

XCG File No. 1-3266-02-01
March 25, 2020
REVISION 1

**DESIGNATED SUBSTANCES AND
HAZARDOUS MATERIALS SURVEY
BUILDING F – CANADIAN COAST GUARD BASE
401 KING STREET,
PRESCOTT, ONTARIO**

Prepared for:

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ES 1. EXECUTIVE SUMMARY

XCG Consulting Limited (XCG) was retained by Fisheries and Oceans Canada (DFO) to complete a Designated Substances and Hazardous Material Survey (DSHMS) at the Prescott Canadian Coast Guard (CCG) in Prescott, Ontario. The subject building is a metal clad storage building. The subject building is shown in Figure 1.

The purpose of the DSHMS was to determine if any designated substances and other potentially hazardous materials are present at the subject building and provide references for the management as required to mitigate potential exposure by persons entering the building and/or conducting any demolition or renovation activities. The survey included all designated substances defined by the Ontario Ministry of Labour (MOL), as well as other potentially hazardous materials, and included testing of potential asbestos-containing materials (ACMs) and lead-based paints (LBP). An inventory of designated substances and other potentially hazardous materials present or potentially present was developed.

The DSHMS involved a review of available background information pertaining to the building, site visit, and collection and testing of building materials suspected of being ACMs and potential LBP. All of the designated substances defined by the Ontario Ministry of Labour (MOL) under Ontario Regulation 490/09 (O. Reg. 490/09), O. Reg. 278/05 for asbestos, polychlorinated biphenyls (PCBs), mould, and other potentially hazardous materials listed in the table below were evaluated. The results of the investigation to determine the potential presence or absence of designated substances are summarized in the following table.

Substance	Not Identified	Potentially Present	Determined Present
Acrylonitrile	X		
Arsenic	X		
Asbestos			X
Benzene	X		
CFCs and Halocarbons		X	
Coke Oven Emissions	X		
Ethylene Oxides	X		
Isocyanates	X		
Lead			X
Mercury		X	
Mould	X		
Polychlorinated Biphenyls (PCBs)		X	
Silica			X
Urea Formaldehyde Foam Insulation (UFFI)	X		
Vinyl Chloride	X		

The substances that were not identified on-site are not likely to be a concern and require no further evaluation or management. A further discussion of the substances that are present or potentially present is provided below.



Asbestos-Containing Materials

The following building materials were confirmed to be asbestos-containing during the DSHMS. Recommended abatement measures and procedures are indicated for each identified asbestos-containing material:

Follow O. Reg. 278/05 Type 1 measures and procedures when disturbing the following:

- Grey transite board, 20% chrysotile asbestos (approximately 8 m³)

All confirmed ACMs should be managed and/or disposed of in accordance with O. Reg. 490/09, O. Reg. 278/05, and O. Reg. 347. Prior to any demolition activities contractors must be provided with a copy of this DSHMS report. All asbestos abatement activities should be conducted by a qualified asbestos abatement contractor.

Any suspect material encountered should be treated as ACM unless otherwise indicated by sampling and analytical testing. If additional ACM (currently hidden or inaccessible) are identified, these materials should be examined, tested, and handled appropriately. Any asbestos removal needs to be completed by a trained asbestos abatement contractor.

Lead-Containing Paints

Based on the results of the sampling completed by XCG, all of the surface coatings are considered to be lead-containing and should be managed in accordance with O. Reg. 490/09, as amended, during demolition activities. Workers are not at risk of being exposed to lead unless they are undertaking an activity that disturbs surfaces covered with a lead-based coating. The Ontario MOL “Guideline – Lead on Construction Projects,” dated April 2011, should be consulted in determining worker protection based on surface coating removal techniques.

Abatement of lead-containing surface coatings is not required prior to demolition activities.

Silica

Concrete and cement building materials were observed, but do not represent a concern in their present state and condition.

Exposure to airborne silica is regulated under O. Reg. 490/09 (as amended). Airborne silica can be generated through such processes as drilling, grinding, cutting, and abrading silica-containing material. Precautions must be taken to prevent silica-containing particles from becoming airborne during the application of such processes. Such precautions include wetting of silica-containing area(s) to be disturbed and daily wet sweeping or HEPA vacuuming of silica dust. Additionally, appropriate respiratory protection, personal protective clothing, hand and face washing, and ventilation must be utilized during disturbance of silica-containing structures. The Ontario MOL “Guideline – Silica on Construction Projects,” dated April 2011, should be consulted in determining worker protection based on concrete and cement building material demolition or disturbance techniques.



Summary

In summary, designated substances indicated in the table below are present or likely to be present. During any renovations or demolition, DFO representatives and project contractors should ensure that the materials are properly handled and disposed of in accordance with Federal and Provincial regulations.

The information contained within this executive summary is based on the findings of the report and are subject to the same report limitations. As such, the entire report must be read in conjunction with the executive summary.



Material	Sample ID	Description	Location	Quantity (square metres)	Condition	Photo
Asbestos	F-TP-2	Transite wall board	Interior southeast corner	8	Good	Photo 1
Lead Paint	F-PB-R-1	Red over grey	Door trim	4 m ² -	Poor	-
Lead Paint	F-PB-G-2	Grey	Steel siding and roof	485 m ² -	Poor	-
Lead Paint	F-PB-W-3	White over multiple	Exterior Fascia	70 linear metres	Poor	-
Lead Paint	F-PB-WH-4	White	Interior office wall	23 m ² -	Good	-
Lead Paint	F-PB-GR-5	Dark green	Interior wall ½ perimeter	50 m ² -	Good-	-
Lead Paint	F-PB-G-6	Grey	Interior wall ½ perimeter	50 m ² -	Good	-
Lead Paint	F-PB-LG-7	Light Green over dark green	Wall north east corner	20 m ²	Good	-
Silica	-	Concrete foundation and cement floor	Throughout	-	Good	-
Notes:						
-: Not applicable.						



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1. INTRODUCTION

XCG Consulting Limited (XCG) was retained by Fisheries and Oceans Canada (DFO) to complete a Designated Substances and Hazardous Material Survey (DSHMS) at the Prescott Canadian Coast Guard (CCG) base in Prescott, Ontario. The subject building is a metal clad storage building. The subject building is shown on Figure 1.

The purpose of this DSHMS was to determine if any designated substances and other potentially hazardous materials are present at the subject building and provide references for the management as required to mitigate potential exposure by persons entering the building and/or conducting any demolition or renovation activities. The survey included all designated substances defined by the Ontario Ministry of Labour (MOL), as well as other potentially hazardous materials, and included testing of potential asbestos-containing materials (ACMs) and lead-based paints (LBP). An inventory of designated substances and other potentially hazardous materials present or potentially present was developed.

1.1 Building Description

The subject building is a metal clad storage building (site identified as Building F) one storey structure located on the south east area of the subject property. The subject building was reported to be constructed in 1958. The gross floor area of the building, based on the site measurement, is approximately 200 square metres (m²) (2,153 square feet).

The subject building provides unheated storage space with a small office in the north west area of the building. The subject building has a cast-in-place concrete foundation with pre-engineered structural steel framing (Butler manufactured). The building exterior is clad with metal siding and a metal roof. Spray foam was observed applied to the underside of the steel roof. The interior office was observed to be fibreglass insulated with plywood sheet coverings.

1.2 Historic Reports

As part of this DSHMS provided reports were reviewed prior to this site visit, and summarized below:

Decommissioning Consulting Services Limited (DCS), "Hazardous Materials Inventory Prescott Canadian Coastguard Base 401 King Street West Prescott, Ontario," dated January 31, 2013

A hazardous materials inventory was conducted at the site but does not list the subject building.

Jacques Whitford, "Hazardous Materials Inventory Prescott Canadian Coastguard Base Project No. 1009939," dated March 23, 2006

A hazardous materials inventory was conducted at the entire site. The objective was to characterize the types and quantities of hazardous substances that are procured, used, handled, stored, or disposed. Designated substances were not reviewed as part of the assignment.

It should be noted that the two reports above are not DSHMS surveys.



2. SCOPE OF WORK

The scope of work for the DSHMS included the following activities:

- Review of drawings and related information pertaining to the design and condition of the building;
- Inspection and sampling of potential hazardous materials within the subject building that could be reasonably accessed by occupants, workers and the general public;
- Documentation of the locations of potential hazardous materials and estimation of quantities;
- Submission of representative samples of potential hazardous materials for laboratory analysis; and
- Preparation of a report summarizing the results of the DSHMS for the building.

The field survey included an inspection of accessible areas of the subject building, and the visual identification of potential designated substances. Where confirmation was required to verify the presence or absence of certain designated substances (specifically lead and asbestos) within a building material, representative samples were collected and submitted for analysis to Paracel Laboratories LTD. (Paracel), a National Voluntary Laboratory Accreditation Program (NVLAP) and Canadian Association for Laboratory Accreditation Inc (CALA) accredited laboratory.

2.1 Designated Substances

The following table lists the designated substances and other potentially hazardous materials that were evaluated and included in the survey.

Table 1 List of Designated Substances and Hazardous Materials Evaluated at the Subject Site

Designated Substances	Other Potentially Hazardous Materials
Acrylonitrile	Polychlorinated biphenyls (PCBs)
Arsenic	Chlorofluorocarbons (CFCs) and Halocarbons
Asbestos	Urea formaldehyde foam insulation (UFFI)
Benzene	Mould
Coke oven emissions	
Ethylene oxide	
Isocyanates	
Lead	
Mercury	
Silica	
Vinyl chloride	



3. REGULATIONS AND GUIDELINES

The Ontario Occupational Health and Safety Act (OHSA) (as amended) and associated regulations outline the designated substances that are commonly present within buildings and provides references for management of these substances, as summarized below.

3.1.1 Asbestos Containing Material (ACM)

Asbestos was used in building materials such as mechanical pipe insulation, fireproofing, and interior finishes, such as plaster and drywall joint compound until approximately the mid-1980s. Asbestos was also commonly used in vinyl and linoleum flooring products, acoustic ceiling tiles, adhesives, and caulking, among other materials.

The management of ACMs is governed under Ontario Regulation (O. Reg.) 278/05 *Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations* (as amended). Building materials found to have 0.5 percent or greater asbestos by dry weight are considered to be ACMs. This regulation describes the procedures and protocols for the identification and removal of ACM from buildings. If ACM is known or suspected to be present, then the locations of the material must be documented, and the material managed and removed in accordance with O. Reg. 278/05, prior to being disturbed during repair, renovation or demolition activities.

Disposal of ACM is governed under O. Reg. 347 General Waste Management (as amended) and requires that all ACM waste must be placed in a double sealed labelled container that is free of cuts, tears, or punctures and disposed of in a licensed waste facility that has been properly notified.

3.1.2 Lead-Based Paint

Lead is a heavy metal and is typically found in inorganic compounds often occurring as components of products such as pigments, varnishes, and paints. Lead exposure is a particular concern from lead containing dust during renovation, demolition, or construction activities, or from deterioration of wall coverings.

The Surface Coating Materials Regulations under the Hazardous Products Act (HPA) states that paints having a lead content greater than 90 parts per million (ppm) (90 mg/kg) are considered lead-based. Although not a workplace, O. Reg. 490/09 (as amended) may be used as a best practice guide when renovations or demolition is being undertaken. O. Reg. 490/09 (as amended) stipulates that workers shall be protected from exposure to airborne lead if they are undertaking an activity that disturbs surfaces covered with lead-based paint. The MOL guideline “*Lead on Construction Projects*” dated April 2011, outlines procedures that should be used during renovation or demolition activities to ensure that worker exposure to lead does not exceed regulated limits specified in the OHSA.



3.1.3 **CFCs and Halocarbons**

Chlorofluorocarbons (CFCs) and halocarbons are chemical compounds that include most ozone depleting substances, chlorofluorocarbons and their halogenated replacements, many of which are greenhouse gases. The use and handling of halocarbons in refrigeration and air conditioning, fire-extinguishing, and solvent systems on federal lands are controlled by the Federal Halocarbon Regulations, 2003 and O. Reg. 463/10. “Small” systems, such as household appliances, are exempt from the annual leak test requirement.

3.1.4 **Mercury**

Mercury is contained within some thermostats and fluorescent light bulbs. Mercury exposure may occur from airborne vapours or through skin absorption. There is no personal, occupational or environmental concern associated with mercury in its current state and condition. Normal use of a thermostats and fluorescent light bulbs would not cause exposure to vapours. However, if damage occurs to these materials, mercury could be released. Those at highest risk of exposure are construction workers during renovation, demolition, or construction activities. Manage mercury containing equipment in accordance with applicable legislative requirements.

The MOL has an occupational exposure limit (OEL) of 0.01 mg/m³ for alkyl compounds of mercury, and 0.025 mg/m³ for all forms of mercury based on a 40-hour time weighted average exposure value (TWAEV). O. Reg. 490/09 stipulates that workers are not at risk of being exposed to mercury unless they are undertaking an activity that disturbs the mercury-containing materials and outlines that precautions are required during renovation or demolition activities to ensure that worker exposure to mercury does not exceed the OEL limits specified in the OHSA.

3.1.5 **Mould**

Mould spores are present in all indoor and outdoor environments and cannot be completely eliminated. Cellulose-based building materials provide a nutrient base for many mould species; however, moulds generally do not grow unless an adequate amount of moisture is present.

There are no clear regulatory standards for determining acceptable concentrations of mould in indoor air. Listed below are commonly used industry references used to help identify and evaluate mould contamination in buildings:

- “*Guidelines for the Investigation, Assessment, & Remediation of Mould in Workplaces*,” Manitoba Department of Labour and Immigration, Workplace Safety and Health Division, March 2001;
- “*Mold Remediation in Schools and Commercial Buildings*,” U.S. E.P.A. Office of Air and Radiation, Indoor Environments Division, September 2008;
- “*Guidelines on Assessment and Remediation of Fungi in Indoor Environments*,” New York City Department of Health, November 2008;
- “*Mould Guidelines for the Canadian Construction Industry*,” Standard Construction Document CCA 82, 2004; and



- “Mould Abatement Guidelines,” Environmental Abatement Council of Ontario (EACO), Edition (3) 2015.

3.1.6 **PCBs**

Polychlorinated biphenyls (PCBs) were historically used as dielectric and coolant fluids in electrical equipment such as capacitors, transformers, heat exchangers, electric motors, and fluorescent light ballasts. PCBs are known carcinogens to mammals and humans; therefore, PCB sales were banned in Canada in 1977 and releasing the chemical into the environment was banned in 1985; however, owners of PCB-containing equipment that contain PCBs in a concentration of at least 50 mg/kg but less than 500 mg/kg are allowed to continue to use the equipment until December 31, 2025, with the storage, handling, transport, and destruction of the PCBs regulated by O. Reg. 362/90 (as amended) and Environment Canada, SOR 2008-273.

3.1.7 **Silica**

Silica occurs naturally as crystalline or amorphous material. It is normally found in concrete, mortar, acoustic ceiling tiles, and stucco finishes. There is no personal, occupational or environmental concern associated with silica in its current state and condition. However, if dust creating disturbance occurs to these materials, silica could be released. Those at highest risk of exposure are construction workers during renovation, demolition, or construction activities.

The MOL has established an OEL of 0.10 mg/m³ for quartz and tripoli, and 0.05 mg/m³ for cristobalite and tridymite, based on a 40-hour TWAEV. O. Reg. 490/09 (as amended) stipulates that workers are not at risk of being exposed to silica unless they are undertaking an activity that disturbs the silica-containing materials. The MOL document “*Guideline – Silica on Construction Projects*” outlines procedures that should be used during renovation or demolition activities to ensure that worker exposure to silica does not exceed regulated limits specified in the OHS Act.

3.1.8 **UFFI**

Urea formaldehyde foam insulation (UFFI) is a type of insulation made from a foaming agent and compressed air used to insulate hard to reach areas, such as within pre-existing hollow walls. In Canada, UFFI was approved for use in 1977 and was banned under the Hazardous Products Act in December 1980; however, approximately 100,000 homes in Canada contain UFFI. During the curing process of the insulation, formaldehyde gas is emitted, which can cause eye irritation, respiratory problems, nausea, and headaches; however, many other household materials create formaldehyde gas, and humidity, mould, other airborne chemicals and a tightly sealed house can also cause the same symptoms as UFFI.

3.1.9 **Other Designated Substances and Hazardous Materials**

The other designated substances that were part of the survey are regulated by the O. Reg. 490/09 include acrylonitrile, arsenic, benzene, coke oven emissions, ethylene oxide, isocyanates, and vinyl chloride.

4. SURVEY METHODOLOGY

Mr. Greg Mallette of XCG conducted the DSHMS on October 24, 2019. Mr. Mallette was accompanied during the initial site tour by Site Representative Mr. David Schwabe and DFO representative Mr. Sean Ilkhaania at the subject site.

Where it was considered possible that designated substances or hazardous materials existed in areas that could not be accessed without employing destructive methods, such methods to access the area were used.

The survey included room by room visual observations of reasonably accessible areas to identify the presence of designated or hazardous materials in the project area. The survey was undertaken in a manner to minimize repetition of observations and sampling of like areas (e.g. painted surfaces).

The following building components were assessed individually during the survey as part of routine field procedures:

- Walls;
- Ceiling;
- Floors; and
- Mechanical Systems (i.e. pipe wrap).

During the site survey, bulk samples for asbestos content analysis and paint chip samples for lead in paint analysis were collected and submitted under chain-of-custody to Paracel for asbestos and lead analysis.

Observations were made to identify if visible mould growth was present; however, no samples would be submitted for laboratory analysis.

If fluorescent light ballasts were observed, a minimum of 10% of the light ballasts were visually inspected to identify whether or not PCBs were present within the ballast.

4.1.1 Asbestos-Containing Material

Visual observations of accessible areas in the building were made in order to identify the presence of materials suspected of containing asbestos. The visual surveys were primarily limited to a survey of structures in areas with reasonable accessibility.

In accordance with O. Reg. 278/05, a minimum of three samples of each homogenous material was obtained from the subject building. Materials sampled were dampened with an amended water solution using a spray bottle. Each sample was collected and placed in a labelled, sealable plastic bag and submitted to Paracel Laboratories for analysis by polarized light microscopy (PLM) with dispersion staining, following USEPA Method 600/R-93/116 under chain of custody protocol.

4.1.2 Sampling of Suspected Lead-Based Paint

Samples from the subject building of visibly different paints were collected through small scrapings of the paint from the substrate and/or where paint was observed to be peeling or flaking. The location, approximate volume/area, and condition of each



different paint was recorded based on visual observation. All paint samples were also submitted to Paracel Laboratories and analyzed by MOE Method E3470, inductively coupled plasma - optical emission spectrometry (ICP-OES).



5. SURVEY FINDINGS

5.1 Substance Identification

The likely presence or absence of designated substances and other potentially hazardous materials within the subject building was initially assessed through background research, visual observation and inspection, and discussions with personnel knowledgeable about the building.

The following table summarizes the potential presence or absence of each designated substance at the subject site, based on on-site observations and the results of sampling of potential asbestos containing and lead-containing materials.

Table 2 Suspected Designated and Potentially Hazardous Materials

Substance	Not Identified	Potentially Present	Determined Present
Acrylonitrile	X		
Arsenic	X		
Asbestos			X
Benzene	X		
CFCs and Halocarbons		X	
Coke Oven Emissions	X		
Ethylene Oxides	X		
Isocyanates	X		
Lead			X
Mercury		X	
Mould	X		
Polychlorinated Biphenyls (PCBs)		X	
Silica			X
Urea Formaldehyde Foam Insulation (UFFI)	X		
Vinyl Chloride	X		

The substances that were not identified on-site are not likely to be a concern and require no further evaluation or management. A further discussion of the substances that are present or potentially present is provided below.

5.1.1 Asbestos

Potential ACMs visually identified in the building included window glazing and transite wall board which were collected and submitted for laboratory analysis. The spray applied insulation observed on the underside of the ceiling was foam and is not a suspected ACM and was therefore not sampled. The details for each ACM material are provided below in Section 5.2.1.

5.1.2 Lead

Potential lead-containing paints were visually identified in the building. Seven samples of these paints were collected and submitted for laboratory analysis.



5.1.3 CFCs and Halocarbons

CFCs and/or Halocarbons are expected to be present within the observed window A/C unit located in the front office window. No samples were collected or submitted for laboratory analysis.

5.1.4 Mercury

Small amounts are expected to be present in observed fluorescent lighting. No samples were collected or submitted for laboratory analysis.

5.1.5 PCBs

PCBs may be present in the observed fluorescent lighting ballasts. The fluorescent lighting was not inspected due to the height of the fixtures.

5.1.6 Silica

Free crystalline silica is expected to be present within all concrete and cement-based building materials within the building. No samples were collected or submitted for laboratory analysis.

5.1.7 Other Designated and Hazardous Substances

None of the following designated and hazardous substances were noted within the project area of the building during the survey: acrylonitrile, arsenic, benzene, coke oven emissions, ethylene oxide, isocyanates, UFFI, and vinyl chloride.



6. SUMMARY OF LABORATORY RESULTS

Figure 1 can be found in Appendix A. Figure 1 identifies the sample collection locations for both ACMs and lead-based paint within the subject building. Laboratory certificates of analysis are provided in Appendix B. Select photographs showing ACMs and lead-based paint locations within the building are presented in Appendix C.

6.1 Asbestos Containing Materials

Table 3 provides a summary of the results of the asbestos analysis for the surveyed areas of the subject building.

6.2 Lead-Based Paint

Table 4 provides a summary of the paint samples analysed for the surveyed areas of the subject building.



Table 3 Summary of Asbestos Results

Sample ID	Sample Description	Location	Asbestos Content	Historic Results	Quantity ¹	Condition ²	Accessibility ³	Friability ⁴	Comments
2019 DSHMS									
F-GLZ-1A,B,C	Window glazing	East and south windows (approx. Qty 10)	ND	-	-	-	-	-	-
F-TP-2A,B,C	Transite board	South interior wall corner	20% Chrysotile	-	8 m ²	Fair	A	Non-Friable-	Type 1 Procedures
<p>Notes:</p> <p>ND Asbestos not detected.</p> <p>Bold Asbestos containing material with a concentration equal to or greater than 0.5% asbestos.</p> <p>1. Quantity is provided for only materials found or suspected to be asbestos-containing.</p> <p>2. Condition is ranked as Good, Fair, or Poor in accordance with PCA Asbestos Management Guide – 2014.</p> <p>3. Accessibility is rated (for friable, asbestos-containing samples only) as discussed in Section 4.3.3:</p> <ul style="list-style-type: none"> – A - Areas of the building within reach (from floor level) of all building users; – B - Frequently entered maintenance areas within reach of maintenance staff, without the need of a ladder; – C (exposed) - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos-containing material; – C (concealed) - Areas of the building that require the removal of a building component, including lay-in ceilings and access panels into solid ceiling systems; – D - Areas of the building behind inaccessible solid ceiling systems, walls or mechanical equipment etc. where demolition of the ceiling, wall or equipment, etc. is required to reach the asbestos containing material. <p>4. Friability is assessed as friable or non-friable.</p>									



SUMMARY OF LABORATORY RESULTS

Table 4 Summary of Suspect Lead-Based Paint Results

Sample Number	Description	Location	Concentration Lead, Parts per million (ppm)	Historic Results (ppm)	Approximate Quantity (square metres)	Condition	Comments
2019 DSHMS							
F-PB-R-1	Red over grey	Door trim	2,660	-	4 m ² -	Poor	O. Reg. 490/09
F-PB-G-2	Grey	Steel siding and roof	1,620	-	485 m ² -	Poor	O.R eg. 490/09
F-PB-W-3	White over multiple	Exterior Fascia	1,810	-	70 linear metres	Poor	O. Reg. 490/09
F-PB-WH-4	White	Interior office wall	276	-	23 m ² -	Good	O. Reg. 490/09
F-PB-GR-5	Dark green	Interior wall ½ perimeter	35,000	-	50 m ² -	Good-	O. Reg. 490/09
F-PB-G-6	Grey	Interior wall ½ perimeter	447	-	50 m ² -	Good	O. Reg. 490/09
F-PB-LG-7	Light Green over dark green	Wall north east corner	13,700	-	20 m ²	Good	O. Reg. 490/09



7. DISCUSSION AND RECOMMENDATIONS

The following designated substances and/or hazardous materials were identified as being present or potentially present during the DSHMS conducted by XCG of Building F at the Canadian Coast Guard Base, Prescott, Ontario: Asbestos, lead, CFCs and halocarbons, mercury, PCBs, and silica. Recommendations related to these substances are provided below.

No significant potential sources of free silica, UFFI, or other designated substances or hazardous materials were identified beyond those listed below. As such, no recommendations are provided regarding these materials.

Prior to any demolition or renovation activities, any contractors must ensure that the materials are properly handled and disposed of in accordance with OHSA and associated regulations, as summarized below.

7.1 Asbestos-Containing Materials

The following building materials were confirmed to be asbestos-containing during the DSHMS. Recommended abatement measures and procedures are indicated for the identified asbestos-containing material:

Follow O. Reg. 278/05 Type 1 measures and procedures when disturbing and or removing the following:

- Grey transite board, 20% chrysotile asbestos (approximately 8 m³).

All confirmed ACMs should be managed and/or disposed of in accordance with O. Reg. 490/09, O. Reg. 278/05, and O. Reg. 347. Prior to any demolition activities contractors must be provided with a copy of this DSHMS report. All asbestos abatement activities should be conducted by a qualified asbestos abatement contractor.

Any suspect material encountered should be treated as ACM unless otherwise indicated by sampling and analytical testing. If additional ACMs (currently hidden or inaccessible) are identified, these materials should be examined, tested, and handled appropriately. Any asbestos removal needs to be completed by a trained and licensed asbestos abatement contractor.

7.2 Lead-Containing Paints

Based on the results of the sampling completed by XCG, all surface coatings are considered to be lead-containing and should be managed in accordance with O. Reg. 490/09, as amended, during demolition activities. Workers are not at risk of being exposed to lead unless they are undertaking an activity that disturbs surfaces covered with a lead-based coating. The Ontario MOL “Guideline – Lead on Construction Projects,” dated April 2011, should be consulted in determining worker protection based on surface coating removal techniques.

Abatement of lead-containing surface coatings is not required prior to demolition activities.



7.3 CFCs and halocarbons

ODSs present within the building were associated with a window-mounted air conditioning unit. If encountered during renovations, ODSs should be handled and disposed of in accordance with O. Reg. 189/94 (as amended), this work should only be undertaken by qualified licensed individuals.

7.4 Mercury

Mercury-containing fluorescent lights slated for disposal must be handled and disposed of in accordance with O. Reg. 490/09 (as amended) and O. Reg. 347 (as amended).

7.5 PCBs

PCBs may be present in the observed fluorescent lighting ballasts and should be inspected upon removal to determine if they are or may contain PCBs. If they are confirmed or suspected of being PCB containing, they should be disposed of in accordance with O.Reg. 362/90 (as amended) and Environmental Canada, SOR 2008-273. As this is a federal property the storage, reporting, record keeping, handling, transport, and destruction of PCBs is regulated by Environment Canada, SOR 2008-273.

7.6 Silica

Concrete and cement building materials were observed and contain silica, but do not represent a concern in their present state and condition.

Exposure to airborne silica is regulated under O. Reg. 490/09 (as amended). Airborne silica can be generated through such processes as drilling, grinding, cutting, and abrading silica-containing material. Precautions must be taken to prevent silica-containing particles from becoming airborne during the application of such processes. Such precautions include wetting of silica-containing area(s) to be disturbed and daily wet sweeping or HEPA vacuuming of silica dust. Additionally, appropriate respiratory protection, personal protective clothing, hand and face washing, and ventilation must be utilized during disturbance of silica-containing structures.

8. LIMITATIONS

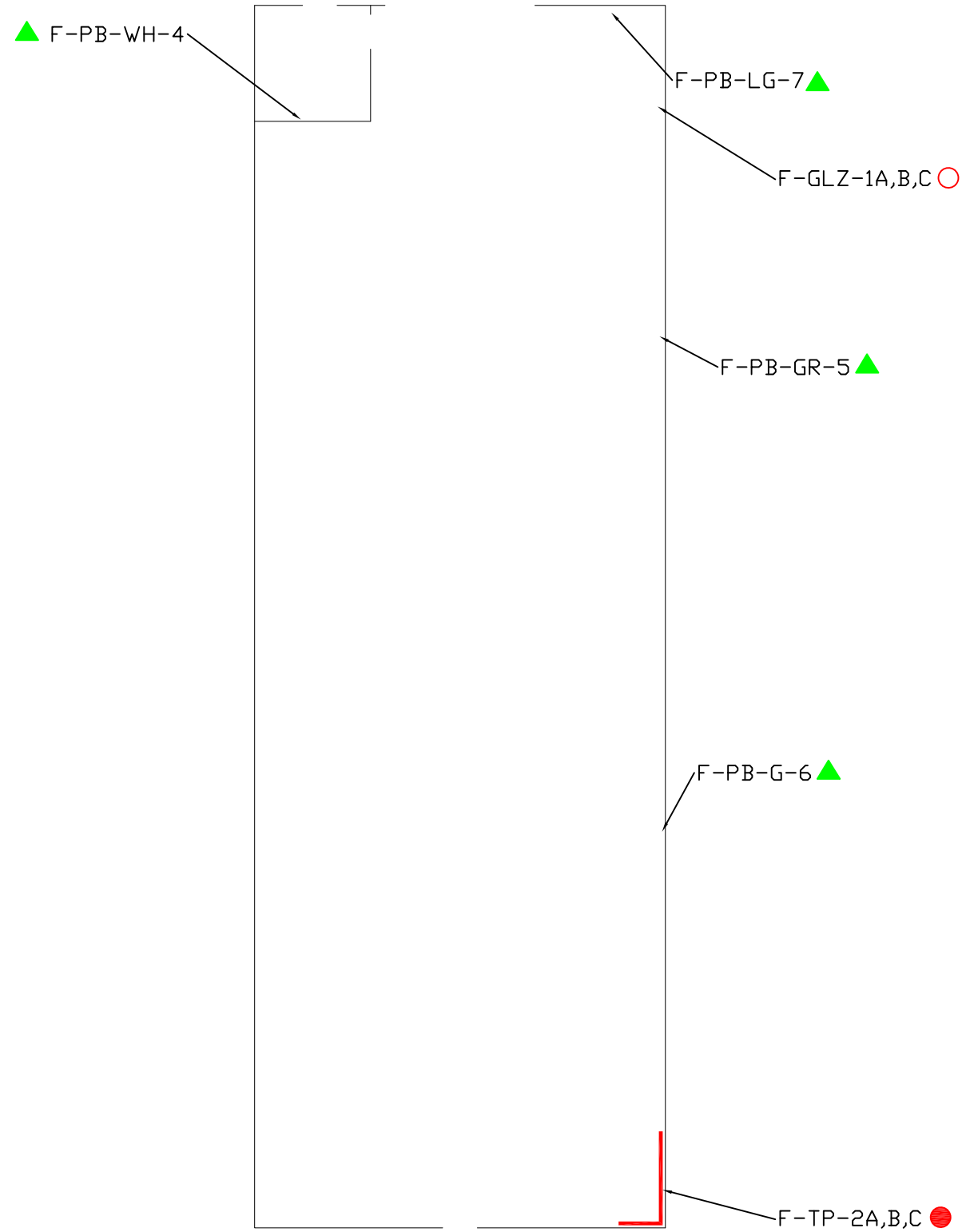
Limited sampling of building materials and paints was undertaken as part of this investigation. As such, detailed investigations or testing in subsequent studies may encounter conditions not apparent at this time or at other locations. While every attempt was made to ensure that samples collected were representative of the general sampling area, it is possible that conditions outside specific sampling locations may differ. Therefore, users of this report are advised to observe conditions prior to conducting any demolition or renovation activities. XCG Consulting Limited cannot be held responsible for conditions that were not apparent from documentation supplied to XCG Consulting Limited.

The conclusions presented in this report are professional opinions based on visual observations, limited information provided by persons familiar with the subject building and analytical results. As such, XCG Consulting Limited cannot be held responsible for environmental conditions at the building that were not apparent from the available information.

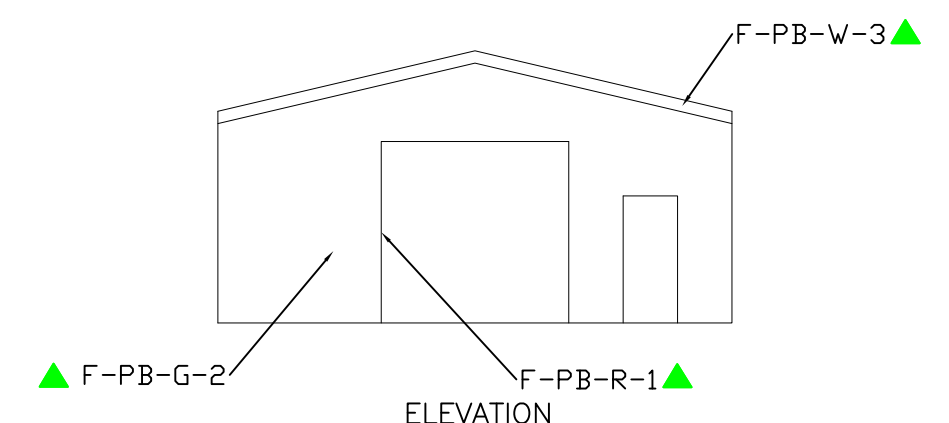
The scope of this work is limited to the matters expressly covered. This report is prepared for the sole benefit of Fisheries and Oceans Canada (DFO) and the Canadian Coast Guard (CCG), and its authorized contractors and should not be relied upon by any other person or entity. The scope of services performed in the execution of this investigation may not be appropriate to satisfy the needs of other users, and any use or reuse of this document or the findings and conclusions represented herein is at the sole risk of the said users.



APPENDIX A
FIGURE

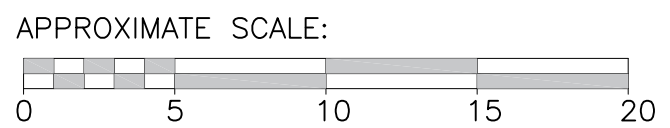


PLAN VIEW



ELEVATION

* BASED ON ANALYTICAL RESULTS ALL SURFACE COATINGS ARE CONSIDERED TO BE LEAD-CONTAINING.



KEY MAP



PROJECT LOCATION

LEGEND

- CONFIRMED ASBESTOS CONTAINING MATERIAL > 0.5%
- NON-ASBESTOS CONTAINING MATERIAL
- ▲ CONFIRMED LEAD PAINT SAMPLING LOCATION
- △ NON-LEAD BASED PAINT SAMPLING LOCATION
- ASBESTOS CONTAINING TRANSITE WALL BOARD

DRAWING REFERENCE: Figure based on XCG field notes. Site Plan taken from GOOGLE MAPS

NOTE: Location of building, underground utilities, etc. are for reference only and should not be relied upon for detailed design, renovation, or construction purposes. Property boundary and building locations shown may not represent actual surveyed boundaries.

TITLE:
DESIGNATED SUBSTANCES
AND HAZARDOUS MATERIALS
BUILDING F STORAGE
SAMPLE LOCATIONS

LOCATION:
401 KING STREET
PRESCOTT, ONTARIO



DATE: DEC 10/19	DRAWN: GGM	FIGURE: 1
PROJECT No: 1-3266-02-01		



APPENDIX B
LABORATORY CERTIFICATES OF ANALYSIS

Certificate of Analysis

XCG Consulting Limited (Kingston)

4 Cataraqui Street, Woolen Mill, East Wing, Suite 100
Kingston, ON K7K1Z7

Attn: Greg Mallette

Client PO:

Project: 1-3266-02-01

Custody:

Report Date: 4-Nov-2019

Order Date: 30-Oct-2019

Order #: 1944273

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Parcel ID	Client ID
------------------	------------------

1944273-01	F-PB-R-1
1944273-02	F-PB-G-2
1944273-03	F-PB-W-3
1944273-04	F-PB-WH-4
1944273-05	F-PB-GR-5
1944273-06	F-PB-G-6
1944273-07	F-PB-LG-7

Approved By:



Mark Foto, M.Sc.
Lab Supervisor

Any use of these results implies your agreement that our total liability in connection with this work, however arising shall be limited to the amount paid by you for this work, and that our employees or agents shall not under circumstances be liable to you in connection with this work

Certificate of Analysis
Client: XCG Consulting Limited (Kingston)
Client PO:

Report Date: 04-Nov-2019
Order Date: 30-Oct-2019
Project Description: 1-3266-02-01

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Metals, ICP-OES	based on MOE E3470, ICP-OES	4-Nov-19	4-Nov-19

Sample Data Revisions

None

Work Order Revisions/Comments:

None

Other Report Notes:

- n/a: not applicable
- ND: Not Detected
- MDL: Method Detection Limit
- Source Result: Data used as source for matrix and duplicate samples
- %REC: Percent recovery.
- RPD: Relative percent difference.

Certificate of Analysis
 Client: XCG Consulting Limited (Kingston)
 Client PO:

Report Date: 04-Nov-2019
 Order Date: 30-Oct-2019
 Project Description: 1-3266-02-01

Sample Results

Lead				Matrix: Paint
				Sample Date: 24-Oct-19
Paracel ID	Client ID	Units	MDL	Result
1944273-01	F-PB-R-1	ug/g	20	2660
1944273-02	F-PB-G-2	ug/g	20	1620
1944273-03	F-PB-W-3	ug/g	20	1810
1944273-04	F-PB-WH-4	ug/g	20	276
1944273-05	F-PB-GR-5	ug/g	20	35000
1944273-06	F-PB-G-6	ug/g	20	447
1944273-07	F-PB-LG-7	ug/g	20	13700

Laboratory Internal QA/QC

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Matrix Blank									
Lead	ND	20	ug/g						
Matrix Duplicate									
Lead	ND	20	ug/g	ND			0.0	30	
Matrix Spike									
Lead	231		ug/L	ND	91.1	70-130			



Parcel ID: 1944273



Head Office
10-2319 St. Laurent Blvd
Ottawa, Ontario K1G 4J8
1-800-749-1947
paracelparacellabs.com

Chain of Custody
(Lab Use Only)

Page 1 of 1

Client Name: XCG CONSULTING LIMITED
Project Reference: 1-3266-02-01
Contact Name: GREG MALLETT
Quote #: 19-456 XCG
Address: 4 CATARAQUI STREET, KINGSTON, ONT
PO #
Telephone: 613-417-7106
Email Address: GREGM@XCG.COM

Turnaround Time:

1 Day 3 Day
 2 Day Regular

Date Required: _____

Criteria: O. Reg. 153/04 (As Amended) Table RSC Filing O. Reg. 558/00 PWQO CCME SUB (Storm) SUB (Sanitary) Municipality: _____ Other: _____

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

Parcel Order Number: <i>1944273</i>				Required Analyses															
Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken		LEAD													
				Date	Time														
1 F-PB-R-1	P		1	24/10/2019		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2 F-PB-G-2	P		1	24/10/2019		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3 F-PB-W-3	P		1	24/10/2019		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4 F-PB-WH-4	P		1	24/10/2019		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5 F-PB-GR-5	P		1	24/10/2019		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6 F-PB-G-6	P		1	24/10/2019		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7 F-PB-LG-7	P		1	24/10/2019		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8						<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Comments: _____

Method of Delivery: *Fed Ex*

Relinquished By (Sign): <i>[Signature]</i>	Received by Driver/Depot:	Received at Lab: <i>Sumepporn Dokmai</i>	Verified By: <i>[Signature]</i>
Relinquished By (Print): GREG MALLETT	Date/Time:	Date/Time: <i>Oct 30 2019 10:15</i>	Date/Time: <i>10-30-19 10:20</i>
Date/Time: 25/10/2019	Temperature: _____ °C	Temperature: _____ °C	pH Verified [] By: _____

Certificate of Analysis

XCG Consulting Limited (Kingston)

4 Cataraqui Street, Woolen Mill, East Wing, Suite 100
Kingston, ON K7K1Z7
Attn: Greg Mallette

Client PO:
Project: 1-3266-02-01
Custody:

Report Date: 4-Nov-2019
Order Date: 30-Oct-2019

Order #: 1944276

This Certificate of Analysis contains analytical data applicable to the following samples as submitted :

Parcel ID	Client ID
1944276-01	F-GLZ-1A
1944276-02	F-GLZ-1B
1944276-03	F-GLZ-1C
1944276-04	F-TP-2A
1944276-05	F-TP-2B
1944276-06	F-TP-2C

Approved By:



Emma Diaz
Senior Analyst

Any use of these results implies your agreement that our total liability in connection with this work, however arising, shall be limited to the amount paid by you for this work, and that our employees or agents shall not under any circumstances be liable to you in connection with this work.

Certificate of Analysis
 Client: XCG Consulting Limited (Kingston)
 Client PO:

Report Date: 04-Nov-2019
 Order Date: 30-Oct-2019
 Project Description: 1-3266-02-01

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Parcel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1944276-01	24-Oct-19	Grey	Window Glazing	No	Client ID: F-GLZ-1A	
					Non-Fibers	100
1944276-02	24-Oct-19	Grey	Window Glazing	No	Client ID: F-GLZ-1B	
					Non-Fibers	100
1944276-03	24-Oct-19	Grey	Window Glazing	No	Client ID: F-GLZ-1C	
					Non-Fibers	100
1944276-04	24-Oct-19	Grey	Transite Board	Yes	Client ID: F-TP-2A	
					Chrysotile	20
					Non-Fibers	80
1944276-05	24-Oct-19				Client ID: F-TP-2B	
					not analyzed	
1944276-06	24-Oct-19				Client ID: F-TP-2C	
					not analyzed	

** Analytes in bold indicate asbestos mineral content.

Analysis Summary Table

Analysis	Method Reference/Description	Lab Location	NVLAP Lab Code *	Analysis Date
Asbestos, PLM Visual Estimation	by EPA 600/R-93/116	2 - Ottawa West Lab	200812-0	31-Oct-19

* Reference to the NVLAP term does not permit the user of this report to claim product certification , approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Ottawa West Lab: 25 Northside Rd, Unit C Nepean, Ontario K2H 8S1

Work Order Revisions | Comments

None

1944276



TRUSTE
RESPON
RELIABLE.



0: paracelparacellabs.com

Chain of Custody
(Lab Use Only)

Page 1 of 1

Turnaround Time:

- Immediate
- 1 Day
- 4 Hour
- 2 Day
- 8 Hour
- 3 Day
- Regular

Date Required: _____

Client Name: XCG CONSULTING LIMITED	Project Reference: 1-3266-02-01
Contact Name: GREG MALLETTE	Quote #: 19-456 XCG
Address: 4 CATARAQUI STREET KINGSTON	PO #:
Telephone: 613-417-7106	Email Address: GREGM@XCG.COM

ASBESTOS & MOLD ANALYSIS

Matrix: Air Bulk Tape Lift Swab Other Regulatory Guideline: ON QC AB SK Other:

Analyses: Microscopic Mold Culturable Mold Bacteria GRAM PCM Asbestos PLM Asbestos Chatfield Asbestos TEM Asbestos

Parcel Order Number:

1944276

Sample ID	Sampling Date	Air Volume (L)	Analysis Required	Asbestos - Bulk	
				Identify Distinct Building Materials to Be Analyzed (if not specified, all materials identified will be analyzed) *	Positive Stop?
1 F-GLZ-1A,B,C	24/10/2019		PLM	GREY WINDOW GLAZING	<input checked="" type="checkbox"/>
2 F-TP-2A,B,C	24/10/2019		PLM	GREY TRANSITE BOARD	<input checked="" type="checkbox"/>
3					<input type="checkbox"/>
4					<input type="checkbox"/>
5					<input type="checkbox"/>
6					<input type="checkbox"/>
7					<input type="checkbox"/>
8					<input type="checkbox"/>
9					<input type="checkbox"/>
10					<input type="checkbox"/>
11					<input type="checkbox"/>
12					<input type="checkbox"/>

* If left blank, all distinct materials identified in the samples will be analyzed and reported separately as per EPA 600/R-93/116. Additional charges will apply.

Comments:

Method of Delivery:

FedEx

Relinquished By (Sign):	Received at Depot:	Received at Lab:	Verified By:
Relinquished By (Print): GREG MALLETTE		Date/Time: 10/30/19 10:40am	Date/Time: 10/30/19 10:55am
Date/Time: 25/10/2019	Date/Time:		



APPENDIX C
SITE PHOTOGRAPHS



Photo 1: Subject site front view looking south.



Photo 2: Subject site exterior view looking east.



Photo 3: Subject building interior representative finishes.



Photo 4: Asbestos-containing transite board. See sample F-TB-2A.