%	None Detected	

Client Sample ID: SWB-DJC-01A **Lab Sample ID:** 691900015-0013

Sample Description: Board room, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: SWB-DJC-01B **Lab Sample ID:** 691900015-0014

Sample Description: Board room, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	0.0%	99.0%	1% Chrysotile	

Client Sample ID: SWB-DJC-01C **Lab Sample ID:** 691900015-0015

Sample Description: General office/cubicles, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	0.0%	98.0%	2% Chrysotile	



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 Project ID:

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: SWB-DJC-01D **Lab Sample ID:** 691900015-0016

Sample Description: Warehouse office, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: SWB-DJC-01E **Lab Sample ID:** 691900015-0017

Sample Description: General storage, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	0.0%	98.0%	2% Chrysotile	

Client Sample ID: SWB-DJC-01F **Lab Sample ID:** 691900015-0018

Sample Description: East stairwell landing, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	0.0%	98.0%	2% Chrysotile	

Client Sample ID: SWB-DJC-01G **Lab Sample ID:** 691900015-0019

Sample Description: Mezzanine storage, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	0.0%	98.0%	2% Chrysotile	

Client Sample ID: SWB-FP-01A **Lab Sample ID:** 691900015-0020

Sample Description: Mechanical room/Spray applied fire proofing

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	75.0%	25.0%	None Detected	

Client Sample ID: SWB-FP-01B **Lab Sample ID:** 691900015-0021

Sample Description: Mechanical room/Spray applied fire proofing

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	25.0%	75.0%	None Detected	

Client Sample ID: SWB-FP-01C **Lab Sample ID:** 691900015-0022

Sample Description: Mechanical room/Spray applied fire proofing

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Gray	80.0%	20.0%	None Detected	

Client Sample ID: SWB-FM-01A **Lab Sample ID:** 691900015-0023

Sample Description: Exterior roof flashing/Light grey flashing mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	



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Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: SWB-FM-01B **Lab Sample ID:** 691900015-0024

Sample Description: Exterior roof flashing/Light grey flashing mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: SWB-FM-01C **Lab Sample ID:** 691900015-0025

Sample Description: Exterior roof flashing/Light grey flashing mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: SWB-FM-02A **Lab Sample ID:** 691900015-0026

Sample Description: Exterior roof flashing/Brown flashing mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Brown	0.0%	100%	None Detected	

Client Sample ID: SWB-FM-02B **Lab Sample ID:** 691900015-0027

Sample Description: Exterior roof flashing/Brown flashing mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Brown	0.0%	100%	None Detected	

Client Sample ID: SWB-FM-02C **Lab Sample ID:** 691900015-0028

Sample Description: Exterior roof flashing/Brown flashing mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Brown	0.0%	100%	None Detected	

Client Sample ID: SWB-DM-01A **Lab Sample ID:** 691900015-0029

Sample Description: Mezzanine, storage, HVAC ducting/Grey duct mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: SWB-DM-01B **Lab Sample ID:** 691900015-0030

Sample Description: Mezzanine, storage, HVAC ducting/Grey duct mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: SWB-DM-01C **Lab Sample ID:** 691900015-0031

Sample Description: Mezzanine, storage, HVAC ducting/Grey duct mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Gray	0.0%	100%	None Detected	



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Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: SWB-EPP-01A **Lab Sample ID:** 691900015-0032

Sample Description: Exterior electrical penetration/Grey exterior electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: SWB-EPP-01B **Lab Sample ID:** 691900015-0033

Sample Description: Exterior electrical penetration/Grey exterior electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: SWB-EPP-01C **Lab Sample ID:** 691900015-0034

Sample Description: Exterior electrical penetration/Grey exterior electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: SWB-EPP-02A **Lab Sample ID:** 691900015-0035

Sample Description: Exterior electrical penetration/Grey HVAC electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: SWB-EPP-02B **Lab Sample ID:** 691900015-0036

Sample Description: Exterior electrical penetration/Grey HVAC electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: SWB-EPP-02C **Lab Sample ID:** 691900015-0037

Sample Description: Exterior electrical penetration/Grey HVAC electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/10/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: SWB-FI-01A **Lab Sample ID:** 691900015-0038

Sample Description: Mechanical room, on domestic cold water pipe/Fitting insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	White	25.0%	75.0%	None Detected	

Client Sample ID: SWB-FI-01B **Lab Sample ID:** 691900015-0039

Sample Description: Mechanical room, on domestic hot water pipe/Fitting insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Gray	25.0%	75.0%	None Detected	



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Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: SWB-FI-01C **Lab Sample ID:** 691900015-0040
Sample Description: Mechanical room, on domestic heating water pipe/Fitting insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/10/2019	Gray	35.0%	65.0%	None Detected	

Client Sample ID: SWB-VSF-01 **Lab Sample ID:** 691900015-0041
Sample Description: Lunch room/Off-white, blue and pink pebble pattern sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: SWB-VSF-02 **Lab Sample ID:** 691900015-0042
Sample Description: Warehouse office/Light and dark grey pebble pattern sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray/White	0.0%	100%	None Detected	

Client Sample ID: SWB-VSF-03 **Lab Sample ID:** 691900015-0043
Sample Description: North stairwell landing/Cream sheet flooring with white spots

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Beige	0.0%	100%	None Detected	

Client Sample ID: SWB-VFT-01 **Lab Sample ID:** 691900015-0044
Sample Description: North stairwell landing, under cream sheet flooring with white spots/12"x12" tan floor tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Analyst(s):

Chloe Huang PLM (12)
 PLM Grav. Reduction (18)
 Nicole Yeo PLM (7)
 PLM Grav. Reduction (7)

Reviewed and approved by:

Nicole Yeo, Laboratory Manager
 or Other Approved Signatory

None Detected = <0.1%. EMSL maintains liability limited to cost of analysis. This report 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. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP of any agency of the U.S. Government.

Samples analyzed by EMSL Canada Inc. Burnaby, BC

(Initial report from: 01/10/2019 14:17:01)

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Phone: (604) 412-3004
Fax:
Received: 01/04/19 11:30 AM
Collected:

Project: **123221268-400****Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)***

<i>Client Sample</i>	<i>Description</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>RDL</i>	<i>Lead Concentration</i>
SWB-P-01 551900059-0036	Site: Stores/Warehouse Building - Elevator mechanical room, wall Desc: White on concrete		1/7/2019	0.2474 g	81 ppm	<81 ppm
SWB-P-02 551900059-0037	Site: Stores/Warehouse Building - Elevator mechanical room, floor Desc: Grey on concrete		1/7/2019	0.2430 g	82 ppm	180 ppm
SWB-P-03 551900059-0038	Site: Stores/Warehouse Building - Warehouse office, wall Desc: Cream on drywall		1/7/2019	0.2454 g	81 ppm	<81 ppm
SWB-P-04 551900059-0039	Site: Stores/Warehouse Building - Exterior siding Desc: Light blue/grey on metal		1/7/2019	0.1601 g	120 ppm	3500 ppm
SWB-P-05 551900059-0040	Site: Stores/Warehouse Building - Electrical room, structural steel Desc: Red on metal		1/7/2019	0.2425 g	82 ppm	920 ppm
SWB-P-06 551900059-0041	Site: Stores/Warehouse Building - Exterior bollard Desc: Yellow on metal Insufficient sample to reach the reporting limit.		1/7/2019	0.2014 g	99 ppm	<99 ppm
SWB-P-07 551900059-0042	Site: Stores/Warehouse Building - General storage, floor lines Desc: Yellow on concrete		1/7/2019	0.2487 g	80 ppm	<80 ppm
SWB-P-08 551900059-0043	Site: Stores/Warehouse Building - East stairwell, stairs and railing Desc: Brown on metal		1/7/2019	0.2424 g	83 ppm	3800 ppm

Rowena Fanto, Lead Supervisor
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report 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. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON A2LA Accredited Environmental Testing Cert #2845.08

Initial report from 01/11/2019 09:26:01

**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 551900059
CustomerID: 55JACQ30L
CustomerPO: 123221268-400
ProjectID:

Attn: **Kim Wiese**
Stantec Consulting Ltd.
500 - 4730 Kingsway
Burnaby, BC V5H 0C6

Phone: (604) 412-3004
Fax:
Received: 01/04/19 11:30 AM
Collected:

Project: **123221268-400****Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)***

<i>Client Sample</i>	<i>Description</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>RDL</i>	<i>Lead Concentration</i>
SWB-P-09 551900059-0044	Site: Stores/Warehouse Building - East stairwell, door and frame Desc: Light brown on metal		1/7/2019	0.2408 g	83 ppm	2000 ppm
SWB-P-10 551900059-0045	Site: Stores/Warehouse Building - North mezzanine storage, stairs and railing Desc: Orange on metal		1/7/2019	0.1450 g	140 ppm	3200 ppm
SWB-P-11 551900059-0046	Site: Stores/Warehouse Building - Exterior walls Desc: Purple on metal		1/7/2019	0.2489 g	80 ppm	2000 ppm
SWB-P-12 551900059-0047	Site: Stores/Warehouse Building - Exterior walls Desc: Pink/peach on metal		1/7/2019	0.2433 g	1600 ppm	32000 ppm
SWB-P-13 551900059-0048	Site: Stores/Warehouse Building - Boardroom, wall Desc: Blue on concrete and drywall		1/7/2019	0.2409 g	83 ppm	270 ppm
SWB-P-14 551900059-0049	Site: Stores/Warehouse Building - Boardroom, wall Desc: Red on concrete and drywall		1/7/2019	0.2495 g	80 ppm	<80 ppm

Rowena Fanto, Lead Supervisor
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report 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. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON A2LA Accredited Environmental Testing Cert #2845.08

Initial report from 01/11/2019 09:26:01

APPENDIX 5.6

FINDINGS AND RECOMMENDATIONS— WORKSHOP BUILDING

HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.6 Findings and Recommendations—Workshop Building
March 2019

Appendix 5.6 FINDINGS AND RECOMMENDATIONS— WORKSHOP BUILDING

The Workshop Building (subject building) was reportedly constructed in 1979. The typical structural components and finishes associated with this two-storey building consist of exterior concrete and metal walls; drywall, ceiling tile and metal panel ceilings; drywall, concrete, masonry block and metal panel interior walls; vinyl floor tile, vinyl sheet flooring, ceramic tile, carpet and concrete flooring; and a built-up asphalt roof.

The results of the assessment for each of the considered hazardous materials within the subject building are provided in the following sub-sections.

Floor plan drawings, which include locations of the samples collected during this assessment and locations of identified hazardous building materials (where practical), are attached to this Appendix.

5.6-1 ASBESTOS

The Previous Reports indicated the presence of the following ACMs:

- 12"x12" beige with brown streaks floor tile (Golder Report, 2004), (WSP Workshop Report, 2018)
 - Floor tile in some areas appears to have been removed
 - Additional samples were collected by Stantec during the current assessment, confirming this as ACM
- 12"x12" white with grey floor tile (Golder Report, 2004)
 - Observed to remain in good condition
- Window caulking (Golder Report, 2004)
 - Observed to remain in good condition
 - Additional samples were collected by Stantec during the current assessment, confirming this as ACM

In addition to the above, Stantec identified and sampled various additional suspected ACMs, collected confirmatory samples of previously identified ACMs, and collected samples to supplement the results from previous assessments (additional samples to appropriately characterize a material's asbestos content, based on current standards pertaining to minimum sample numbers). The samples collected were submitted to EMSL for analysis of asbestos content and nature.

A summary of the materials sampled as part of the current assessment, along with the sample locations and analytical results is presented in Table 5.6-1 below. A copy of the certificate of analysis provided by EMSL for the suspected ACM samples submitted as part of this assessment is attached at the end of this Appendix.



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.6 Findings and Recommendations—Workshop Building
March 2019

**Table 5.6-1 Suspected ACM Sample Collection and Analysis Summary
Workshop Building**

Material/Homogenous Application Description	Sample Number	Sample Location	Result (%/type asbestos)
Brown flashing mastic applied to seams of roof flashing	WB-FM-01A	Exterior roof flashing	None Detected
	WB-FM-01B	Exterior roof flashing	None Detected
	WB-FM-01C	Exterior roof flashing	None Detected
2'x4' pinhole with short fissure pattern ceiling tile	WB-CT-01A	Old fiberglass shop	None Detected
	WB-CT-01B	Old fiberglass shop	None Detected
	WB-CT-01C	Old fiberglass shop	None Detected
2'x4' thick and short fissure with pinhole pattern ceiling tile	WB-CT-02A	First aid room	None Detected
	WB-CT-02B	First aid room	None Detected
	WB-CT-02C	First aid room	None Detected
Light grey duct mastic applied to seams of HVAC ducting	WB-DM-01A	Mezzanine, storage ducting	None Detected
	WB-DM-01B	Mezzanine, storage ducting	None Detected
	WB-DM-01C	Mezzanine, storage ducting	<0.25% Chrysotile See 5.6.1.1
Grey duct mastic applied to seams of HVAC ducting	WB-DM-02A	Exterior dust extractor ducting	None Detected
	WB-DM-02B	Exterior dust extractor ducting	None Detected
	WB-DM-02C	Exterior dust extractor ducting	None Detected
Roofing tar	WB-RT-01A	Rooftop access hatch	None Detected
	WB-RT-01B	Rooftop access hatch	None Detected
	WB-RT-01C	Rooftop access hatch	None Detected
Light grey electrical penetration putty	WB-EPP-01A	Open storage room by janitor closet	None Detected
	WB-EPP-01B	Open storage room by janitor closet	None Detected
	WB-EPP-01C	Open storage room by janitor closet	None Detected
Roof membrane	WB-RM-01A	Exterior roof	None Detected
	WB-RM-01B	Exterior roof	None Detected
	WB-RM-01C	Exterior roof	None Detected
Black window pane caulking	WB-WPC-01A	Machine shop, perimeter window	None Detected
	WB-WPC-01B	Machine shop, perimeter window	None Detected
	WB-WPC-01C	Machine shop, perimeter window	None Detected
Grey window pane caulking	WB-WPC-02A	Machine shop foreman, partition window	3.2% Chrysotile
	WB-WPC-02B	Machine shop foreman, partition window	Positive Stop (Not Analyzed)
	WB-WPC-02C	Machine shop foreman, partition window	Positive Stop (Not Analyzed)



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.6 Findings and Recommendations—Workshop Building
March 2019

**Table 5.6-1 Suspected ACM Sample Collection and Analysis Summary
Workshop Building**

Material/Homogenous Application Description	Sample Number	Sample Location	Result (%/type asbestos)
Tan door frame caulking	WB-DFC-01A	Exterior door frame	None Detected
	WB-DFC-01B	Exterior door frame	None Detected
	WB-DFC-01C	Exterior door frame	None Detected
White seam caulking	WB-SC-01A	Exterior concrete walls	None Detected
	WB-SC-01B	Exterior concrete walls	None Detected
	WB-SC-01C	Exterior concrete walls	None Detected
Black rooftop seam caulking	WB-SC-02A	Exterior rooftop seams	None Detected
	WB-SC-02B	Exterior rooftop seams	None Detected
	WB-SC-02C	Exterior rooftop seams	None Detected
White rooftop seam caulking	WB-SC-03A	Exterior rooftop seams	None Detected
	WB-SC-03B	Exterior rooftop seams	None Detected
	WB-SC-03C	Exterior rooftop seams	None Detected
Brown rooftop seam caulking	WB-SC-04A	Exterior rooftop seams	None Detected
	WB-SC-04B	Exterior rooftop seams	None Detected
	WB-SC-04C	Exterior rooftop seams	None Detected
Blue pipe sealant applied to threads of natural gas lines	WB-PS-01A	Mechanical room	None Detected
	WB-PS-01B	Mechanical room	None Detected
	WB-PS-01C	Mechanical room	None Detected
Brown window frame caulking	WB-WFC-01A	Exterior window frame	None Detected
	WB-WFC-01B	Exterior window frame	None Detected
	WB-WFC-01C	Exterior window frame	None Detected
Pipe fitting insulation on hard mud elbows	WB-FI-01A	Mechanical room, domestic cold-water lines	None Detected
	WB-FI-01B	Mechanical room, heating water lines	None Detected
	WB-FI-01C	Mechanical room, domestic hot water lines	None Detected
Aqua mechanical gasket	WB-MG-01	Mechanical room	None Detected
Black mechanical gasket	WB-MG-02	Mechanical room	45% Chrysotile
Cork mechanical gasket	WB-MG-03	Mechanical room	None Detected
Red mechanical gasket	WB-MG-04	Mechanical room	None Detected
Drywall joint compound applied to walls and ceilings	WB-DJC-01A	Mechanical room, wall	None Detected
	WB-DJC-01B	Carpentry shop, wall	None Detected
	WB-DJC-01C	Old fiberglass shop, wall	None Detected
	WB-DJC-01D	Electrical shop, wall	None Detected
	WB-DJC-01E	Electronic maintenance workshop	None Detected



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.6 Findings and Recommendations—Workshop Building
March 2019

**Table 5.6-1 Suspected ACM Sample Collection and Analysis Summary
Workshop Building**

Material/Homogenous Application Description	Sample Number	Sample Location	Result (%/type asbestos)
Light and dark grey pebble pattern sheet flooring	WB-VSF-01	Machine shop, shop foreman	None Detected
Beige and tan pebble pattern sheet flooring	WB-VSF-02	Electrical shop, shop foreman	None Detected
12"x12" grey pattern sheet flooring	WB-VSF-03	Electrical shop, corridor	None Detected
Brown and tan marble pattern sheet flooring	WB-VSF-04	Open storage, corridor	None Detected
Light pink sheet flooring	WB-VSF-05	Electronic maintenance workshop	None Detected
Grey with dark and white smudges sheet flooring	WB-VSF-06	Lamp room, shop foreman	None Detected
Blue and white marble pattern sheet flooring	WB-VSF-07	Mezzanine, storage area	None Detected
Beige pebble pattern sheet flooring	WB-VSF-08	Mezzanine, washroom	None Detected
12"x12" beige floor tile with brown streaks	WB-VFT-01	Carpentry shop, mezzanine	1.3% Chrysotile
12"x12" tan smeared floor tile	WB-VFT-02	Mezzanine, electronics test/clean room	None Detected
20"x20" blue, white and black floor tile	WB-VFT-03	Mezzanine, real property engineering	None Detected
NOTE: Bold, highlighted text indicates confirmed ACM			




Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of the results of suspected ACM samples analyzed through the current assessment along with our review of the information provided in the Previous Reports, the materials presented in Table 5.6-2, below were identified as ACMs.



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.6 Findings and Recommendations—Workshop Building
March 2019

**Table 5.6-2 Summary of Identified ACMs
Workshop Building**


Identified ACM Description and Condition Information		Photo
Grey window pane caulking applied to windows throughout.		
Friability	Non-friable	
Condition	Good	
Total Quantity	Windows throughout	
Content	3.2% Chrysotile (current assessment) 1–10% Chrysotile (Golder Report, 2004)	
Black mechanical gaskets in pipe flanges.		
Friability	Non-friable	
Condition	Good	
Total Quantity	Flanges throughout	
Content	45% Chrysotile	
12"x12" beige vinyl floor tile with brown streaks in the Carpentry Shop mezzanine and shop foreman (concealed beneath linoleum), Maintenance Garage equipment and systems storage.		
Friability	Non-friable	
Condition	Good	
Total Quantity	Approximately 35 m ²	
Content	1.3% Chrysotile (current assessment) 2.5% Chrysotile (WSP Workshop Report, 2018) 1–10% Chrysotile (Golder Report, 2004)	



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.6 Findings and Recommendations—Workshop Building
March 2019

**Table 5.6-2 Summary of Identified ACMs
Workshop Building**

Identified ACM Description and Condition Information		Photo
12"x12" white with grey floor tile at the base of the stairwell in the electrical shop and open storage.		
Friability	Non-friable	
Condition	Good	
Total Quantity	Approximately 5 m ²	
Content	1–10% Chrysotile (Golder Report, 2004)	

5.6.1.1 Non-Friable Materials Containing Less Than 0.5% Asbestos

Three samples of light grey duct mastic were collected from seams of HVAC ducting. The sample results indicate asbestos content to be less than 0.25% chrysotile asbestos in one of the samples, with no asbestos detected in the other two. The number of samples collected for this material would be adequate to appropriately characterize its asbestos content based on its extent and published standards for sampling of homogenous applications of suspected ACMs (e.g., the Asbestos Guide). Given the analytical results and the non-friable nature of this material, it would not be considered an ACM.

5.6.1.2 Potential Asbestos-Containing Vermiculite Insulation

As part of the assessment, Stantec assessed the subject building for areas where vermiculite insulation, a potential ACM, would likely be present. This included making note of attic spaces, floor cavities and masonry block or brick walls, which are typical areas where vermiculite is found. The following observations we made regarding areas where vermiculite is potentially present:

- Walls of the subject building are comprised of masonry block walls. To assess for the presence of vermiculite insulation the block wall cavities were drilled in four locations. No vermiculite was observed in the locations where drilling was conducted.
- No other locations that may potentially contain vermiculite (that could not otherwise be assessed) were observed



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.6 Findings and Recommendations—Workshop Building
March 2019

5.6-2 LEAD

Lead is expected to be present in the following:

- Lead-acid batteries used in emergency lighting
- Older electrical wiring materials and sheathing
- Solder used on domestic water lines
- Solder used in bell fittings for cast iron pipes and in electrical equipment
- Ceramic tile glaze
- Vent and pipe flashings

With respect to paint, the following paints were considered LCPs through the Previous Reports based on an LCP definition criterion of 600 ppm lead (or greater):

- Off-white paint (grey underneath) on office metal access door (WSP Workshop Report, 2018)
- Cream paint (brick red underneath) on office vertical structural steel column (WSP Workshop Report, 2018)

Additional paint chip samples were obtained by Stantec from the predominant suspected LCP applications within the subject building. A summary of the sample types, locations and analytical results is presented in Table 5.6-3, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

**Table 5.6-3 Suspected LCP Sample Collection and Analysis Summary
Workshop Building**

Sample No.	Sample Colour/Substrate	Sample Location	Lab Result (ppm)
WB-P-01	White on concrete	Mechanical room, walls	<81
WB-P-02	Grey on concrete	Mechanical room, floor	270
WB-P-03	Brown on metal	Mechanical room, door and frame	430
WB-P-04	Red on metal	Covered storage area, structural steel	2,300
WB-P-05	Red on metal	Covered storage area, bollard	1,300
WB-P-06	Grey on metal	Carpentry shop, stairwell	44,000
WB-P-07	Olive green on concrete	Maintenance garage, floor	<81
WB-P-08	White on metal	Machine shop, door and frame	1,100
WB-P-09	Blue on concrete	Machine shop, floor	180
WB-P-10	Black on metal	Mezzanine, lunch room, door frame	310
WB-P-11	Orange on metal	Mezzanine, lunch room, door	120,000
WB-P-12	Grey on drywall	Mezzanine, storage area, wall	<83



HAZARDOUS BUILDING MATERIALS ASSESSMENT

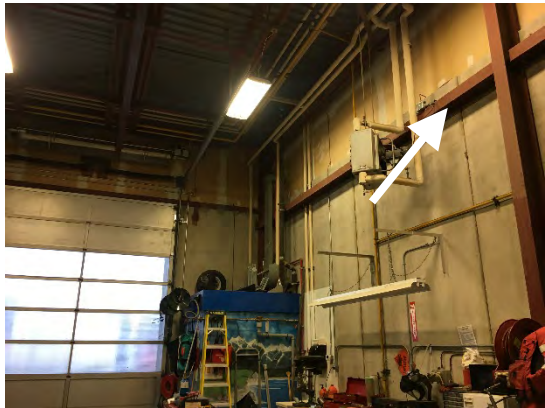

Appendix 5.6 Findings and Recommendations—Workshop Building
March 2019

**Table 5.6-3 Suspected LCP Sample Collection and Analysis Summary
Workshop Building**

Sample No.	Sample Colour/Substrate	Sample Location	Lab Result (ppm)
WB-P-13	Green on metal	Exterior dust extractor	<82
WB-P-14	Brown on metal	Exterior siding	700
NOTE: Bold, highlighted text indicates confirmed LCP			

Based on our observations and on our interpretations of suspected LCP sample analytical results along with our review of the information provided in the Previous Reports, the paints presented in Table 5.6-4, below were identified as LCPs:

**Table 5.6-4 Summary of Identified LCPs
Workshop Building**

Identified LCP Description		Photo
Paint colour	Red	
Substrate	Metal	
Location/approx. extent	Structural steel	
Lead content	2,300 ppm	
Condition	Good	
Paint colour	Red	
Substrate	Metal	
Location/approx. extent	Exterior bollards	
Lead content	1,300 ppm	
Condition	Good	



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.6 Findings and Recommendations—Workshop Building March 2019

**Table 5.6-4 Summary of Identified LCPs
Workshop Building**



Identified LCP Description		Photo
Paint colour	Grey	
Substrate	Metal	
Location/approx. extent	Carpentry shop stairwell	
Lead content	44,000 ppm	
Condition	Good	
Paint colour	White	
Substrate	Metal	
Location/approx. extent	Doors and frames	
Lead content	1,100 ppm (current assessment) 2,100 ppm (WSP Workshop Report, 2018)	
Condition	Good	
Paint colour	Orange	
Substrate	Metal	
Location/approx. extent	Doors	
Lead content	120,000 ppm	
Condition	Good	



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.6 Findings and Recommendations—Workshop Building
March 2019

**Table 5.6-4 Summary of Identified LCPs
Workshop Building**

Identified LCP Description		Photo
Paint colour	Brown	
Substrate	Metal	
Location/approx. extent	Exterior walls	
Lead content	700 ppm	
Condition	Good	
Paint colour	Cream (red underneath)	
Substrate	Metal	
Location/approx. extent	Vertical columns	
Lead content	1,200 ppm (WSP Workshop Report, 2018)	
Condition	Good	

5.6-1 POLYCHLORINATED BIPHENYLS

PCBs may be present in the fluorescent light ballasts of the approximately 100 light fixtures observed. As the ballasts were energized, they could not be inspected at the time of the assessment for health and safety reasons.

5.6-2 MERCURY

Mercury vapour is present in the light tubes within the approximately 100 fluorescent light fixtures observed.

Two mercury-containing thermostats were observed in the (Old) Paint Shop and the Welding Shop, as indicated on the attached floor plan drawings.




HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.6 Findings and Recommendations—Workshop Building
March 2019

5.6-3 MOULD

The observations pertaining to mould and/or moisture that were made during this assessment are summarized in Table 5.6-5, below.

**Table 5.6-5 Mould/Moisture Observations Summary—December 18, 2018
Workshop Building**

Building Area	Observation	Suspected Source of Moisture	Photo
Electrical shop, machine shop office, lamp room and lunch room	Moisture stained ceiling tiles	Pipe leaks, condensation tray overflow, roof leaks	

5.6-4 OZONE-DEPLETING SUBSTANCES

The following equipment was identified to have ODS-containing refrigerants:

- One Mr. Slim rooftop HVAC unit (1lb of R-22)
- One Climate air conditioning unit in the equipment & systems storage room (16.50 oz of R-22)

Locations of the confirmed ODS-containing equipment are indicated on the attached floor plan drawings.

5.6-5 SILICA

Silica is expected to be present in the following, which were observed in various locations throughout:

- Cement products such as:
 - Concrete—foundations, floors, walls, blocks
 - Brick/masonry units and associated grout and mortar
 - Ceramic floor tiles and associated grouts and mortars
- Gypsum and associated wall/ceiling finish materials
- Suspended ceiling tiles
- Asphalt and asphalt products containing rock or stone (e.g., roof membrane)



HAZARDOUS BUILDING MATERIALS ASSESSMENT

Appendix 5.6 Findings and Recommendations—Workshop Building
March 2019

6.6 RECOMMENDATIONS

In general, identified hazardous building materials were observed to be in good condition and do not appear to require specific action to maintain compliance with applicable regulations for continued operations and maintenance. Refer to Section 6.0 of the main body of this report for applicable material-by-material general recommendations.

Additional building-specific recommendations to be considered are provided below.

6.6-5 MOULD

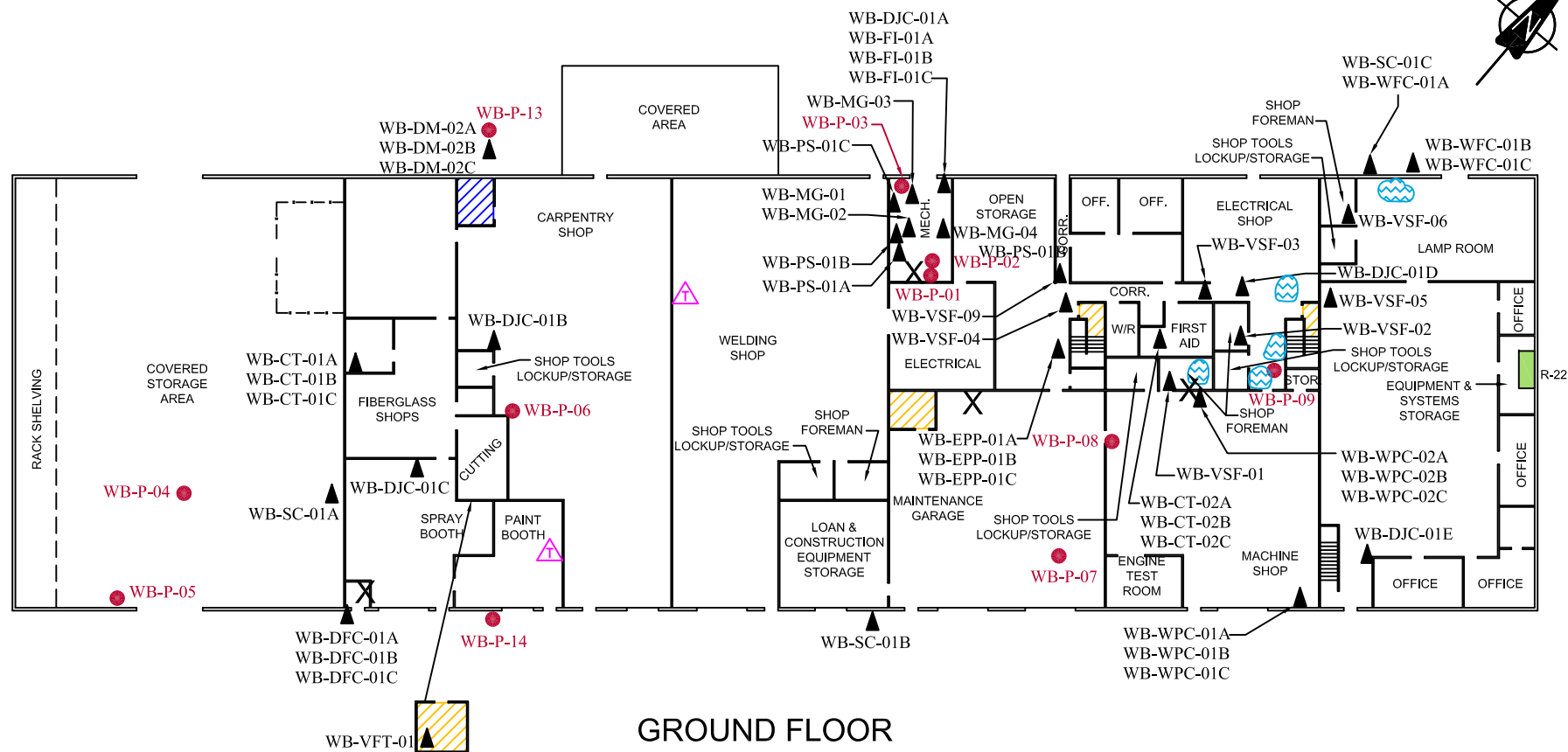
Documents published by Health Canada, Ontario Ministry of Health, American Industrial Hygiene Association (AIHA), American Conference of Governmental Industrial Hygienists (ACGIH) and others, provide guidance for interpreting the results of mold investigations. The Health Canada Guide states that:

“...current knowledge supports the need to prevent damp conditions and mold growth and to remediate any fungal contamination in buildings.”

To this end, Stantec recommends the following course of action within the subject building:

- Remove and dispose of moisture impacted ceiling tiles with new tiles. If staining re-appears on the new tiles, the source of moisture should be identified and corrected.
 - This work can be conducted by regular facility maintenance staff, if conducted prior to the onset of mould growth





**GROUND FLOOR
WORKSHOP BUILDING**

MEZZANINE

LEGEND

- | | |
|---|---|
| ▲ ASBESTOS BULK SAMPLE | MOISTURE STAINED CEILING TILES |
| ● LEAD PAINT SAMPLE | ASBESTOS-CONTAINING FLOOR TILES |
| X INTRUSIVE INVESTIGATION FOR VERMICULITE | CONCEALED ASBESTOS-CONTAINING FLOOR TILES |
| ▲ MERCURY-CONTAINING THERMOSTAT | EQUIPMENT CONTAINING OZONE DEPLETING SUBSTANCES |

NOTES: 1. GREY WINDOW PANE CAULKING APPLIED TO WINDOWS THROUGHOUT IS ASBESTOS-CONTAINING.
 2. BLACK MECHANICAL GASKETS ON PIPE FLANGES THROUGHOUT IS ASBESTOS-CONTAINING.
 3. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

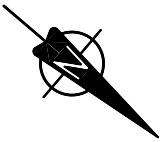
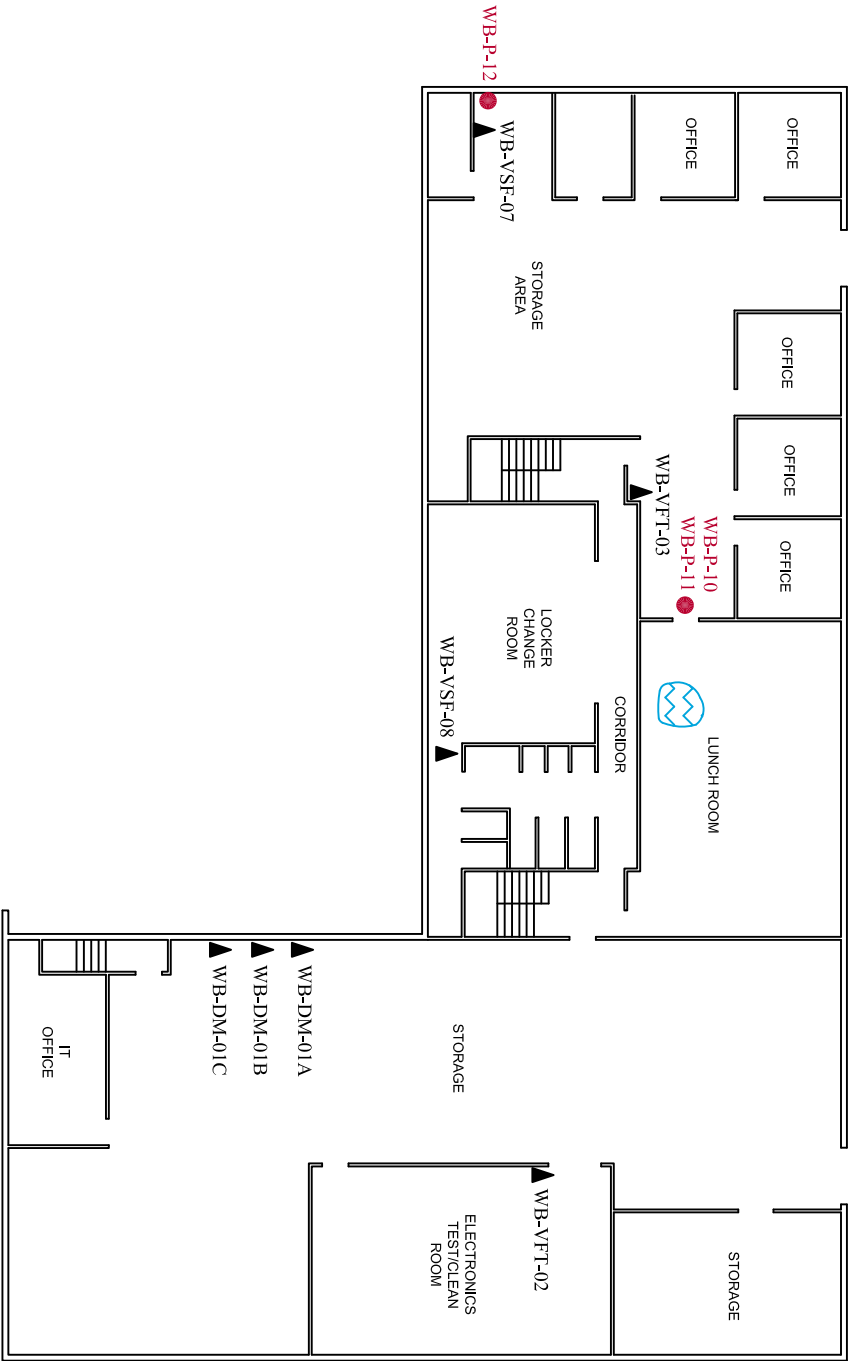
**FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS
AND BULK SAMPLE LOCATIONS**
 CANADIAN COAST GUARD
 25 HURON STREET, VICTORIA, BRITISH COLUMBIA

Client: PUBLIC SERVICES AND PROCUREMENT CANADA

Project No.: 123221268
Scale: N.T.S.
Date: 19/02/02
Dwn. By: CD SL2019020024 VM/DM
App'd By: TW




Dwg. No.:
6.1





MEZZANINE WORKSHOP BUILDING

- NOTES:**
1. GREY WINDOW PANE CAULKING APPLIED TO WINDOWS THROUGHOUT IS ASBESTOS-CONTAINING.
 2. BLACK MECHANICAL GASKETS ON PIPE FLANGES THROUGHOUT IS ASBESTOS-CONTAINING.
 3. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

LEGEND	
	ASBESTOS BULK SAMPLE
	LEAD PAINT SAMPLE
	MOISTURE STAINED CEILING TILES

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

CANADIAN COAST GUARD
25 HURON STREET, VICTORIA, BRITISH COLUMBIA

Client:

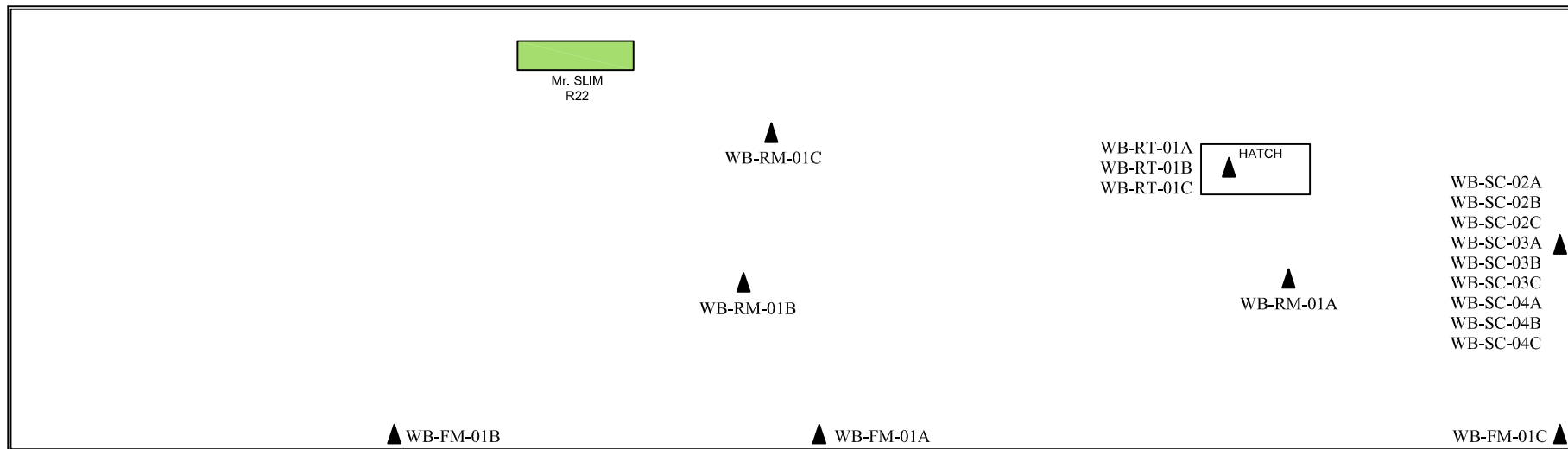
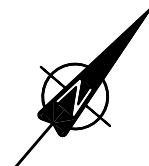
PUBLIC SERVICES AND PROCUREMENT CANADA

Project No.:	123221268
Scale:	N.T.S.
Date:	19/02/01
Dwn. By:	CD VM SL2019020631
App'd By:	TW

Dwg. No.:



6.2





ROOF WORKSHOP BUILDING

LEGEND

-  ASBESTOS BULK SAMPLE
-  EQUIPMENT CONTAINING OZONE DEPLETING SUBSTANCES

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

CANADIAN COAST GUARD
25 HURON STREET, VICTORIA, BRITISH COLUMBIA

Client: PUBLIC SERVICES AND PROCUREMENT CANADA

Project No.: 123221268

Scale: N.T.S.

Date: 19/02/01

Dwn. By: CD_{VM} SL2019020632

App'd By: TW

Dwg. No.:

6.3





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EMSL Canada Order 691900016
 Customer ID: 55JACQ30L
 Customer PO: 123221268.400
 Project ID:

Attn: Kim Wiese
 Stantec Consulting Ltd.
 500 - 4730 Kingsway
 Burnaby, BC V5H 0C6

Phone: (604) 412-3004
Fax:
Collected:
Received: 1/03/2019
Analyzed: 1/09/2019

Proj: 123221268.400 / WORKSHOP BUILDING (WB)

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: WB-FM-01A **Lab Sample ID:** 691900016-0001

Sample Description: Exterior roof flashing/Brown flashing mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Brown	0.0%	100%	None Detected	

Client Sample ID: WB-FM-01B **Lab Sample ID:** 691900016-0002

Sample Description: Exterior roof flashing/Brown flashing mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Brown	0.0%	100%	None Detected	

Client Sample ID: WB-FM-01C **Lab Sample ID:** 691900016-0003

Sample Description: Exterior roof flashing/Brown flashing mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Brown	0.0%	100.0%	None Detected	

Client Sample ID: WB-CT-01A **Lab Sample ID:** 691900016-0004

Sample Description: Old fiberglass shop/2'x4' pinhole with short fissure ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	Gray	80.0%	20.0%	None Detected	

Client Sample ID: WB-CT-01B **Lab Sample ID:** 691900016-0005

Sample Description: Old fiberglass shop/2'x4' pinhole with short fissure ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	Gray	80.0%	20.0%	None Detected	

Client Sample ID: WB-CT-01C **Lab Sample ID:** 691900016-0006

Sample Description: Old fiberglass shop/2'x4' pinhole with short fissure ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Gray	90.0%	10.0%	None Detected	

Client Sample ID: WB-CT-02A **Lab Sample ID:** 691900016-0007

Sample Description: First aid room/2'x4' thick and short fissure with pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	Gray	80.0%	20.0%	None Detected	



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Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: WB-CT-02B **Lab Sample ID:** 691900016-0008

Sample Description: First aid room/2'x4' thick and short fissure with pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	Gray	80.0%	20.0%	None Detected	

Client Sample ID: WB-CT-02C **Lab Sample ID:** 691900016-0009

Sample Description: First aid room/2'x4' thick and short fissure with pinhole ceiling tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Gray	90.0%	10.0%	None Detected	

Client Sample ID: WB-DM-01A **Lab Sample ID:** 691900016-0010

Sample Description: Mezzanine, storage ducting/Light grey duct mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: WB-DM-01B **Lab Sample ID:** 691900016-0011

Sample Description: Mezzanine, storage ducting/Light grey duct mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: WB-DM-01C **Lab Sample ID:** 691900016-0012

Sample Description: Mezzanine, storage ducting/Light grey duct mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	<0.25% Chrysotile	

Client Sample ID: WB-DM-02A **Lab Sample ID:** 691900016-0013

Sample Description: Exterior dust extractor ducting/Grey duct mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: WB-DM-02B **Lab Sample ID:** 691900016-0014

Sample Description: Exterior dust extractor ducting/Grey duct mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Gray	0.0%	100.0%	None Detected	

Client Sample ID: WB-DM-02C **Lab Sample ID:** 691900016-0015

Sample Description: Exterior dust extractor ducting/Grey duct mastic

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	



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Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: WB-RT-01A **Lab Sample ID:** 691900016-0016

Sample Description: Rooftop access hatch/Roofing tar

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	

Client Sample ID: WB-RT-01B **Lab Sample ID:** 691900016-0017

Sample Description: Rooftop access hatch/Roofing tar

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	

Client Sample ID: WB-RT-01C **Lab Sample ID:** 691900016-0018

Sample Description: Rooftop access hatch/Roofing tar

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	

Client Sample ID: WB-EPP-01A **Lab Sample ID:** 691900016-0019

Sample Description: Open storage room by janitor closet/Light grey electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: WB-EPP-01B **Lab Sample ID:** 691900016-0020

Sample Description: Open storage room by janitor closet/Light grey electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: WB-EPP-01C **Lab Sample ID:** 691900016-0021

Sample Description: Open storage room by janitor closet/Light grey electrical penetration putty

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: WB-RM-01A **Lab Sample ID:** 691900016-0022

Sample Description: Exterior roof/Roof membrane

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	

Client Sample ID: WB-RM-01B **Lab Sample ID:** 691900016-0023

Sample Description: Exterior roof/Roof membrane

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	



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Client Sample ID: WB-RM-01C **Lab Sample ID:** 691900016-0024
Sample Description: Exterior roof/Roof membrane

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	

Client Sample ID: WB-WPC-01A **Lab Sample ID:** 691900016-0025
Sample Description: Machine shop, perimeter window/Black window pane caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	

Client Sample ID: WB-WPC-01B **Lab Sample ID:** 691900016-0026
Sample Description: Machine shop, perimeter window/Black window pane caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Black	0.0%	100.0%	None Detected	

Client Sample ID: WB-WPC-01C **Lab Sample ID:** 691900016-0027
Sample Description: Machine shop, perimeter window/Black window pane caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	

Client Sample ID: WB-WPC-02A **Lab Sample ID:** 691900016-0028
Sample Description: Machine shop foreman, partition window/Grey window pane caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	96.8%	3.2% Chrysotile	

Client Sample ID: WB-WPC-02B **Lab Sample ID:** 691900016-0029
Sample Description: Machine shop foreman, partition window/Grey window pane caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019				Positive Stop (Not Analyzed)	

Client Sample ID: WB-WPC-02C **Lab Sample ID:** 691900016-0030
Sample Description: Machine shop foreman, partition window/Grey window pane caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019				Positive Stop (Not Analyzed)	

Client Sample ID: WB-DFC-01A **Lab Sample ID:** 691900016-0031
Sample Description: Exterior door frame/Tan door frame caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Tan	0.0%	100.0%	None Detected	



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Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: WB-DFC-01B **Lab Sample ID:** 691900016-0032

Sample Description: Exterior door frame/Tan door frame caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Tan	0.0%	100.0%	None Detected	

Client Sample ID: WB-DFC-01C **Lab Sample ID:** 691900016-0033

Sample Description: Exterior door frame/Tan door frame caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Tan	0.0%	100.0%	None Detected	

Client Sample ID: WB-SC-01A **Lab Sample ID:** 691900016-0034

Sample Description: Exterior concrete walls/White seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Beige	0.0%	100.0%	None Detected	

Client Sample ID: WB-SC-01B **Lab Sample ID:** 691900016-0035

Sample Description: Exterior concrete walls/White seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Beige	0.0%	100%	None Detected	

Client Sample ID: WB-SC-01C **Lab Sample ID:** 691900016-0036

Sample Description: Exterior concrete walls/White seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Beige	0.0%	100%	None Detected	

Client Sample ID: WB-SC-02A **Lab Sample ID:** 691900016-0037

Sample Description: Exterior rooftop seams/Black rooftop seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	

Client Sample ID: WB-SC-02B **Lab Sample ID:** 691900016-0038

Sample Description: Exterior rooftop seams/Black rooftop seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	

Client Sample ID: WB-SC-02C **Lab Sample ID:** 691900016-0039

Sample Description: Exterior rooftop seams/Black rooftop seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Black	0.0%	100%	None Detected	



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Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: WB-SC-03A **Lab Sample ID:** 691900016-0040

Sample Description: Exterior rooftop seams/White rooftop seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	White	0.0%	100%	None Detected	

Client Sample ID: WB-SC-03B **Lab Sample ID:** 691900016-0041

Sample Description: Exterior rooftop seams/White rooftop seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: WB-SC-03C **Lab Sample ID:** 691900016-0042

Sample Description: Exterior rooftop seams/White rooftop seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: WB-SC-04A **Lab Sample ID:** 691900016-0043

Sample Description: Exterior rooftop seams/Brown rooftop seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Brown	0.0%	100%	None Detected	

Client Sample ID: WB-SC-04B **Lab Sample ID:** 691900016-0044

Sample Description: Exterior rooftop seams/Brown rooftop seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Brown	0.0%	100%	None Detected	

Client Sample ID: WB-SC-04C **Lab Sample ID:** 691900016-0045

Sample Description: Exterior rooftop seams/Brown rooftop seam caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Brown	0.0%	100%	None Detected	

Client Sample ID: WB-PS-01A **Lab Sample ID:** 691900016-0046

Sample Description: Mechanical room/Blue pipe sealant applied to threads of natural gas lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Blue	0.0%	100.0%	None Detected	

Client Sample ID: WB-PS-01B **Lab Sample ID:** 691900016-0047

Sample Description: Mechanical room/Blue pipe sealant applied to threads of natural gas lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Blue	0.0%	100%	None Detected	



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Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: WB-PS-01C **Lab Sample ID:** 691900016-0048

Sample Description: Mechanical room/Blue pipe sealant applied to threads of natural gas lines

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Blue	0.0%	100%	None Detected	

Client Sample ID: WB-WFC-01A **Lab Sample ID:** 691900016-0049

Sample Description: Exterior window frame/Brown window frame caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Brown	0.0%	100.0%	None Detected	

Client Sample ID: WB-WFC-01B **Lab Sample ID:** 691900016-0050

Sample Description: Exterior window frame/Brown window frame caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Brown	0.0%	100%	None Detected	

Client Sample ID: WB-WFC-01C **Lab Sample ID:** 691900016-0051

Sample Description: Exterior window frame/Brown window frame caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Brown	0.0%	100.0%	None Detected	

Client Sample ID: WB-FI-01A **Lab Sample ID:** 691900016-0052

Sample Description: Mechanical room, domestic cold water lines/Fitting insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	Beige	75.0%	25.0%	None Detected	

Client Sample ID: WB-FI-01B **Lab Sample ID:** 691900016-0053

Sample Description: Mechanical room, heating water lines/Fitting insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	Beige	75.0%	25.0%	None Detected	

Client Sample ID: WB-FI-01C **Lab Sample ID:** 691900016-0054

Sample Description: Mechanical room, domestic hot water lines/Fitting insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	Beige	60.0%	40.0%	None Detected	

Client Sample ID: WB-MG-01 **Lab Sample ID:** 691900016-0055

Sample Description: Mechanical room/Aqua mechanical gasket

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	Green	0.0%	100.0%	None Detected	



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Client Sample ID: WB-MG-02 **Lab Sample ID:** 691900016-0056
Sample Description: Mechanical room/Black mechanical gasket

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	Black	0.0%	55.0%	45% Chrysotile	

Client Sample ID: WB-MG-03 **Lab Sample ID:** 691900016-0057
Sample Description: Mechanical room/Cork mechanical gasket

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	Brown	0.0%	100.0%	None Detected	

Client Sample ID: WB-MG-04 **Lab Sample ID:** 691900016-0058
Sample Description: Mechanical room/Red mechanical gasket

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	Red	0.0%	100.0%	None Detected	

Client Sample ID: WB-DJC-01A **Lab Sample ID:** 691900016-0059
Sample Description: Mechanical room, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: WB-DJC-01B **Lab Sample ID:** 691900016-0060
Sample Description: Carpentry shop, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: WB-DJC-01C **Lab Sample ID:** 691900016-0061
Sample Description: Old fiberglass shop, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: WB-DJC-01D **Lab Sample ID:** 691900016-0062
Sample Description: Electrical shop, wall/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/08/2019	White	0.0%	100.0%	None Detected	

Client Sample ID: WB-DJC-01E **Lab Sample ID:** 691900016-0063
Sample Description: Electronic maintenance workshop/Drywall joint compound applied to walls and ceilings

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/09/2019	White	0.0%	100.0%	None Detected	



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Client Sample ID: WB-VSF-01

Lab Sample ID: 691900016-0064

Sample Description: Machine shop, shop foreman/Light and dark grey pebble pattern sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: WB-VSF-02

Lab Sample ID: 691900016-0065

Sample Description: Electrical shop, shop foreman/Beige and tan pebble pattern sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Beige	0.0%	100%	None Detected	

Client Sample ID: WB-VSF-03

Lab Sample ID: 691900016-0066

Sample Description: Electrical shop, corridor/12"x12" grey pattern sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: WB-VSF-04

Lab Sample ID: 691900016-0067

Sample Description: Open storage, corridor/Brown and tan marble pattern sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Beige	0.0%	100%	None Detected	

Client Sample ID: WB-VSF-05

Lab Sample ID: 691900016-0068

Sample Description: Electronic maintenance workshop/Light pink sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Beige	0.0%	100%	None Detected	

Client Sample ID: WB-VSF-06

Lab Sample ID: 691900016-0069

Sample Description: Lamp room, shop foreman/Grey with dark and white smudges sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Gray	0.0%	100%	None Detected	

Client Sample ID: WB-VSF-07

Lab Sample ID: 691900016-0070

Sample Description: Mezzanine, storage area/Blue and white marble pattern sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Blue	0.0%	100%	None Detected	

Client Sample ID: WB-VSF-08

Lab Sample ID: 691900016-0071

Sample Description: Mezzanine, washroom/Beige pebble pattern sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Beige	0.0%	100%	None Detected	



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EMSL Canada Order 691900016
Customer ID: 55JACQ30L
Customer PO: 123221268.400
Project ID:

Test Report: Asbestos Analysis in Bulk Material for Occupational Health and Safety British Columbia Regulation 188/2011 via EPA 600/R-93/116 Method

Client Sample ID: WB-VFT-01

Lab Sample ID: 691900016-0072

Sample Description: Carpentry shop, mezzanine/12"x12" beige floor tile with brown streaks

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Beige	0.0%	98.7%	1.3% Chrysotile	

Client Sample ID: WB-VFT-02

Lab Sample ID: 691900016-0073

Sample Description: Mezzanine, electronics test/clean room/12"x12" tan smeared floor tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Beige	0.0%	100%	None Detected	

Client Sample ID: WB-VFT-03

Lab Sample ID: 691900016-0074

Sample Description: Mezzanine, real property engineering/20"x20" blue, white and black floor tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	1/09/2019	Blue	0.0%	100%	None Detected	

Analyst(s):

Harman Sohi PLM (12)
PLM Grav. Reduction (42)
Khaledeh Tahmasbipoor PLM (4)
Michelle Lung PLM (14)

Reviewed and approved by:

Nicole Yeo, Laboratory Manager
or Other Approved Signatory

None Detected = <0.1%. EMSL maintains liability limited to cost of analysis. This report 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. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP of any agency of the U.S. Government.

Samples analyzed by EMSL Canada Inc. Mississauga, ON NVLAP Lab Code 200877-0

Initial report from: 01/10/2019 11:55:23

**EMSL Canada Inc.**

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EMSL Canada Or 551900059
CustomerID: 55JACQ30L
CustomerPO: 123221268-400
ProjectID:

Attn: **Kim Wiese**
Stantec Consulting Ltd.
500 - 4730 Kingsway
Burnaby, BC V5H 0C6

Phone: (604) 412-3004
Fax:
Received: 01/04/19 11:30 AM
Collected:

Project: **123221268-400****Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)***

<i>Client Sample</i>	<i>Description</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>RDL</i>	<i>Lead Concentration</i>
WB-P-01 551900059-0050	Site: Workshop Building (WB) - Mechanical room, walls Desc: White on concrete		1/7/2019	0.2462 g	81 ppm	<81 ppm
WB-P-02 551900059-0051	Site: Workshop Building (WB) - Mechanical room, floor Desc: Grey on concrete		1/7/2019	0.2426 g	82 ppm	270 ppm
WB-P-03 551900059-0052	Site: Workshop Building (WB) - Mechanical room, door and frame Desc: Brown on metal		1/7/2019	0.2482 g	81 ppm	430 ppm
WB-P-04 551900059-0053	Site: Workshop Building (WB) - Covered storage area, structural steel Desc: Red on metal		1/7/2019	0.2414 g	83 ppm	2300 ppm
WB-P-05 551900059-0054	Site: Workshop Building (WB) - Covered storage area, bollard Desc: Red on metal		1/7/2019	0.2460 g	81 ppm	1300 ppm
WB-P-06 551900059-0055	Site: Workshop Building (WB) - Carpentry shop, stairwell Desc: Grey on metal		1/7/2019	0.2322 g	1700 ppm	44000 ppm
WB-P-07 551900059-0056	Site: Workshop Building (WB) - Maintenance garage, floor Desc: Olive green on concrete		1/7/2019	0.2479 g	81 ppm	<81 ppm
WB-P-08 551900059-0057	Site: Workshop Building (WB) - Machine shop, door and frame Desc: White on metal		1/7/2019	0.2480 g	81 ppm	1100 ppm
WB-P-09 551900059-0058	Site: Workshop Building (WB) - Machine shop, floor Desc: Blue on concrete		1/7/2019	0.2474 g	81 ppm	180 ppm

Rowena Fanto, Lead Supervisor
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report 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. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON A2LA Accredited Environmental Testing Cert #2845.08

Initial report from 01/11/2019 09:27:56

**EMSL Canada Inc.**

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EMSL Canada Or 551900059
CustomerID: 55JACQ30L
CustomerPO: 123221268-400
ProjectID:

Attn: **Kim Wiese**
Stantec Consulting Ltd.
500 - 4730 Kingsway
Burnaby, BC V5H 0C6

Phone: (604) 412-3004
Fax:
Received: 01/04/19 11:30 AM
Collected:

Project: **123221268-400****Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)***

<i>Client Sample</i>	<i>Description</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>RDL</i>	<i>Lead Concentration</i>
WB-P-10 551900059-0059	Site: Workshop Building (WB) - Mezzanine, lunch room, door frame Desc: Black on metal		1/7/2019	0.2466 g	81 ppm	310 ppm
WB-P-11 551900059-0060	Site: Workshop Building (WB) - Mezzanine, lunch room, door Desc: Orange on metal		1/7/2019	0.2401 g	8300 ppm	120000 ppm
WB-P-12 551900059-0061	Site: Workshop Building (WB) - Mezzanine, storage area, wall Desc: Grey on drywall		1/7/2019	0.2415 g	83 ppm	<83 ppm
WB-P-13 551900059-0062	Site: Workshop Building (WB) - Exterior dust extractor Desc: Green on metal		1/7/2019	0.2437 g	82 ppm	<82 ppm
WB-P-14 551900059-0063	Site: Workshop Building (WB) - Exterior siding Desc: Brown on metal		1/7/2019	0.1634 g	120 ppm	700 ppm

Rowena Fanto, Lead Supervisor
or other approved signatory

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Samples analyzed by EMSL Canada Inc. Mississauga, ON A2LA Accredited Environmental Testing Cert #2845.08

Initial report from 01/11/2019 09:27:56