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DESIGNATED SUBSTANCES AND HAZARDOUS MATERIALS SURVEY
PIN 614185
1149 CONCESSION 2
UXBRIDGE, ONTARIO

Prepared for:

PUBLIC SERVICES AND PROCUREMENT CANADA
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On Behalf of

PARKS CANADA AGENCY
ROUGE NATIONAL URBAN PARK

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ES 1. EXECUTIVE SUMMARY

COLE Engineering Group Ltd. and XCG Consulting Limited, hereafter referred to as the COLE Engineering & XCG Consulting Joint Venture, were retained by Public Services and Procurement Canada (PSPC) on behalf of Parks Canada Agency (PCA) to complete a Designated Substances and Hazardous Material Survey (DSHMS) to update the asbestos inventory and to serve as a resource for PCA in the management of their buildings within the Rouge National Urban Park (RNUP). Properties at the RNUP are represented with a numerical Property Identification Number (PIN).

This DSHMS was conducted at PIN 614185, 1149 Concession 2, in Uxbridge, Ontario (subject building). The investigation was completed to determine if designated substances and hazardous materials are present in the residential building, and what measures, if any, are required to mitigate potential exposure by persons entering the residential building and/or conducting any future demolition or renovations. The residential dwelling was vacant and uninhabitable at the time of the building survey. It should be noted that only a portion of this building was inspected due to the condition of the building. Note that the building was not entered due to safety concerns as part of this DSHMS. The roof of the building was in very poor condition, and ceilings had collapsed in the building. The interior of the building was observed from the doorway, and minimal samples were collected that were within reach of the entrance. No other buildings or structures were located on the property.

The DSHMS involved a review of background information pertaining to the design and use of the residential building, site visit, and collection and testing of building materials suspected of being asbestos-containing materials (ACMs) and potential lead-based paints (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), and other potentially hazardous materials listed in the table below were evaluated, as well as other materials identified by PSPC. 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		
Halocarbons		X	
Coke Oven Emissions	X		
Ethylene Oxides	X		
Isocyanates	X		
Lead		X	X
Mercury		X	
Mould		X	
Polychlorinated Biphenyls (PCBs)		X	
Silica		X	X
Urea Formaldehyde Foam Insulation (UFFI)	X		
Vinyl Chloride	X		
Chemical Storage	X		
Fuel Oil	X		
Waste Oil	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

Due to the condition of the building, and for safety reasons, only the side entrance was accessed as part of this survey. Six types of materials were submitted for laboratory analysis of asbestos. None of the materials were identified to be ACMs. Roofing material sampled did not contain asbestos, but due to the potential presence of additional layers of roofing material these materials are presumed to be asbestos containing. Prior to disturbance, all roofing material layers should be sampled to confirm if they're ACM or undertake Type 3 abatement if required, since the shingles are crumbling and have become friable in nature. Due to the uninhabitable condition of the building, the urgency level is considered moderate; however, if the building was to undergo renovations to make it habitable, the urgency level would be considered high, with immediate repairs required prior to occupancy.. Additional ACMs may be present within the building.

Lead-Containing Paints

The paint in the building generally appeared to be in poor condition. The three paint samples that were collected and submitted to the laboratory for analysis were found to have lead concentrations ranging from <82 parts per million (ppm) to 4,200 ppm. The lead-containing paint in poor condition had a concentration of 4,200 ppm. At the time of the survey, yellow paint in the side entrance hallway and stairwell was in poor condition and had locations of flaking or peeling paint. Due to the uninhabitable condition of the building, the urgency level is considered moderate; however, if the building was to undergo renovations to make it habitable, the urgency level would be considered high, with immediate repairs required prior to occupancy. If the building

is to be demolished, a representative sample for toxicity characteristic leaching procedure (TCLP) should be collected from each type of painted building material and compared to the O. Reg. 347 Schedule 4 standards for waste classification prior to disposal. Due to the condition of the building, and for safety reasons, only the side entrance was accessed during this survey. Additional lead-containing paint may be present within the building. Flaking paints should be cleaned up or removed using power tools with a high-efficiency particulate air (HEPA) filter-equipped vacuum to limit the potential for the spread of lead dust.

Halocarbons

Based on observations made during the site visit, no equipment potentially containing halocarbons was identified at the subject building; however, the majority of the building was not accessed due to safety concerns, and equipment potentially containing halocarbons may be present. Removal or disposal of any refrigeration equipment and/or refrigerant containers is regulated under the Federal Halocarbons Regulation, 2003 and should only be undertaken by qualified licensed individuals.

Mercury

Mercury-containing equipment was not observed at the subject building; however, the majority of the building was not accessed due to safety concerns, and equipment potentially containing mercury may be present. No samples were collected or submitted for laboratory analysis. There is no occupational or environmental concern associated with the small amount of mercury that might be present in thermostats or light fixtures. Prior to any demolition or renovations to the building, thermostats and fluorescent lights that may be disturbed must be handled and if necessary, disposed of in accordance with O. Reg. 490/09 (as amended).

Mould

Mould was visible on the walls of the side entrance stairwell and visible areas of the kitchen. Based on the deterioration of the roof, and the condition of the ceiling, it is expected that additional significant mould growth is present within the remainder of the building not accessed during this survey. Areas of mould larger than 1 square metre should be abated in accordance with "*Mould Abatement Guidelines*," Environmental Abatement Council of Ontario (EACO), Edition (3) 2015.

Polychlorinated Biphenyls (PCBs)

Fluorescent lighting was not observed in the building; however, the majority of the building was not accessed due to safety concerns, and fluorescent light ballasts potentially containing polychlorinated biphenyls (PCBs) may be present. Other equipment potentially containing PCBs may also be present but were not located in the areas inspected during the site visit. Owners of PCB-containing equipment are allowed to continue to use the equipment until the end of its service life, with the storage, handling, transport, and destruction of the PCBs regulated by Environment Canada, SOR 2008-273.

Silica

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

Fuel, Oil, and Waste Oil Storage (Containing Benzene)

No fuel, oil, or waste oil storage was observed at the subject building; however, the majority of the building was not accessed due to safety concerns. Two holes were observed in the side of the building, which may indicate the former presence of a furnace oil AST in the basement. It is unknown if an AST remains at the subject building. Furnace oil is benzene-containing. All fuels and oils should be stored in accordance with the Storage Tank Systems for Petroleum Products and Allied Petroleum Products (SOR/2008-197) requirements.

Summary

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

Material	Sample ID	Description	Location	Quantity (square metres)	Condition	Action (Urgency Level)	Photo
Asbestos (Friable)	614185-RM-01-A,B,C – Presumed	Roofing Material	Residence Roof	90	Poor	Action 6 – Surveillance. Sample prior to any disturbance to confirm ACM, or undertake Type 3 abatement.	Photo 1 and 2
Lead Paint	614185-P-01	Yellow paint	Entrance hall and stairwell	10	Poor	Prior to disturbance, resample all roofing material layers to confirm ACM or undertake Type 1 abatement. Action 2. (Moderate if doing nothing. High if renovation.)	Photo 3 and 5
Halocarbons	-	Refrigerators, air conditioners	Not observed. Building not accessed.	-	-	Manage in accordance with Federal Halocarbon regulation. Dispose of appropriately.	-
Mercury	-	Fluorescent light tubes / thermostat	Not observed. Building not accessed.	-	-	Handled and if necessary, disposed of in accordance with O. Reg. 490/09 (as amended).	-
Mould	-	Possible visible mould observed.	Throughout kitchen and entrance. Likely throughout building.	-	-	Mould abatement - remove and dispose of materials (Moderate; High if to be occupied)	Photo 4
PCBs	-	Fluorescent light ballasts	Not observed. Building not accessed.	-	-	Inspect ballasts for PCB content prior to disposal and dispose of in accordance with Environment Canada SOR 2008-273 if PCB-containing.	-

Material	Sample ID	Description	Location	Quantity (square metres)	Condition	Action (Urgency Level)	Photo
Silica	-	Concrete block / cement floor / plaster walls	Basement foundation / basement floor / throughout	-	Good / good / poor	Prohibit drilling, grinding, cutting, and abrading silica-containing material unless safety precautions taken (wetting and HEPA filter)	-
Fuel oil	-	Furnace oil	Not observed. No fill or vent pipes (holes for possible fill and vent pipes observed). AST in basement may have been removed.	-	-	Manage any fuel oil tank and its contents in accordance with the Storage Tank Systems for Petroleum Products and Allied Petroleum Products (SOR/2008-197) requirements.	-

Notes:
Urgency Level: Identified for ACMs or lead-containing paint in poor condition only. Additional information provided in Section 6.0 for each material.
(High): Immediate repairs required.
(Moderate): Repairs required.
-: Not applicable.

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1. INTRODUCTION

COLE Engineering Group Ltd. and XCG Consulting Limited, hereafter referred to as the COLE Engineering & XCG Consulting Joint Venture, were retained by Public Services and Procurement Canada (PSPC) on behalf of Parks Canada Agency (PCA) to complete a Designated Substances and Hazardous Material Survey (DSHMS) to update the asbestos inventory and to serve as a resource for PCA in the management of their buildings within the Rouge National Urban Park (RNUP). Properties at the RNUP are represented with a numerical Property Identification Number (PIN). The subject site is shown in Figures 1 and 2.

PCA as a federal department has asbestos management policy and guidance documents titled "Parks Canada Asbestos Management Standard" and "Parks Canada Asbestos Management Guide," both dated January 2014. The policy and guideline documents describe PCA's requirements for asbestos management on PCA properties.

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) and PCA, 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, PIN 614185 is located 1149 Concession 2, Uxbridge, Ontario. Currently the building is vacant and uninhabitable. A photo of the exterior of the residential dwelling is included as Photo 1 in Appendix C. Photos of the interior condition of the building, as viewed from the side entrance are also included in Appendix C.

The subject building consists of one vinyl-sided bungalow building with an unknown construction date. The interior construction of the building, as observed from the side entrance, is comprised of plaster walls and vinyl sheet flooring. Insulation observed on the floor of the kitchen and entrance was fiberglass. No other buildings were located on the property.

1.2 Historic Reports

No previous reports were available for the subject building.

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 within a building material, representative samples were collected and submitted for analysis to EMSL Analytical Inc. (EMSL), a National Voluntary Laboratory Accreditation Program (NVLAP) and American Industrial Hygiene Association (AIHA) 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	Halocarbons
Asbestos	Urea formaldehyde foam insulation (UFFI)
Benzene	Mould (limited)
Coke oven emissions	Chemical Storage
Ethylene oxide	Fuel Oil
Isocyanates	Waste Oil
Lead	
Mercury	
Silica	
Vinyl chloride	

3. REGULATIONS AND GUIDELINES

The site is considered a federal site and is governed by the *Canada Labour Code (Part II*, and associated regulations, specifically the *Canada Occupational Health and Safety Regulations (SOR/86-304)*. This code establishes responsibilities and requirements of employers, managers and supervisors who act on behalf of the employer and employees.

Since the standards and qualifications of working with ACMs and lead varies between each provincial and territorial region in Canada, PCA requires that the applicable regional requirements are met for any contracted work (including surveys, testing, removal, etc.). Therefore, the Ontario provincial regulations and guidelines, specifically, Ontario Regulation (O. Reg.) 278/05 *Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations* (as amended), and the MOL guideline "*Lead on Construction Projects*", dated April 2011, documents have been consulted and referenced for this project.

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.

PCA as a federal department has an asbestos management policy and guidance documents titled "Parks Canada Asbestos Management Standard" and "Parks Canada Asbestos Management Guide," both dated January 2014. The policy and guideline documents describe PCA's requirements for asbestos management on PCA properties.

Although, the RNUP is considered federal property and federal regulation apply, O. Reg. 278/05 requirements are also considered as a best practice. 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.

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 Ontario Health and Safety Act (OHSA).

3.1.3 Halocarbons

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. "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. Therefore, residents in a home are unlikely to be exposed. 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.

3.1.5 Mould

The presence of mould was not included in the scope of work for this project. As such XCG and COLE did not conduct any inspections specific to mould growth. If significant mould growth was observed a note was made, however sampling of moulds was not conducted.

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

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 are allowed to continue to use the equipment until the end of its service life, with the storage, handling, transport, and destruction of the PCBs regulated by 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. Silica exposure is a particular concern from airborne silica dust during renovation, demolition, or construction activities There is no personal, occupational or environmental concern associated with silica in its current state and condition. Therefore, residents in a home are unlikely to be exposed. 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.

Manage silica containing dust during renovations in accordance with applicable legislative requirements.

3.1.8 UFFI

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 in 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 and hazardous materials that were part of the survey are regulated by the following Ontario or Canadian regulations include acrylonitrile, arsenic, benzene, coke oven emissions, ethylene oxide, isocyanates, and vinyl chloride.

These designated substances are typically found in industrial settings and are unlikely to be located within the residential dwelling, with the exception of benzene, which is present within the furnace oil in the AST in the basement.

4. SURVEY METHODOLOGY

Ms. Amy Cardiff and Ms. Rebecca Bach of XCG conducted the DSHMS on November 27, 2018. Ms. Cardiff and Ms. Bach were unaccompanied during the site inspection.

The fieldwork was conducted in accordance with XCG and COLE's standard field procedures and health and safety measures. Details regarding the approach used in conducting the field investigations including sampling procedures and analytical methodologies are outlined in this section.

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 not used, as the building was occupied, and occupancy was to be on-going.

4.1 Site Observations

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;
- Mechanical Systems (i.e. pipe wrap);
- Chemical Storage Areas; and
- Fuel, Oil, and Fuel Oil Storage Areas.

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 EMSL for asbestos and lead analysis.

Observations were made of possible visible mould; however, no samples were submitted for laboratory analysis, as this was outside the scope of work for this project.

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

4.2 Confirmatory Sampling

A sufficient number of samples were collected to conclusively identify suspect materials. Duplicate sampling is included as part of the multiple asbestos samples collected (minimum of three) following O. Reg. 278/05. One sample of each paint colour was submitted for laboratory analysis; however, laboratory duplicates are analyzed on one of every 20 samples. Discretion was used to avoid testing duplicate

materials. The samples were collected and handled according to applicable occupational health and safety regulations.

4.3 Record Keeping

Prior to the on-site survey and sampling, a unique and logical sample identification system was developed. This sample identification consisted of the following:

- Property PIN identifier;
- Sample identification; and
- Sequential sample number.

The information on the sample identification, location collected, physical description, condition of material sampled, and quantity of material was collected during the survey.

4.3.1 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.

The following suspected ACMs were sampled: plaster, caulking, a black tar-like material, sheet flooring, and roofing materials. Bulk samples of materials suspected of containing asbestos were collected and were later submitted to EMSL for analysis by polarized light microscopy (PLM) with dispersion staining, following USEPA Method 600/R-93/116 under chain of custody protocol or by the qualitative transmission electron microscopy (TEM) and gravimetric reduction method.

4.3.2 Sampling of Suspected Asbestos-Containing Materials

During the survey of the building, a sufficient number of bulk samples were collected to meet the requirements of O. Reg. 278/05 and the "Parks Canada Asbestos Management Standard" and "Parks Canada Asbestos Management Guide," both dated January 2014, and submitted for laboratory analysis in order to determine the existence and quantities of friable and non-friable asbestos containing materials present in the project area. Each of the layers of a material suspected of containing asbestos were sampled.

4.3.2.1 Sampling of Friable Materials

During the sampling of any friable materials suspected of containing asbestos, a respirator was worn, and the following sampling procedure was used.

1. The surface of the material to be sampled was first wetted using a spray bottle to apply the water.
2. A sample was obtained by slowly pushing the sampler (i.e. knife blade) into the material with a twisting motion, until the entire thickness was penetrated. Wetting was continued through the entire process. The sampler was then extracted.
3. The sample was then ejected into a sealable plastic sample bag and labelled as described in Section 4.3.

4. The sampler was thoroughly cleaned after the collection of each sample to avoid potential cross contamination of samples. This cleaning was done by wiping down the blade with water.

4.3.2.2 Sampling of Non-Friable Materials

The following sampling procedure was used during the sampling of any non-friable materials suspected of containing asbestos.

1. A sample was obtained by slowly pushing the sampler (i.e. knife blade) into the material with a twisting motion. The sampler was then extracted.
2. The sample was then ejected into a sealable plastic sample bag and labelled. In the case of vinyl tiles, a small portion of broken tile was collected, or a hammer and chisel were used to score the tile and then break a piece off.
3. The sampler was thoroughly cleaned after the collection of each sample to avoid potential cross contamination of samples by wiping down the sampler with water.

4.3.3 Accessibility and Action Matrix

The location, approximate volume/area, condition and accessibility of all potential ACMs was recorded in accordance with guidance provided in the Parks Canada Asbestos Management Guide (January 2014). Recommended asbestos control actions were identified based on the condition and accessibility of each confirmed/assumed ACM in accordance with the Action Matrix as defined in Table 6.1 of the Parks Canada Asbestos Management Guide, reproduced below.

The accessibility of building materials suspected of containing asbestos was rated in the field according to the criteria listed in Table 2.

Table 2 Accessibility of Building ACMs

Access Category	Definition
Access A	Areas of the building within reach (from floor level) of all building users.
Access B	Frequently entered maintenance areas within reach of maintenance staff, without the need of a ladder.
Access C (Exposed)	Areas of the building above 2.4 metres where use of a ladder is required to reach the ACM.
Access 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.
Access 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 ACM.

The Action Matrix provided below establishes the recommended asbestos control action depending on two variables: the condition of the ACM and the access level. The actions that correspond to this table are described below the table.

Access	ACM Condition			Debris
	Good	Fair	Poor	
(A)	ACTION 4 or 6[1]	ACTION 4 or 5[2]	ACTION 3	ACTION 1
(B)	ACTION 4 or 6	ACTION 5 or 4[3]	ACTION 3	ACTION 1
(C) exposed	ACTION 4 or 6	ACTION 4 or 5	ACTION 2	ACTION 2
(C) concealed	ACTION 4 or 6	ACTION 4 or 6	ACTION 2	ACTION 2
(D)	ACTION 6	ACTION 6	ACTION 6	ACTION 6

NOTES:

[1] If material in ACCESS (A)/GOOD condition is not removed, ACTION 6 is required.

[2] If material in ACCESS (A)/FAIR condition is not removed, ACTION 5 is required.

[3] Remove ACM in ACCESS (B)/FAIR condition if ACM is likely to be disturbed.

ACTION DESCRIPTIONS

ACTION 1 Immediate clean-up of debris that is likely to be disturbed

Restrict access that is likely to cause a disturbance of the ACM debris and arrange for immediate clean up of ACM debris in accordance with appropriate Work Type procedures.

ACTION 2 Limit/Restrict entry into areas where ACM is present and likely to be disturbed by access, or where ACM debris is present, until ACM or ACM debris is removed.

Restrict access to the area to authorized staff or asbestos contractor personnel. At locations where ACM debris can be temporarily isolated, use appropriate means to limit entry to the area until the ACM debris has been removed, and the source of the debris has been stabilized or removed.

ACTION 3 ACM removal

Arrange for removal of ACM in accordance with appropriate Work Type procedures.

ACTION 4 Optional ACM removal

If merited by a cost/benefit analysis, arrange for removal of ACM in lieu of repair, or at locations where the presence of asbestos in GOOD condition is not desirable.

ACTION 5 ACM repair

Arrange for repair ACM found in FAIR condition, and not likely to be damaged again or disturbed by normal use of the area or room. Upon completion of the repair work, treat ACM as material in GOOD condition and implement ACTION 6. If ACM is likely to be damaged or disturbed, during normal use of the area or room, implement ACTION 4.

ACTION 6 Routine surveillance

Institute routine surveillance of the ACM, in accordance with appropriate Work Type procedures.

4.3.4 Lead

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 submitted to EMSL and analyzed by USEPA Method SW-846 Flame Atomic Absorption Spectrophotometry.

4.4 Quality Assurance and Quality Control

Each sample was collected in a clean single use sample bag suitable for lead and asbestos sample collection. All sample bags were labelled with the appropriate sample ID at the time of sample collection. Additional quality assurance and control procedures included: dedicated one-use sealable sample bags, the use of disposable nitrile gloves for all sample collection activities; and cleaning tools between samples by damp wiping with a single use moist towelette, or a single use wet paper towel.

Asbestos sampling requires a minimum of three samples for each suspect sample material collected in determination of the asbestos fibre concentration. Duplicate samples are built into the required number of samples as per the regulation.

Lead in paint samples are collected as a single sample for each of the suspected lead containing surface coatings. Samples collected were representative of the colour of the top layer of paint; however, multiple layers of paint down to the base layer were collected if possible. Laboratory duplicates were relied upon, which for this project is one laboratory duplicate per 20 samples.

All requested sample analysis was filled into a laboratory chain of custody prior to shipment. All samples were shipped or dropped off at the laboratory with the corresponding chain of custody for confirmation of receipt at the laboratory.

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.

Suspected Designated Substances and Potentially Hazardous Materials

Substance	Not Identified	Potentially Present	Determined Present
Acrylonitrile	X		
Arsenic	X		
Asbestos		X	
Benzene	X		
Halocarbons		X	
Coke Oven Emissions	X		
Ethylene Oxides	X		
Isocyanates	X		
Lead		X	X
Mercury		X	
Mould		X	
Polychlorinated Biphenyls (PCBs)		X	
Silica		X	X
Urea Formaldehyde Foam Insulation (UFFI)	X		
Vinyl Chloride	X		
Chemical Storage	X		
Fuel Oil	X		
Waste Oil	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 plaster, caulking, a black tar-like material, sheet flooring, and roofing materials. One type of plaster from the first floor, two types of caulking from the exterior windows and doors, one type of black caulking or tar-like material from the exterior foundation walls, and one type of roofing materials collected from the ground, were collected and submitted for laboratory analysis. The insulation observed in the building consisted of fiberglass batt insulation and is not a suspected ACM and was therefore not sampled. Roofing material sampled did not contain asbestos, but due to the potential presence of additional layers of roofing material these materials are presumed to be asbestos containing. 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. Samples of these paints were collected and submitted for laboratory analysis.

5.1.3 Halocarbons

Based on observations made during the site visit, no equipment potentially containing halocarbons was identified at the subject building; however, the majority of the building was not accessed due to safety concerns, and equipment potentially containing halocarbons may be present.

5.1.4 Mercury

Mercury-containing equipment was not observed at the subject building; however, the majority of the building was not accessed due to safety concerns, and equipment potentially containing mercury may be present. No samples were collected or submitted for laboratory analysis.

5.1.5 Mould

Possible visible mould was visible on the walls of the side entrance stairwell and visible areas of the kitchen. Based on the deterioration of the roof, and the condition of the ceiling, it is expected that additional significant mould growth is present within the remainder of the building not accessed during this survey. No samples were collected or submitted for laboratory analysis.

5.1.6 PCBs

Fluorescent lighting was not observed in the building; however, the majority of the building was not accessed due to safety concerns, and fluorescent light ballasts potentially containing polychlorinated biphenyls (PCBs) may be present.

5.1.7 Silica

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

5.1.8 Fuel, Oil, and Waste Oil Storage (Containing Benzene)

No fuel, oil, or waste oil storage was observed at the subject building; however, the majority of the building was not accessed due to safety concerns. Two holes were observed in the side of the building, which may indicate the former presence of a furnace oil AST in the basement. It is unknown if an AST remains at the subject building. Furnace oil is benzene-containing. All fuels and oils should be stored in accordance with the Storage Tank Systems for Petroleum Products and Allied Petroleum Products (SOR/2008-197).

5.2 Summary of Laboratory Results

Figure 1 identifies the sample collection locations for both ACM and lead-based paint on the first floor of the subject building. Figure 2 identifies the location of the confirmed designated substances on the first floor. Laboratory certificates of analysis

from the laboratory are provided in Appendix B. Select photographs showing ACM and lead-based paint locations within the building are presented in Appendix C.

5.2.1 Asbestos Containing Materials

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

5.2.2 Lead-Based Paint

Table 4 provides a summary of the paint samples analysed for the surveyed areas within 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]	Action Level[5] (Urgency Level[6])	Comments	Photo
2018 DSHMS											
614185-PL-01-A,B,C,D,E	White and grey plaster	Side entrance	ND	-	-	-	-	-	-	-	-
614185-CK-01-A,B,C	White caulking	Windows and doors	ND	-	-	-	-	-	-	-	-
614185-TA-01-A,B,C	Black caulking or tar	Exterior foundation wall	ND	-	-	-	-	-	-	-	-
614185-RM-01-A,B,C	**Black roofing materials**	**Found on ground**	**ND – Presumed**	**-**	**90 m^2**	**Poor**	**C (exposed)**	**Friable**	**Action 2 (Moderate) if doing nothing. (High) if renovation.**	**Prior to disturbance, resample all roofing material layers to confirm ACM or undertake Type 3 abatement.**	**Photo 1**
614185-CK-02-A,B,C	Weathered white soft caulking	Exterior door	ND	-	-	-	-	-	-	-	-
614185-SF-01-A,B,C	Off-white with black flecks	Kitchen	ND	-	-	-	-	-	-	-	-

Sample ID	Sample Description	Location	Asbestos Content	Historic Results	Quantity[1]	Condition[2]	Accessibility[3]	Friability[4]	Action Level[5] (Urgency Level[6])	Comments	Photo

Notes:

ND Asbestos not detected.

Bold Asbestos containing material with a concentration equal to or greater than 0.5% asbestos.

1. Quantity is provided for only materials found or suspected to be asbestos-containing.
2. Condition is ranked as Good, Fair, or Poor in accordance with PCA Asbestos Management Guide – 2014.
3. Accessibility is rated (for friable, asbestos-containing samples only) as discussed in Section 4.3.3:
   - 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.
4. Friability is assessed as friable or non-friable.
5. Action Level is ranked based on PCA Asbestos Management Guide – 2014 as discussed in Section 4.3.3:
   - ACTION 1 Immediate clean-up of debris that is likely to be disturbed;
   - ACTION 2 Limit/Restrict entry into areas where ACM is present and likely to be disturbed by access, or where ACM debris is present, until ACM or ACM debris is removed;
   - ACTION 3 ACM removal;
   - ACTION 4 Optional ACM removal (cost/benefit analysis);
   - ACTION 5 ACM repair (Arrange for repair ACM found in FAIR condition, and not likely to be damaged again or disturbed by normal use of the area or room. Upon completion of the repair work, treat ACM as material in GOOD condition and implement ACTION 6. If ACM is likely to be damaged or disturbed, during normal use of the area or room, implement ACTION 4); and
   - ACTION 6 Routine surveillance.
6. Urgency Level: Identified for ACMs in poor condition only. Additional information provided in Section 6.0 for each material.
   (High): Immediate repairs required.
   (Moderate): Repairs required.

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	Action Level (Urgency Level)	Photo
2018 DSHMS								
614185-P-01	**Yellow paint**	**Entrance hall and stairwell**	**4,200**	**-**	**10**	**Poor**	**Remove chipped or flaking paint and paint over damaged areas. (Moderate – if doing nothing, High – if renovations) If the building is to be demolished, samples for TCLP should be compared to the O. Reg. 347 Schedule 4 standards for waste classification prior to disposal.**	**Photo 3 and 5**
614185-P-02	White paint	Basement stairwell	<83	-	-	-	-	-
614185-P-03	White paint	Exterior side door	<82	-	-	-	-	-

Notes:

Bold Lead-containing paint with a concentration equal to or greater than 90 ppm.

Urgency Level: Identified for lead-containing paint in poor condition only. Additional information provided in Section 6.0 for each material.

(High): Immediate repairs required.

(Moderate): Repairs required.

-: Not applicable

Table A-1 provides a summary of the results of the asbestos analysis and presumed ACM for the subject building. Table A-2 provides a summary of the paint samples analysed for lead in the surveyed areas within the subject building. Table A-3 indicates that no mercury or PCB-containing equipment was observed within the subject building. Tables A-1 to A-3 are presented in Appendix A.

Figure 1 identifies the sample collection locations for both ACM and lead-based paint on the first floor of the subject building. Figure 2 identifies the location of the confirmed designated substances on the first floor.

Laboratory certificates of analysis from the laboratory are provided in Appendix B. Select photographs showing the designated substance locations within the building are presented in Appendix C and identified on Tables 3 and 4, above.

6. DISCUSSION AND RECOMMENDATIONS

Asbestos-containing materials and lead-based paint were confirmed in select samples collected from the building. Building materials or equipment suspected to contain mercury, halocarbons, and PCBs were not observed at the subject building; however, the entire building was not accessed due to safety concerns and may be present. Building materials containing silica were observed at the subject building. Mould was identified on walls and cupboards in the side entrance stairwell and kitchen. A furnace oil AST was not observed; however, holes in the side of the building indicated that an AST may have historically been present. The basement was not accessed, and it is unknown if the AST remains at the subject site. Based on the conditions observed, building materials containing designated substances or potentially hazardous materials can remain in place provided they are managed accordingly and not damaged or disturbed.

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

Asbestos-Containing Materials

Six types of materials were submitted for laboratory analysis of asbestos. None of the materials were identified to be ACMs. Roofing material sampled did not contain asbestos, but due to the potential presence of additional layers of roofing material these materials are presumed to be asbestos containing. Prior to disturbance, resample all roofing material layers to confirm ACM or undertake Type 3 abatement if required, since the shingles are crumbling and have become friable in nature. Due to the uninhabitable condition of the building, the urgency level is considered moderate; however, if the building was to undergo renovations to make it habitable, the urgency level would be considered high, with immediate repairs required prior to occupancy. Due to the condition of the building, and for safety reasons, only the side entrance was accessed during this survey. Additional ACMs may be present within the building.

Airborne asbestos fibres can be generated through such processes as drilling, grinding, cutting, and abrading non-friable asbestos-containing material, or by crumbling or deteriorating friable asbestos-containing materials. Precautions must be taken to prevent asbestos-containing particles from becoming airborne during the application of such processes. All handling and removal of asbestos should be conducted as specified in O. Reg. 278/05 (amended to O. Reg. 493/09) and PCA Guide.

The type of repair and/or removal procedures to be conducted is defined on a case-by-case basis. Prior to disturbance, resample all roofing material layers to confirm ACM or undertake Type 3 abatement if required. Prior to renovation or demolition, sample any additional potential ACMs identified within the building. All ACM materials should remain undisturbed by building occupants.

Any suspect material encountered should be treated as asbestos-containing unless otherwise indicated by sampling and analytical testing. If additional asbestos materials (currently hidden or inaccessible) are identified as future renovation or demolition

work proceeds, these materials should be examined, tested, and handled appropriately. Any asbestos removal should be completed by a trained abatement contractor.

Lead

The paint in the building generally appeared to be in poor condition. The three paint samples that were collected and submitted to the laboratory for analysis were found to have lead concentrations ranging from <82 ppm to 4,200 ppm. The lead-containing paint in poor condition had a concentration of 4,200 ppm. At the time of the survey, yellow paint in the side entrance hallway and stairwell was in poor condition and had locations of flaking or peeling paint. Due to the uninhabitable condition of the building, the urgency level is considered moderate; however, if the building was to undergo renovations to make it habitable, the urgency level would be considered high, with immediate repairs required prior to occupancy. Due to the condition of the building, and for safety reasons, only the side entrance was accessed during this survey. Additional lead-containing paint may be present within the building. If the building is to be demolished, a representative sample for TCLP should be collected from each type of painted building material and compared to the O. Reg. 347 Schedule 4 standards for waste classification prior to disposal. If lead-containing paints are not flaking, they may be painted over to reduce further deterioration. Flaking paints should be cleaned up or removed to limit the potential for the spread of lead dust, including the use of a drop-sheet and a HEPA filter equipped vacuum. This should be done following, at minimum, Type 1 procedures as outlined in the MOL guideline "*Lead on Construction Projects*" dated April 2011. Lead containing paints should not be disturbed by sanding, heat gun removal etc. as this leads to airborne lead. If paint is to be disturbed, the MOL guideline "*Lead on Construction Projects*" dated April 2011, outlines a classification system and control measures to limit worker exposure and should be consulted. In particular, if flaking paints are to be removed by scraping or sanding using non-powered hand tools, the use of a half-mask particulate respirator with N-, R-, or P-series filter and 95, 99, or 100% efficiency is recommended. During any demolition or renovation activities, lead containing paints should be managed in accordance with O. Reg. 490/09 and the MOL guideline "*Lead on Construction Projects*" dated April 2011. Any suspect lead-based paint encountered should be treated as such unless otherwise indicated by sampling and analytical testing. If additional lead-based paint (currently hidden or inaccessible) is identified, these materials should be examined, tested, and handled appropriately.

Given the age of the building, it is possible that some of the plumbing might contain lead-based solder and/or lead-based pipe. Disturbance of lead containing materials should be managed to ensure lead dust is not generated during any demolition or renovation activities. During any demolition or renovation activities, these materials should be managed in accordance with O. Reg. 490/09. If the materials are not to be recycled, the materials should be disposed of in accordance with O. Reg. 347 as amended.

Halocarbons

Based on observations made during the site visit, no equipment potentially containing halocarbons was identified at the subject building; however, the majority of the building was not accessed due to safety concerns, and equipment potentially

containing halocarbons may be present. Removal or disposal of any refrigeration equipment and/or refrigerant containers is regulated under the Federal Halocarbons Regulation, 2003 and should only be undertaken by qualified licensed individuals.

Mercury

Mercury-containing equipment was not observed at the subject building; however, the majority of the building was not accessed due to safety concerns, and equipment potentially containing mercury may be present. No samples were collected or submitted for laboratory analysis. There is no occupational or environmental concern associated with the small amount of mercury that might be present in thermostats or light fixtures. Prior to any demolition or renovations to the building, the fluorescent lights that may be disturbed must be handled and if necessary, disposed of in accordance with O. Reg. 490/09 (as amended).

Mould

Possible visible mould was visible on the walls of the side entrance stairwell and visible areas of the kitchen. Based on the deterioration of the roof, and the condition of the ceiling, it is expected that additional significant mould growth is present within the remainder of the building not accessed in during this survey. Areas of mould larger than 1 square metre should be abated in accordance with "*Mould Abatement Guidelines*," Environmental Abatement Council of Ontario (EACO), Edition (3) 2015.

Polychlorinated Biphenyls (PCBs)

Fluorescent lighting was not observed in the building; however, the majority of the building was not accessed due to safety concerns, and fluorescent light ballasts potentially containing polychlorinated biphenyls (PCBs) may be present. Other equipment potentially containing PCBs may also be present but were not located in the areas inspected during the site visit. Owners of PCB-containing equipment are allowed to continue to use the equipment until the end of its service life, with the storage, handling, transport, and destruction of the PCBs regulated by Environment Canada, SOR 2008-273.

Silica

Concrete and mortar-based building materials were observed at the building and are likely to contain silica. 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.

Fuel, Oil, and Waste Oil Storage (Containing Benzene)

No fuel, oil, or waste oil storage was observed at the subject building; however, the majority of the building was not accessed due to safety concerns. Two holes were observed in the side of the building, which may indicate the former presence of a furnace oil AST in the basement. It is unknown if an AST remains at the subject

building. Furnace oil is benzene-containing. All fuels and oils should be stored in accordance with the Storage Tank Systems for Petroleum Products and Allied Petroleum Products (SOR/2008-197) requirements.

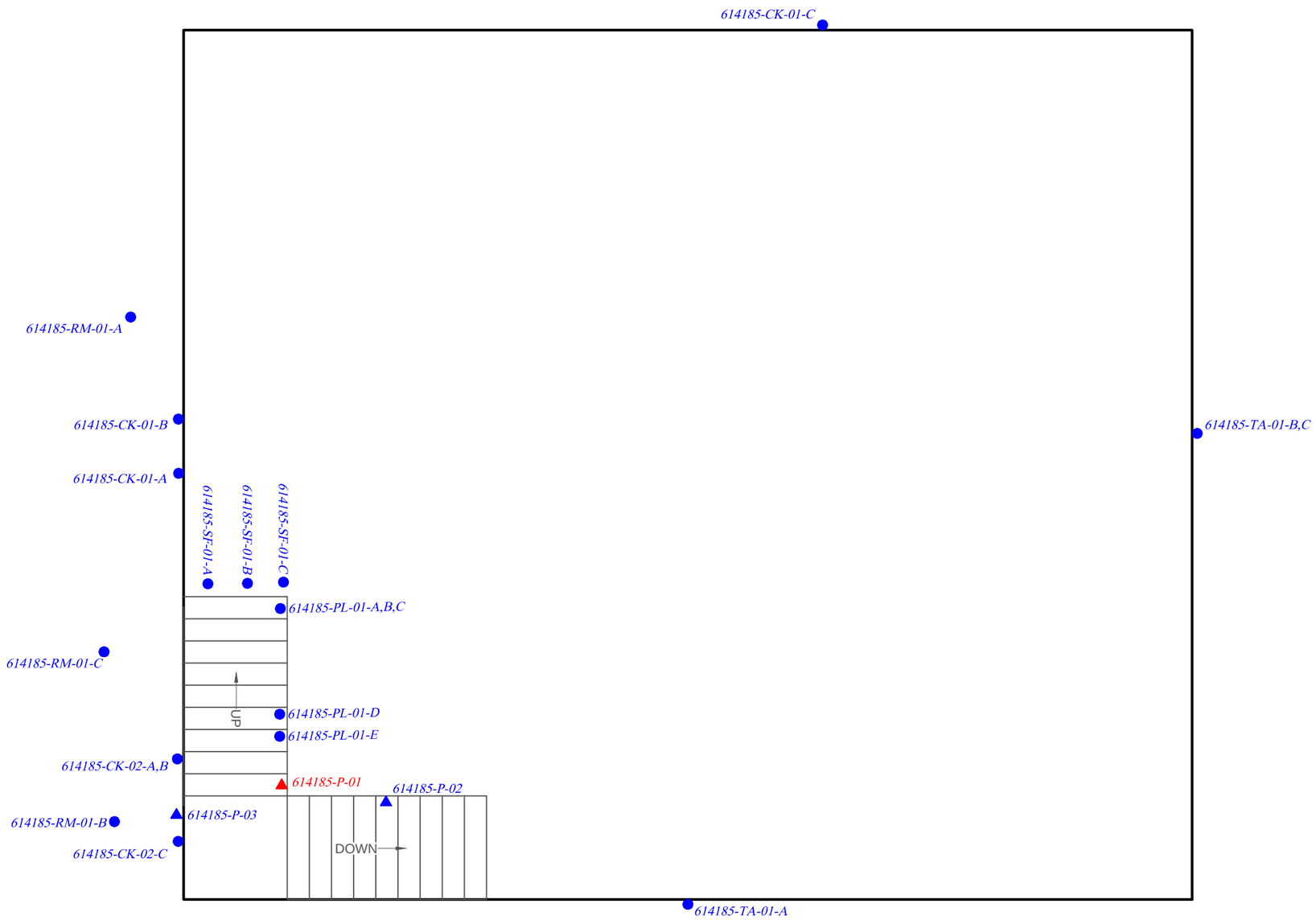
7. LIMITATIONS

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. COLE Engineering & XCG Consulting Joint Venture cannot be held responsible for conditions that were not apparent from documentation supplied to COLE Engineering & XCG Consulting Joint Venture.

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, COLE Engineering & XCG Consulting Joint Venture 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 the current owner and the current owner's 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.

8. FIGURES



NON-ASBESTOS CONTAINING SAMPLES

CONFIRMED ASBESTOS CONTAINING SAMPLES

PAINT SAMPLES NOT EXCEEDING LEAD STANDARDS

CONFIRMED LEAD CONTAINING PAINT SAMPLES

NOTE:
DUE TO SAFETY CONCERNS, THE BUILDING WAS NOT ENTERED. ADDITIONAL ACMS AND/OR LEAD-CONTAINING PAINT MAY BE PRESENT

0 1 2m

SAMPLING LOCATIONS
FIRST FLOOR

PIN 614185
1149 CONCESSION 2
UXBRIDGE, ONTARIO

XCG Environmental Engineers & Scientists
COLE

DATE	JOB NO.	FIGURE NO.
JAN. 2019	5-336-200-01	1

DRAWING REFERENCE: Figure based on OMAFRA online mapping (Agmaps) and XCG field notes.
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.

SHEET: DSS5336200001101FIG01.pdf
FILE: DSS5336200001101.dwg

CONFIRMED LEAD-CONTAINING PAINT (WALL)

NOTE:
DUE TO SAFETY CONCERNS, THE BUILDING WAS NOT ENTERED. ADDITIONAL ACMS AND/OR LEAD-CONTAINING PAINT MAY BE PRESENT

0 1 2m

DSHMS LOCATIONS
FIRST FLOOR

PIN 614185
1149 CONCESSION 2
UXBRIDGE, ONTARIO

XCG Environmental Engineers & Scientists
COLE

DATE	JOB NO.	FIGURE NO.
JAN. 2019	5-336-200-01	2

DRAWING REFERENCE: Figure based on OMAFRA online mapping (Agmaps) and XCG field notes.
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.

SHEET: DSS533620001101FIG02.pdf
FILE: DSS533620001101.dwg

APPENDIX A
TABLES

Asbestos Inventory - 1149 Concession 2, Uxbridge

Location Reference	Floor	Room	Specific Location	Material Description	Accessibility	Friability (Friable, Non-Friable)	Asbestos Type	% Present	Condition (Good, Fair, Poor, Abated, None)	Approximate Quantity	Sample I.D.	Date	Control Action (Urgency Level)	Comments
614185	First	Roof and ground	Roof	Black shingles	C (exposed)	Friable	-	ND - Presumed	Poor	90 m^2	614185-RM-01-A,B,C	27-Nov-18	Action 2 - Restrict entry until removed. Sample prior to any disturbance to confirm ACM, or undertake Type 1 abatement.	Roofing materials collected from ground. Rooofing Materials collected may not represent all layers therefore sampling should be completed before any disturbance.

Notes:
1. Asbestos disturbance, abatement, transportation, and disposal shall be performed in accordance with requirements of (O.Reg. 278/05, O.Reg. 347/90).
2. All quantities, as provided, are approximations. Quantities, conditions, and locations of asbestos-containing materials are to be confirmed on-site by contractors prior to project bidding, removal or disturbance.
3. The survey did not include an intrusive, destructive investigation for concealed materials in every room. As a result, materials that may be present behind or above solid building material finishes are not included as part of the above database, unless otherwise stated.
4. '-' indicates 'not applicable'.
5. Urgency levels identified for ACMs in poor condition only. High: Immediate repairs required. Moderate: Repairs required.

Lead Paint Inventory - 1149 Concession 2, Uxbridge

Location Reference	Floor	Room	Specific Location	Material Description	Lead Concentration	Condition (Good, Fair, Poor, Abated, None)	Approximate Quantity	Sample I.D.	Date	Control Action (Urgency Level)	Comments
614185	First	Entrance, stairwell	Walls	Yellow paint	4,200 ppm	Poor	10 m^2	614185-P-01	27-Nov-18	Remove chipped or flaking paint and paint over damaged areas. (Moderate if doing nothing. High if renovation or demolition)	Blue paint observed underneath

Notes:

1. Lead disturbance, abatement, transportation and disposal shall be performed in accordance with requirements of O. Reg. 490/09, as amended, O. Reg. 347, as amended, and the Ontario Ministry of Labour "Guideline – Lead on Construction Projects," dated April 2011.
2. All quantities, as provided, are approximations. Quantities, conditions, and locations of asbestos-containing materials are to be confirmed on-site by contractors prior to project bidding, removal or disturbance.
3. The survey did not include an intrusive, destructive investigation for concealed materials in every room. As a result, materials that may be present behind or above solid building material finishes are not included as part of the above database, unless otherwise stated.
4. '-' indicates 'not applicable'.
5. Urgency levels identified for lead-containing paint in poor condition only. High: Immediate repairs required. Moderate: Repairs required.

Mercury/PCB Inventory - 1149 Concession 2, Uxbridge

Location Reference	Floor	Room	Specific Location	Material Description	Equipment Type	Approximate Quantity	Date	Control Action	Comments
No mercury or PCB containing equipment observed; however, entire building not accessed due to safety concerns.									

Notes:
1. PCB disturbance, abatement, transportation and disposal shall be performed in accordance with requirements of O. Reg.362/90, as amended.
2. Mercury disturbance, abatement, transportation and disposal shall be performed in accordance with requirements of O. Reg. 490/09, as amended and O. Reg. 347, as amended.
3. All quantities, as provided, are approximations. Quantities, conditions, and locations of asbestos-containing materials are to be confirmed on-site by contractors prior to project bidding, removal or disturbance.
4. The survey did not include an intrusive, destructive investigation for concealed materials in every room. As a result, materials that may be present behind or above solid building material finishes are not included as part of the above database, unless otherwise stated.
5. ND indicates not detected.

APPENDIX B

LABORATORY CERTIFICATES OF ANALYSIS

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	551814318
CustomerID:	55XCGC34
CustomerPO:	614185
ProjectID:	RNUP

Attn: **Amy Cardiff**
XCG Consulting Limited
820 Trillium Dr.
Kitchener, ON N2R 1K4

Phone: (519) 741-5774
Fax: (519) 741-5627
Received: 11/29/18 4:58 PM
Collected: 11/27/2018

Project: **5-336-200-01-614185**

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

Client Sample	*Description*	*Collected*	*Analyzed*	*Weight*	*RDL*	*Lead* **Concentration**
614185-P-01		11/27/2018	12/3/2018	0.2463 g	81 ppm	4200 ppm
551814318-0001	Site: Entrance/Stairwell - Yellow					
614185-P-02		11/27/2018	12/3/2018	0.2405 g	83 ppm	<83 ppm
551814318-0002	Site: Basement Stairwell - White					
614185-P-03		11/27/2018	12/3/2018	0.2443 g	82 ppm	<82 ppm
551814318-0003	Site: Exterior Side Door - White					

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 12/06/2018 09:43:07

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 Order 551814325
Customer ID: 55XCGC34
Customer PO: 614185
Project ID: RNUP

Attn: Amy Cardiff
XCG Consulting Limited
820 Trillium Dr.
Kitchener, ON N2R 1K4

Phone: (519) 741-5774
Fax: (519) 741-5627
Collected: 11/27/2018
Received: 11/29/2018
Analyzed: 12/06/2018

Proj: 5-336-200-01-614185 (RNUP)

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: 614185- PL-01-A-Skim Coat ***Lab Sample ID:*** **551814325-0001**
Sample Description: White & Grey Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: 614185- PL-01-A-Base Coat ***Lab Sample ID:*** **551814325-0001A**
Sample Description: White & Grey Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 614185- PL-01-B-Skim Coat ***Lab Sample ID:*** **551814325-0002**
Sample Description: White & Grey Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: 614185- PL-01-B-Base Coat ***Lab Sample ID:*** **551814325-0002A**
Sample Description: White & Grey Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 614185- PL-01-C-Skim Coat ***Lab Sample ID:*** **551814325-0003**
Sample Description: White & Grey Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: 614185- PL-01-C-Base Coat ***Lab Sample ID:*** **551814325-0003A**
Sample Description: White & Grey Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 614185- PL-01-D-Skim Coat ***Lab Sample ID:*** **551814325-0004**
Sample Description: White & Grey Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

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 Order 551814325
Customer ID: 55XCGC34
Customer PO: 614185
Project ID: RNUP

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: 614185- PL-01-D-Base Coat ***Lab Sample ID:*** **551814325-0004A**
Sample Description: White & Grey Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 614185- PL-01-E-Skim Coat ***Lab Sample ID:*** **551814325-0005**
Sample Description: White & Grey Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: 614185- PL-01-E-Base Coat ***Lab Sample ID:*** **551814325-0005A**
Sample Description: White & Grey Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 614185- CK-01-A ***Lab Sample ID:*** **551814325-0006**
Sample Description: Soft White Caulking

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: 614185- CK-01-B ***Lab Sample ID:*** **551814325-0007**
Sample Description: Soft White Caulking

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: 614185- CK-01-C ***Lab Sample ID:*** **551814325-0008**
Sample Description: Soft White Caulking

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: 614185- CK-02-A ***Lab Sample ID:*** **551814325-0009**
Sample Description: Weathered Soft White Caulking

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: 614185- CK-02-B ***Lab Sample ID:*** **551814325-0010**
Sample Description: Weathered Soft White Caulking

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

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EMSL Canada Order 551814325
Customer ID: 55XCGC34
Customer PO: 614185
Project ID: RNUP

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: 614185- CK-02-C ***Lab Sample ID:*** **551814325-0011**
Sample Description: Weathered Soft White Caulking

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: 614185-TA-01-A ***Lab Sample ID:*** **551814325-0012**
Sample Description: Black caulking/tar

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Black	0.0%	100.0%	None Detected	

Client Sample ID: 614185-TA-01-B ***Lab Sample ID:*** **551814325-0013**
Sample Description: Black caulking/tar

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Black	0.0%	100.0%	None Detected	

Client Sample ID: 614185-TA-01-C ***Lab Sample ID:*** **551814325-0014**
Sample Description: Black caulking/tar

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Black	0.0%	100.0%	None Detected	

Client Sample ID: 614185-RM-01-A ***Lab Sample ID:*** **551814325-0015**
Sample Description: Black asphalt shingles

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Black	10.0%	90.0%	None Detected	

Client Sample ID: 614185-RM-01-B ***Lab Sample ID:*** **551814325-0016**
Sample Description: Black asphalt shingles

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Black	10.0%	90.0%	None Detected	

Client Sample ID: 614185-RM-01-C ***Lab Sample ID:*** **551814325-0017**
Sample Description: Black asphalt shingles

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Black	10.0%	90.0%	None Detected	

Client Sample ID: 614185-SF-01-A ***Lab Sample ID:*** **551814325-0018**
Sample Description: Off-white sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
TEM Grav. Reduction	12/06/2018	White	0.0%	100.0%	None Detected	

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Customer ID: 55XCGC34
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Project ID: RNUP

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: 614185-SF-01-B ***Lab Sample ID:*** **551814325-0019**

Sample Description: Off-white sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
TEM Grav. Reduction	12/06/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: 614185-SF-01-C ***Lab Sample ID:*** **551814325-0020**

Sample Description: Off-white sheet flooring

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
TEM Grav. Reduction	12/06/2018	White	0.0%	100.0%	None Detected	

Analyst(s):

Anne Balayboa	PLM (6)
Khaledeh Tahmasbipoor	PLM (16)
Ryan Whittaker	TEM Grav. Reduction (3)

Reviewed and approved by:

Matthew Davis or other approved signatory
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: 12/06/201820:35:32

APPENDIX C

SITE PHOTOGRAPHS

Photo 1: View of the south side of the subject building and potential asbestos-containing roofing materials.

Photo 2: View of the holes in the roof of the building.

Photo 3: View of the condition of the side entrance looking toward the basement of the building.

Photo 4: View of the condition of the kitchen at the subject building, including possible visible mould.

Photo 5: View of the lead-containing yellow paint on the side entrance walls.