HAZARDOUS BUILDING MATERIALS ASSESSMENTS

Parks Canada Buildings
Kluane National Park
Haines Junction, YT

Prepared for:
Parks Canada
c/o Public Works and
Government Services Canada
1650 - 635 8 Avenue SW
Calgary, AB T2P 3M3

Prepared by:
Stantec Consulting Ltd.
202 107 Main Street
Whitehorse, YT, Y1A 2A7
Tel: (867) 633-2400
Fax: (867) 633-2481

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Executive Summary

Stantec Consulting Ltd. (Stantec) was retained by Parks Canada c/o Public Works and Government Services Canada (PWGSC) to conduct hazardous building materials assessments within 17 buildings (subject buildings) associated with Kluane National Park, at two separate locations in Haines Junction, YT.

The purpose of the assessment was to check for potential hazardous building materials that may require special attention in accordance with the Yukon Workers' Compensation Health and Safety Board (WCB) and the current version of the *Yukon Territory Occupational Health and Safety Act and Regulations* (YT OHS Reg.), prior to planned renovation and/or demolition activities.

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

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

A summary of our findings and recommendations is presented below. It should be noted that this summary is subject to the same restrictions and limitations as presented in **Section 4** (Assessment Limitations) and **Section 7** (Closure). The information provided is to be read in conjunction with the remainder of this report.

NOTE: Where particular hazardous building materials are not listed in the following table, they were not identified in that particular building.

Summary of Identified Hazardous Building Materials	
Building Name	**Identified Hazardous Building Materials**
KNP Headquarters	
KNP Headquarters Building	**Asbestos** • White mechanical gaskets in flanges of chilled water supply lines in the penthouse • Black window pane caulking between window frames and glass panes throughout • White 2'x4' ceiling tile – Standard fissure and pinhole (light red backing) throughout • Black HVAC vent caulking around the seams of a vent from the penthouse to the roof • 12"x12" vinyl floor tile – Brown with white streaks in various rooms throughout • Exterior cement panel around the base of exterior walls **Lead** • Grey paint on the floor of the penthouse is lead-containing • Red paint on structural steel components throughout is lead-containing • Beige paint on exterior railings is lead-containing • Lead is expected to be present in solder used in copper domestic pipes, caulking on bell fittings for cast iron drainage pipes, and some electrical equipment **PCBs** • It should be presumed that the majority of ballasts throughout are PCB containing **Mercury** • Four (4) mercury-containing thermostats were observed • Mercury vapour is expected be present in fluorescent light tubes **Mould** • Moisture stained drywall was observed at the top of the South wall in the theater **Ozone-Depleting Substances** • The small air conditioning unit located on the roof is suspected to contain ODSs **Silica** • Silica may be present in concrete, cement, ceramic tiles, and acoustical ceiling tiles observed in various locations throughout
Public Washrooms Building	**Silica** • Silica may be present in concrete and cement observed in various locations throughout

Summary of Identified Hazardous Building Materials	
Building Name	**Identified Hazardous Building Materials**
Farm Site	
Stores Maintenance Building	**Asbestos** • Black window pane caulking between window frames and glass panes throughout • Cream pipe sealant inside fittings of 2" decommissioned black pipes next to water tank in the pump room • White window frame caulking between window frames and siding throughout the exterior • Cream countertop mastic between counters and the wall in then brochure and furniture storage • Grey caulking around loading bay doors both garage and exit doors **Lead** • Grey paint on interior trim is lead-containing • Red paint on structural steel is lead-containing • Lead is expected to be present in solder used in copper domestic pipes, caulking on bell fittings for cast iron drainage pipes, and some electrical equipment **Mercury** • One (1) mercury-containing thermostat was observed • Several suspected mercury containing thermometers were observed in the boiler room • Mercury vapour is expected be present in fluorescent light tubes **Mould** • Moisture stained ceiling tiles were observed in various locations throughout **Silica** • Silica may be present in concrete, cement, ceramic tiles, and acoustical ceiling tiles observed in various locations throughout

Summary of Identified Hazardous Building Materials	
Building Name	**Identified Hazardous Building Materials**
Wardens Office Building	**Asbestos** • Cement panel around the top of the walls in the boiler room. • Pipe fitting insulation throughout (cementitious insulation applied to elbows, t's, and valves) • Pipe straight insulation throughout ("Air-O-Cel" corrugated paper insulation on straight sections of pipe) • Grey/black roof flashing mastic on the seams of the aluminum roof of the basement exit stairwell • 9"x9" vinyl floor tile in basement room 12 (various colours, only the light green tiles are non-ACM) and the associated mastic (including that for the non-ACM light green tiles) • Grey window frame caulking (between window frame and the building) on the exterior of windows throughout • Black (painted brown) flashing sealant between the chimney and the roof • Black window pane caulking (between window frame and glass pane) on windows throughout • Drywall joint compound applied to walls throughout **Lead** • Red/grey paint on the basement corridor floor is lead-containing • Yellow paint on the basement stairwell is lead-containing • Yellow paint on trim throughout the basement is lead-containing • Red paint on the basement floors is lead-containing • Grey paint on the exterior concrete at the front entrance is lead-containing • Orange paint on exterior wood at the front entrance is lead-containing • White paint on exterior trim is lead-containing • Lead is expected to be present in solder used in copper domestic pipes, caulking on bell fittings for cast iron drainage pipes, and some electrical equipment **PCBs** • It is estimated that there are approximately 50 ballasts within the fluorescent light fixtures observed throughout. Based on the age of the building, fluorescent light ballasts may contain PCBs **Mercury** • Mercury vapour is expected be present in fluorescent light tubes **Silica** • Silica may be present in concrete, cement, mortar, ceramic tiles, and acoustic ceiling tiles observed in various locations throughout.

Summary of Identified Hazardous Building Materials	
Building Name	**Identified Hazardous Building Materials**
Vehicle Garage Building	**Asbestos** • Cement panel on interior walls and ceiling throughout • Pipe sealant cream/black inside cast iron pipe fittings throughout • Yellow window frame caulking (painted black) on the exterior of windows at the rear of the building (between window frame and the building • Cream caulking around doors on the exterior of the building • Beige mastic on the backside of corrugated wall panels throughout **Lead** • Grey paint on floors is lead-containing • Lead is expected to be present in solder used in copper domestic pipes, caulking on bell fittings for cast iron drainage pipes, and some electrical equipment **PCBs** • Approximately 33 fluorescent light fixtures were observed throughout. Based on the age of the building the ballasts within these fixtures may contain PCBs. **Mercury** • Two (2) suspected mercury-containing thermostats were observed • Mercury vapour is expected be present in fluorescent light tubes **Silica** • Silica may be present in in concrete, cement, and mortar observed in various locations throughout
Butler Storage Shed	**Asbestos** • Black/grey window pane caulking between window frame and glass pane on exterior of windows beside doors • Grey/white door caulking around the exterior door frames **Lead** • Red paint on the structural steel throughout is lead-containing **Silica** • Silica may be present in concrete and cement observed in various locations throughout
Fire Cache	**Asbestos** • Grey window frame caulking between window frame and building on the exterior **Lead** • Grey paint on the exterior trim is lead-containing • Beige paint on the exterior siding is lead-containing **Silica** • Silica may be present in concrete and cement observed in various locations throughout
Pump House	**Silica** • Silica may be present in concrete and cement observed in various locations throughout
Well Shed	**Silica** • Silica may be present in concrete and cement observed in various locations throughout

Summary of Identified Hazardous Building Materials	
Building Name	**Identified Hazardous Building Materials**
Sewage Treatment Building	**Silica** • Silica may be present in concrete and cement observed in various locations throughout
House 1	**Asbestos** • Heat shields (foil covered) inside round incandescent light fixtures on the main floor and in the basement • 9”x9” vinyl floor tile in basement rooms 4 and 5 (both beige and red) • Grey window pane caulking between window frame and glass pane in main house windows • White ceiling texture coat throughout the main house • Drywall joint compound throughout **Lead** • White paint on exterior walls is lead-containing • Brown paint on exterior trim is lead-containing • Green paint on the thruway door is lead-containing • Lead is expected to be present in solder used in copper domestic pipes, caulking on bell fittings for cast iron drainage pipes, and some electrical equipment **PCBs** • Approximately 7 fluorescent light fixtures were observed throughout. Based on the age of the building, the ballasts within these fixtures may contain PCBs **Mercury** • Mercury vapour is expected be present in fluorescent light tubes **Silica** • Silica may be present in concrete, cement, and ceramic tiles observed in various locations throughout

Summary of Identified Hazardous Building Materials	
Building Name	**Identified Hazardous Building Materials**
House 2	**Asbestos** • Heat shields (foil covered) inside round incandescent light fixtures throughout • Tan squares vinyl sheet flooring in the mudroom • 9”x9” vinyl floor tile, both green and white, in basement room 3 • Drywall joint compound throughout • Grey pipe sealant inside cast iron bell fittings in the basement • Grey window pane caulking between window frame and glass panes throughout **Lead** • Grey paint on the basement floor is lead-containing • Lead is expected to be present in solder used in copper domestic pipes, caulking on bell fittings for cast iron drainage pipes, and some electrical equipment **PCBs** • Two fluorescent light fixtures were observed. The label from one fluorescent light ballast was inspected and based on the label information it is suspected to contain PCBs. Both fluorescent light fixtures are expected to have PCB-containing ballasts. **Mercury** • One (1) mercury-containing thermostat was observed in the living room • Mercury vapour is expected be present in fluorescent light tubes **Mould** • Suspect mould growth was observed on the walls of basement room 3 • Mould growth was identified on drywall in the stairwell corner (sample M-01) • Mould growth was identified on the wood cove base in the basement (sample M-02) **Silica** • Silica may be present in concrete, cement, and ceramic tiles observed in various locations throughout
House 2 Garage	**Silica** • Silica may be present in concrete and cement observed in various locations throughout

Summary of Identified Hazardous Building Materials	
Building Name	**Identified Hazardous Building Materials**
House 3	**Asbestos** • 9”x9” vinyl floor tile, both red and beige, in basement room 3 • Drywall joint compound throughout • Grey window pane caulking between window frame and glass panes throughout **Lead** • Grey paint on the basement floor is lead-containing • White paint on interior walls is lead-containing • Lead is expected to be present in solder used in copper domestic pipes, caulking on bell fittings for cast iron drainage pipes, and some electrical equipment **PCBs** • Two fluorescent light fixtures were observed. Based on the age of the building, fluorescent light ballasts may contain PCBs. **Mercury** • Mercury vapour is expected be present in fluorescent light tubes **Mould** • Suspect mould growth was observed on the walls of basement room 3 **Silica** • Silica may be present in concrete, cement, and ceramic tiles observed in various locations throughout
House 3 Garage	**Silica** • Silica may be present in concrete and cement observed in various locations throughout

Summary of Identified Hazardous Building Materials	
Building Name	**Identified Hazardous Building Materials**
House 4	**Asbestos** • White woven duct tape on seams of furnace ducting in the basement • White duct shields on wooden joists in the basement above furnace ducting • Brown square pattern sheet flooring in the kitchen • Tan spots pattern sheet flooring in the mudroom • Cream vinyl floor tile concealed under carpet and other flooring throughout the majority of the main level • Brown exterior window frame caulking between window frames and the building on the exterior of windows • Drywall joint compound throughout **Lead** • Grey paint on the basement floor is lead-containing • Brown paint on exterior trim is lead-containing • Lead is expected to be present in solder used in copper domestic pipes, caulking on bell fittings for cast iron drainage pipes, and some electrical equipment **PCBs** • Two fluorescent light fixtures were observed. The label from one light fixture ballast was inspected for comparison to the PCB Guide. Although that ballast was confirmed to be non-PCB, the ballast within the other fixture may contain PCBs, based on the age of the building. **Mercury** • One (1) mercury-containing thermostat was observed in the living room • Mercury vapour is expected be present in fluorescent light tubes **Mould** • Suspect mould growth was observed on the walls of basement room 3 **Silica** • Silica may be present in concrete, cement, and ceramic tiles observed in various locations throughout
House 4 Garage	**Lead** • Grey paint on the floor is lead-containing **Silica** • Silica may be present in concrete and cement observed in various locations throughout

Building-by-building summaries of the identified hazardous building materials, as well as building-specific recommendations to address identified hazardous building materials in non-compliant conditions are provided in **Appendix B through Appendix R**. General findings and recommendations pertaining to hazardous building materials within the subject buildings are provided in **Section 5** and **Section 6** of this report.

1.0 INTRODUCTION

Stantec Consulting Ltd. (Stantec) was retained by Parks Canada c/o Public Works and Government Services Canada (PWGSC) to conduct hazardous building materials assessments within 17 buildings (subject buildings) associated with Kluane National Park, at two separate locations in Haines Junction, YT.

The purpose of the assessment was to check for potential hazardous building materials that may require special attention in accordance with the Yukon Workers' Compensation Health and Safety Board (WCB) and the current version of the *Yukon Territory Occupational Health and Safety Act and Regulations* (YT OHS Reg.), prior to planned renovation and/or demolition activities.

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

The site work was conducted by Keith Irwin and Kassandra DeFrancis of Stantec between September 23 and 25, 2014.

1.1 UNDERSTANDING OF THE PROJECT

Stantec understands that Parks Canada is planning renovation activities in the Kluane National Park Headquarters building and the adjacent Public Washroom building as well as demolition of the buildings at the separate Parks Canada Farm Site. As a measure of diligence in maintaining compliance with the requirements of the WCB and the current version of the YT OHS Reg. pertaining to the identification of hazardous materials prior to planned renovation or demolition activities PWGSC/Parks Canada retained Stantec to conduct this assessment.

A list of the buildings included in this assessment is included in **Appendix A**.

2.0 SCOPE AND METHODOLOGY

Keith Irwin and Kassandra DeFrancis of Stantec conducted a visual assessment within the subject buildings between September 23 and 25, 2014. Site work was conducted in general compliance with the requirements of the Canada Labour Code, the WCB, the current version of the YT OHS Reg. and Stantec's Safe Work Practices (SWPs).

Mechanical systems, structures and finishes of the subject buildings were visually examined to determine the suspected presence of ACMs, lead including LCPs, PCBs, mercury, ODSs, mould, and silica. Where building materials were suspected but not confirmed to contain asbestos, lead

(in paint), or mould samples were collected for analysis to confirm or deny the presence of these hazardous materials. Based on analytical results, visually similar materials were referenced to specific analyzed samples to reduce the number of samples collected.

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

2.1 ASBESTOS

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

The presence of asbestos in federal workplaces, and pertaining to federally regulated workers is governed by the Canada Labour Code. The presence of asbestos in the workplace in the Yukon pertaining to territorially regulated workers is governed by the WCB, with provisions published in the current version of the YT OHS Reg. As both federally regulated workers and territorially regulated workers (e.g., contractors) are expected to carry out work activities within the subject buildings, and as the territorial regulations are generally more prescriptive pertaining to asbestos (and generally include the requirements noted in the Canada Labour Code), this assessment was conducted to meet the requirements of the current version of the YT OHS Reg.

According to current version of the YT OHS Reg., asbestos-containing material (ACM) means any material which is found to contain any asbestos.

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

Multiple samples were collected from each “homogenous application” of observed suspected ACMs (materials suspected to contain asbestos that are uniform in material type, colour, texture application and estimated installation date) and submitted to EMSL Canada Inc. (EMSL) in Mississauga, Ontario for analysis of asbestos content using polarized light microscopy (PLM) with dispersion staining, in accordance with the United States Environmental Protection Agency (EPA) 600/R-93/116 method.

The number of samples to be collected for each homogenous application of a suspected ACM was based on accepted occupational hygiene standards and protocols, along with the assessor's experience and understanding of the consistency of that building material's application.

EMSL's analytical laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

2.1.1 Sample Results Interpretation

When asbestos is detected in concentrations greater than one percent for the method used in one of the samples within a set that was collected to represent a "homogenous application" of a particular material, the entire sample set and the entire application of that material is then considered to be an ACM.

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

2.1.2 Potential Asbestos-Containing Vermiculite Insulation

As part of the assessment, Stantec assessed the subject buildings for areas where vermiculite insulation, a potential ACM, would likely be present. This included making note of and assessing attic spaces, floor cavities and masonry or brick walls, which are typical areas where vermiculite is found. Where masonry or brick walls were observed, destructive assessment (drilling) was not conducted to assess the cavity for the presence of vermiculite.

2.1.3 Asbestos Sampling Quality Assurance/Quality Control

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

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

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

2.2 LEAD

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

The presence of lead-containing materials (other than paint) was assessed through visual means.

With respect to potential lead exposures associated with disturbance to surfaces coated with lead-containing products, various occupational health and safety administrations have indicated that working with materials coated with paint that has a lead content that exceeds 600 ppm can lead to exposures in excess of 50% of the occupational exposure limit (OEL) for lead, when the OEL is 0.05 mg/m^3 (the OEL for lead in the Yukon, according to the current version of the YT OHS Reg., is 0.15 mg/m^3).

Prior to disposal, Yukon Environment recommends that analytical results for building materials should be compared to the territorial soil guideline value of 1000 ppm as found in the Contaminated Sites Regulations. As such, and given that the OEL for lead in the Yukon is 3 times that of jurisdictions that reference 600 ppm as lead-containing, Stantec will reference the 1000 ppm value in defining paints as “lead-containing” as the most applicable criteria.

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

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

2.3 POLYCHLORINATED BIPHENYLS

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

The presence of PCB-containing equipment was assessed through visual means. With respect to fluorescent lamp ballasts, due to the risk of electrical shock associated with dismantling operating fixtures, fluorescent lamp ballasts were not removed to view identification numbers/information.

The total number of fluorescent lamp ballasts that may contain PCBs within the subject buildings was approximated.

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

2.4 MERCURY

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

The presence of mercury and mercury-containing equipment was assessed through visual means.

2.5 MOULD

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

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

Two bulk samples were collected from building materials exhibiting visual evidence of suspect mould growth in one of the residences scheduled for demolition. The bulk samples collected were placed into a separate, labeled plastic bag that was sealed and submitted to Sporometrics Inc. (Sporometrics) of Toronto, ON for analysis of the mould forms present.

Sporometrics is accredited through the American Industrial Hygiene Association's Environmental Microbiology Proficiency Analytical Testing (EMPAT) program.

2.5.1 Mould Reference Guidelines

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

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

2.6 OZONE-DEPLETING SUBSTANCES

Chlorofluorocarbons (CFCs) and other ODSs are often found in refrigeration units associated with air-conditioning or other refrigeration equipment. In September 1987, forty-seven countries agreed to the Montreal Protocol on Substances that Deplete the Ozone Layer. Disposal of ODSs are regulated in the Yukon by the Yukon Government's '*Special Waste Regulations*' (2010) and the *Federal Halocarbon Regulations*, 2003 (FHR 2003).

The presence of ODSs and equipment containing these materials was assessed through visual means.

2.7 SILICA

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

Exposure to silica dust is governed by the WCB, with applicable exposure limits indicated in the current version of the YT OHS Reg., depending on the type of silica to be considered (quartz, cristobalite or tridymite).

The presence of silica was assessed through visual means.

3.0 ASSESSMENT LIMITATIONS

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

Sampling was conducted pertaining to suspected ACMs, suspected LCPs and suspect mould only. The assessment for the presence of other hazardous building materials was visual in nature, and was conducted pertaining to readily visible surfaces within accessible spaces only. Concealed spaces were inspected via existing access panels, where present. Interior and exterior finishes, solid ceilings, walls, flooring and structural elements were not removed to access concealed areas. Inspection ports were made in various places where the presence of hazardous building materials was suspected behind solid finishes.

Due to limitations on the agreed to scope of work for this project as well as physical limitations in accessing concealed areas and limitations associated with working in occupied/operational spaces, there are specific limitations to the information that can be provided to each hazardous building material considered in this assessment, as outlined below.

3.1 ASBESTOS

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

- Roofing materials associated with the Kluane National Park Headquarters building and the adjacent Public Washroom
- Sub-grade materials
- Interior components of mechanical equipment (e.g., inner linings or gaskets in boilers)
- Interior components of heating, ventilation and air conditioning (HVAC) units
- Heat protection materials inside mechanical installations (e.g., gaskets) and light fixtures (e.g., paper backing in sealed incandescent fixtures)
- Flooring material concealed beneath ceramic tile, brickwork, hardwood flooring, and/or concealed beneath existing sub-floors
- Drywall and/or wall plaster and associated finish materials concealed behind new and/or additional walls or ceilings
- Woven tape inside duct connection joints or inner ducting insulation

- Materials within wall cavities, hard ceiling cavities or crawlspaces in the Kluane National Park Headquarters building and the adjacent Public Washroom
- Insulation materials inside fire doors.

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

3.2 LEAD

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

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

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

3.3 POLYCHLORINATED BIPHENYLS

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

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

3.4 MERCURY

Visual assessment for the presence of mercury-containing equipment within the subject buildings was conducted in accessible areas only. The presence of mercury or mercury-containing equipment in inaccessible areas includes, but is not limited to: ceiling spaces, wall cavities, and crawlspaces, or as internal parts of HVAC mechanisms.

3.5 MOULD

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

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

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

3.6 OZONE DEPLETING SUBSTANCES

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

3.7 SILICA

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

4.0 FINDINGS

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

- Separate sections with written summaries of findings pertaining to each hazardous building material, including the following:
  - Information regarding the building, including the reported intent for that particular building (e.g., demolition, renovation or continued operation and maintenance)
  - A listing of suspect materials observed

  - Tables including a summaries of the sample types, locations, and analytical results
  - Interpretations of observations and/or sample analytical results.
- Photographs of identified hazardous building materials
- Information pertaining to condition evaluation of identified hazardous building materials
- Building-specific recommendations pertaining to identified hazardous building materials based on the reported intent for that particular building (e.g., demolition, renovation or continued operation and maintenance)
- Floor plan drawings for the subject building, which include locations of the samples collected during this assessment, and locations of identified hazardous building materials (where practical)
- Copies of the Certificates of Analysis for samples analyzed.

It should be noted that evaluation of condition of identified ACMs was conducted using terminology and classifications as outlined in the *Public Works and Government Services Canada Asbestos Management Directive* (DP 057, 1997-12-03), and considered the friability of the material (terminology relating to how easily fibres can be released), condition (good, fair and poor) and accessibility of the material.

5.0 GENERAL RECOMMENDATIONS

Building-specific recommendations pertaining to the identified hazardous building materials that require action are provided in **Appendices B through R**. General recommendations pertaining to management of identified hazardous building materials in for continued operations, renovation and/or demolition are provided below.

5.1 ASBESTOS

5.1.1 Renovation and Continued Operations

For renovation and continued operations, which Stantec understands is planned for the Kluane National Park Headquarters building and the adjacent Public Washroom, the following should be considered pertaining to identified ACMs:

- Identified ACMs that may be impacted during renovations activities should be removed prior to the onset of those activities, in accordance with the requirements of the Canada Labour Code, the WCB and the current version of the YT OHS Reg. It is expected that this will require the involvement of a qualified, licensed asbestos abatement contractor.
- An asbestos exposure control plan (also known as an “asbestos management plan” (AMP) or “asbestos operations and management plan”) should be developed and implemented buildings where ACMs are identified or remain. The AMP would serve to compile the available data, results and reports regarding the presence, extent, handling, removal, and disposal of ACMs within the subject building. The AMP would also provide sections for information regarding future sampling and analysis of suspected ACMs, if required, asbestos-

abatement projects, if undertaken, and other information regarding the management of asbestos within the subject building.

- Identified ACMs that remain in the building and are in good condition can be managed in place, upon development and implementation of an AMP.
- Should a material suspected to contain asbestos fibres become uncovered during renovation activities, all work in the areas that may disturb the material should be stopped. Samples of the suspect material should be submitted for laboratory analysis to determine if asbestos fibres are present. Confirmed asbestos materials should be handled in accordance with applicable guidelines and regulations.
- Suspected ACMs deemed visually similar to the ACMs identified in this report should be considered asbestos-containing and handled as such, unless proven otherwise, through analytical testing.
- Ensure asbestos containing waste is handled, stored, and disposed of in accordance with the requirements of the *Federal Transportation of Dangerous Goods Regulation*, the "*Asbestos Abatement Code of Practice*" (May 2012) and Yukon Environment Special Waste & Solid Waste Regulations document entitled "*Asbestos Disposal*" (2010).

This report should be added to the AMP and referred to as the current ACM record.

5.1.2 Demolition

For demolition, which Stantec understands is planned for buildings at the separate Parks Canada Farm Site, the following should be considered pertaining to identified ACMs:

- Identified ACMs should be removed prior to the onset of demolition, in accordance with the requirements of the Canada Labour Code, the WCB and the current version of the YT OHS Reg. It is expected that this will require the involvement of a qualified, licensed asbestos abatement contractor.
- Should a material suspected to contain asbestos fibres become uncovered during demolition activities, all work in the areas that may disturb the material should be stopped. Samples of the suspect material should be submitted for laboratory analysis to determine if asbestos fibres are present. Confirmed asbestos materials should be handled in accordance with applicable guidelines and regulations.
- Suspected ACMs deemed visually similar to the ACMs identified in this report should be considered asbestos-containing and handled as such, unless proven otherwise, through analytical testing.
- Asbestos-containing cement pipe may be present below ground – caution should be used if excavation is required.
- Ensure asbestos containing waste is handled, stored, and disposed of in accordance with the requirements of the *Federal Transportation of Dangerous Goods Regulation*, the "*Asbestos Abatement Code of Practice*" (May 2012) and Yukon Environment Special Waste & Solid Waste Regulations document entitled "*Asbestos Disposal*" (2010).

5.2 LEAD

Lead-containing materials and LCPs in good condition do not pose significant hazards to workers for continued operations and maintenance.

The provisions for lead that are indicated below would apply for either renovation or demolition:

- If LCPs or other lead-containing materials are to be disturbed and/or removed during renovation or other activities, ensure compliance with the following:
  - The occupational exposure control requirements of the Canada Labour Code and the WCB
  - The disposal requirements of *Yukon Environment – Contaminated Sites Regulations* and the *Yukon Government Special Waste Regulations*
  - The transportation requirements of the *Federal Transportation of Dangerous Goods Regulation*
- Corrective action or remedial work on paint applications containing any concentration of lead should be undertaken in a manner so as to avoid generating fine particulate matter or dust (i.e., avoid sanding). Airborne lead dust or fumes should not exceed the WCB 8-hour Occupational Exposure Limit (OEL) of 0.15 milligram per cubic metre (mg/m^3) during the removal of paints and products containing any concentration of lead. The use of personal protective equipment is recommended to reduce the potential for over-exposure to lead dust.

5.3 POLYCHLORINATED BIPHENYLS

For continued operations and maintenance, fluorescent lamp ballasts that may contain PCBs can be managed in place, where these items are operating and in good condition. No further action is currently required until 2025, when PCB-containing items will require removal and disposal.

The provisions for PCBs that are indicated below would apply for either renovation or demolition:

- As fluorescent lamp ballasts may contain PCBs, if these items are removed from service, they should be assessed in reference to the PCB Guide.
- If PCB-containing items are identified and require removal, they should be handled, transported, stored and disposed of according to the *Federal Transportation of Dangerous Goods Regulation* and the *PCB Regulations* (SOR/2008-273).

5.4 MERCURY

For continued operations and maintenance, identified mercury-containing materials can be managed in place. Mercury vapour within light fixtures and/or liquid mercury in thermostat switches or thermometers pose no risk to workers or occupants provided the mercury containers remain intact and undisturbed. No further action is currently required.

For either renovation of demolition, if mercury-containing materials (e.g., thermostats, fluorescent light bulbs, HID lighting) are to be removed from service, ensure all mercury waste is handled, stored and disposed of in accordance with the requirements of the requirements of the Yukon Government *Special Waste Regulations* and the *Transportation of Dangerous Goods Regulation*.

5.5 MOULD

5.5.1 Renovation and Continued Operations

While there are few definitive guidelines on the interpretation of laboratory results for mould analysis, documents published by Health Canada, Ontario Ministry of Health, American Industrial Hygiene Association (AIHA), American Conference of Governmental Industrial Hygienists (ACGIH) and others, provide guidance for interpreting the results of mould investigations. The *Health Canada Guide* states that:

> *"Identifiable promoters of fungal growth require correction, and any visible fungi require removal"*

As the most controllable promoter of fungal growth is moisture, buildings that are to continue to be operated and maintained should be managed to minimize moisture ingress or moisture impacts to building materials that are not intended to be wetted.

5.5.2 Demolition

With respect to demolition work, when such activities proceed, it is expected that mould and/or moisture-impacted building materials will be removed and disposed of during that process. Due to the actual or potential presence of mould on building materials in various buildings (as indicated in **Appendices D through R**), and if those impacted materials are to be removed by hand, demolition workers should be notified of the potential presence of mould and be provided with respiratory protection and/or other personal protective equipment (PPE) as deemed necessary for the work that they will be conducting.

If significant mould contamination is identified in concealed locations, an experienced mould abatement contractor may be required to assist with removal in accordance with applicable guidelines and standards for such work.

5.6 OZONE DEPLETING SUBSTANCES

Suspect ODS-containing equipment observed within the buildings that are remain operational subsequent to renovation (one suspect ODS-containing air handling unit at the Kluane National Park Headquarters building) can be managed in place and must be serviced by licensed refrigeration technicians (as defined in the *Federal Halocarbon Regulations*).

If ODS-containing equipment in buildings to be demolished (buildings at the separate Parks Canada Farm Site- none observed during this assessment, however some areas not accessible) is to be removed and disposed of, ODSs must be handled, recycled, stored, and/or disposed of in accordance with the requirements of with the requirements of the *Yukon's Ozone Depleting Substances* (ODS) *Regulations* and the *Federal Halocarbon Regulations*, 2003 (FHR 2003).

5.7 SILICA

For continued operations and maintenance, identified silica-containing materials can be managed in place.

For renovation or demolition activities, if silica-containing materials are to be disturbed, ensure dust control measures are employed such that airborne silica dust concentrations do not exceed the applicable exposure limits indicated in the current version of the YT OHS Reg. This would include, but not be limited to, the following:

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

6.0 CLOSURE

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

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

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

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

Respectfully submitted,

STANTEC CONSULTING LTD.

Reviewed by:

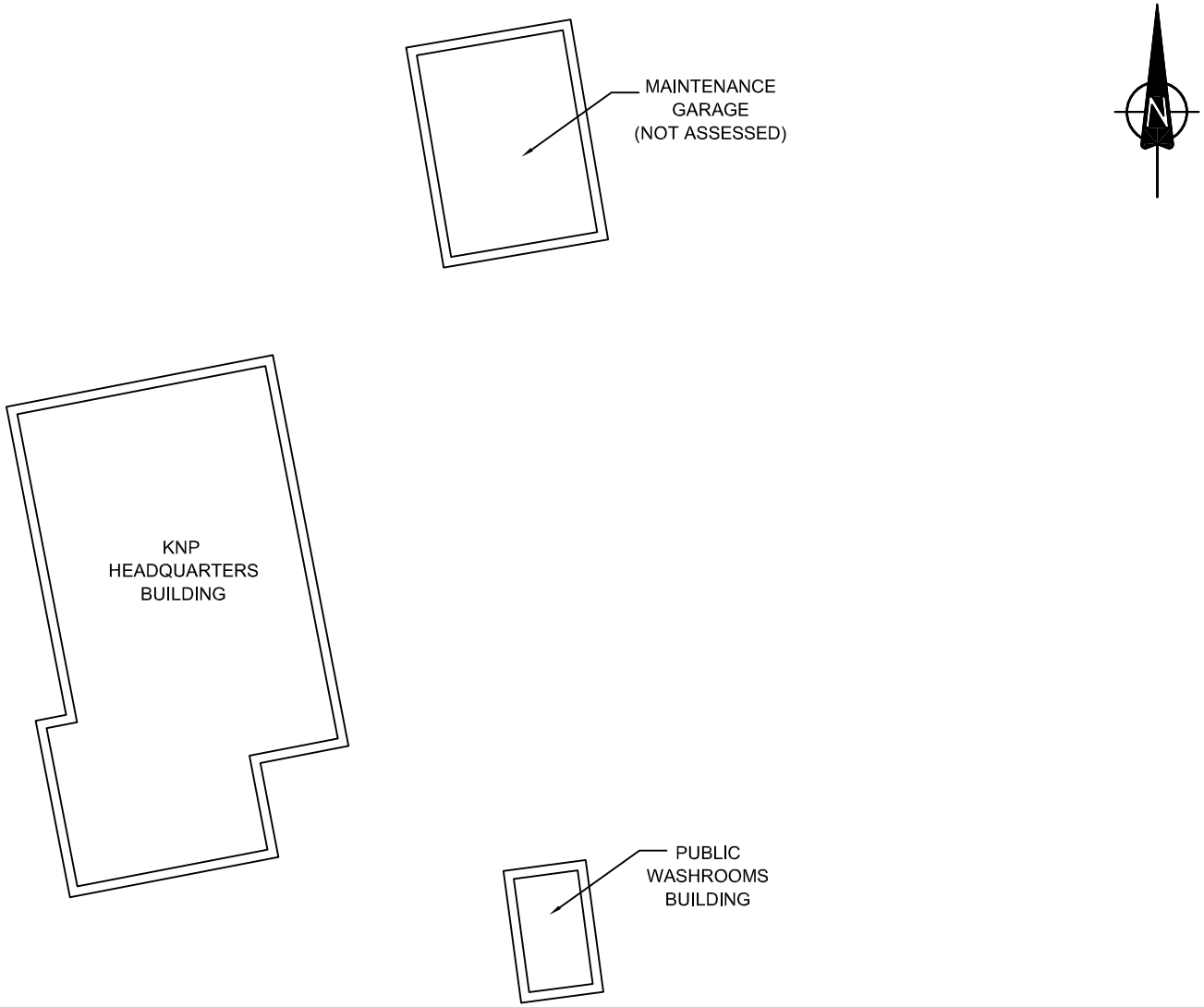
Keith Irwin Dipl. Tech.
Environmental Technologist

Sean Brigden, B.Sc., P.B.Dipl., CRSP
Project Manager

KI/SB/tt

Appendix A
Building List

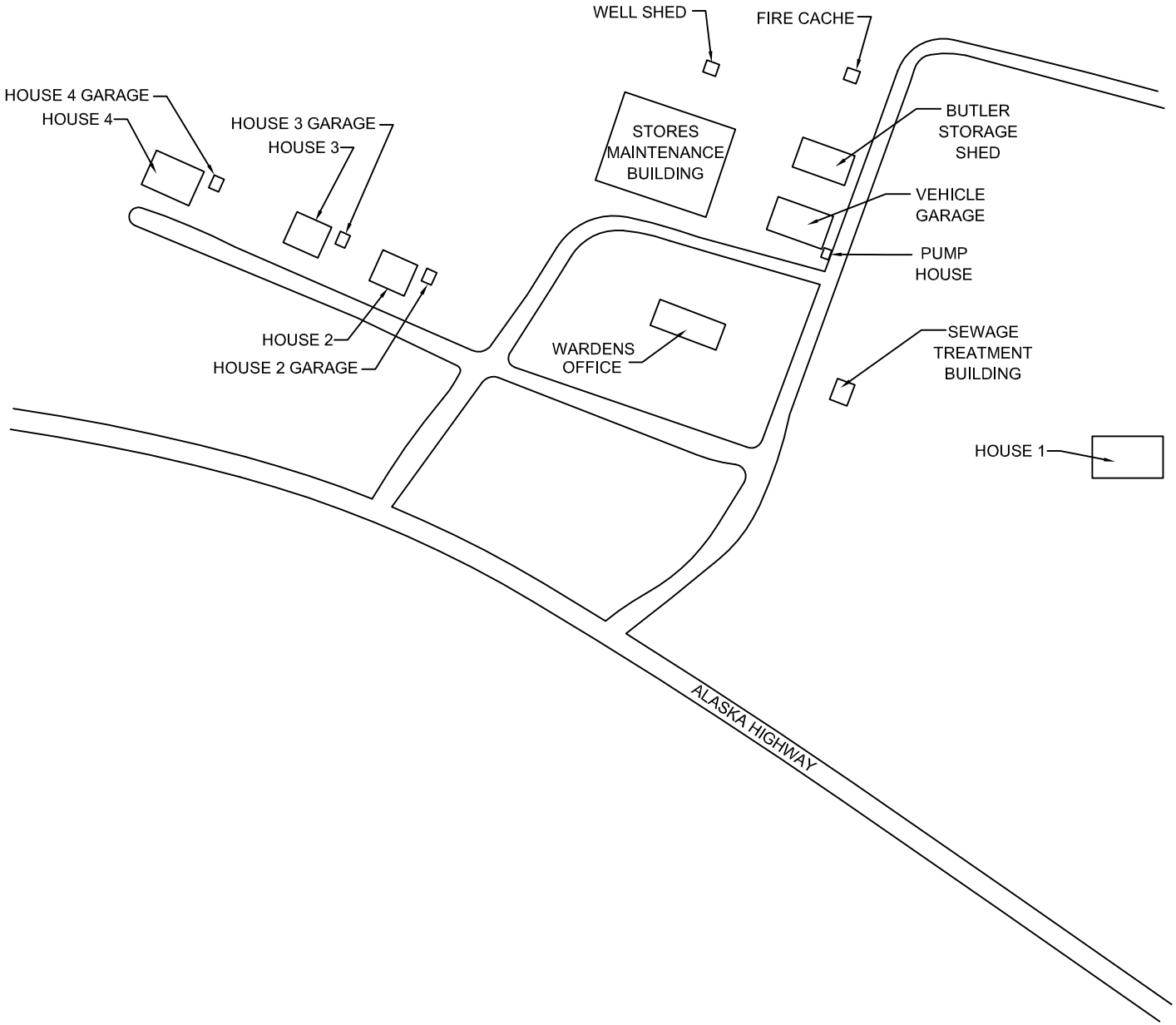
Appendix	Building Name	Building Status	Year Built	Area (Square Metres)
KNP Headquarters				
B	KNP Headquarters Building	For Renovation	Unknown	Unknown
C	Public Washrooms Building	For Renovation	1996	Unknown
Farm Site				
D	Stores Maintenance Building	For Demolition	1988	1,235
E	Wardens Office Building	For Demolition	1956	205
F	Vehicle Garage Building	For Demolition	1957	367
G	Butler Storage Shed	For Demolition	1957	312
H	Fire Cache	For Demolition	Unknown	Unknown
I	Pump House	For Demolition	1956	15
J	Well Shed	For Demolition	1980	16
K	Sewage Treatment Building	For Demolition	1996	34
L	House 1	For Demolition	1960	166
M	House 2	For Demolition	1959	86
N	House 2 Garage	For Demolition	1980	30
O	House 3	For Demolition	1959	86
P	House 3 Garage	For Demolition	1980	30
Q	House 4	For Demolition	1961	86
R	House 4 Garage	For Demolition	1980	30



KNP HEADQUARTERS

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

SITE PLAN	Project No.: 144901924	Dwg. No.:	Stantec
	Scale: NTS	A1	
HAINES JUNCTION, YT	Date: 14/11/18		
	Dwn. By: CD DM SL2014110100		
Client: PARKS CANADA	App'd By: TW		



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

SITE PLAN	Project No.: 144901924	Dwg. No.:	Stantec
	Scale: NTS	A2	
HAINES JUNCTION, YT	Date: 14/11/18		
	Dwn. By: CD DM SL2014110101		
Client: PARKS CANADA	App'd By: TW		

Appendix B
Findings and Recommendations – KNP Headquarters Building

B-4.0 FINDINGS – KNP HEADQUARTERS BUILDING

The KNP Headquarters Building was reportedly constructed prior to 1990.

Stantec understands that significant renovations are planned for the KNP Headquarters Building.

The results of the assessment for each of the considered hazardous materials within the KNP Headquarters Building are provided in the following sub-sections.

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

B-4.1 Asbestos

Stantec identified and sampled various suspected ACMs, including the following:

- Mechanical gaskets
- Window caulking
- Pipe fitting insulation
- Boiler exhaust insulation
- Ceiling tiles
- Drywall joint compound
- HVAC duct mastic
- Vent caulking
- Pipe fitting sealant
- Vinyl floor tile (and associated mastic)
- Sheet flooring
- Roof shingles
- Wall mastic
- Countertop caulking
- Floor caulking
- Cement panel
- Cement footing wrap.

Eighty-eight samples of the above-noted suspected ACMs were collected and submitted to EMSL for analysis of asbestos content and nature.

A summary of the sample types, locations and analytical results is presented in Table B-4.1.1, below. Copies of the certificates of analysis provided by EMSL for the suspected ACM samples submitted are attached at the end of this Appendix.

It should be noted that several bulk samples of vinyl floor tile were further separated into layers during laboratory analysis.

Table B-4.1.1 Suspected ACM Sample Collection and Analysis Summary KNP Headquarters Building, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
HQ-MG-01A	**Mechanical gasket – White**	**Penthouse**	**25% Chrysotile**
HQ-MG-01B	**Mechanical gasket – White**	**Penthouse**	**Stop Positive**
HQ-MG-01C	**Mechanical gasket – White**	**Penthouse**	**Stop Positive**
HQ-WPC-01A	**Window pane caulking - Black**	**Between window frame and glass pane on inner vestibule windows at the front entrance**	**0.58% Chrysotile**
HQ-WPC-01B	**Window pane caulking - Black**	**Between window frame and glass pane on inner vestibule windows at the front entrance**	**<0.25% Chrysotile**
HQ-WPC-01C	**Window pane caulking - Black**	**Between window frame and glass pane on inner vestibule windows at the front entrance**	**Insufficient Material**
HQ-FI-01A	Fitting insulation – Grey	Penthouse	None Detected
HQ-FI-01B	Fitting insulation – Grey	Penthouse	None Detected
HQ-FI-01C	Fitting insulation – Grey	Penthouse	None Detected
HQ-FI-02A	Fitting insulation – Grey	Boiler room	None Detected
HQ-FI-02B	Fitting insulation – Grey	Boiler room	None Detected
HQ-FI-02C	Fitting insulation – Grey	Boiler room	None Detected
HQ-BEI-01A	Boiler exhaust insulation – White	Boiler room	None Detected
HQ-BEI-01B	Boiler exhaust insulation – White	Boiler room	None Detected
HQ-BEI-01C	Boiler exhaust insulation – White	Boiler room	None Detected
HQ-CT-01A	**White 2'x4' ceiling tile – Standard fissure and pinhole (light red backing)**	**Theatre**	**<1% Chrysotile**
HQ-CT-01B	**White 2'x4' ceiling tile – Standard fissure and pinhole (light red backing)**	**Theatre**	**<1% Chrysotile**
HQ-CT-01C	**White 2'x4' ceiling tile – Standard fissure and pinhole (light red backing)**	**Theatre**	**<1% Chrysotile**

Table B-4.1.1 Suspected ACM Sample Collection and Analysis Summary KNP Headquarters Building, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
HQ-CT-02A	White 2'x4' ceiling tile – Directional fissure and pinhole	Office hallway	None Detected
HQ-CT-02B	White 2'x4' ceiling tile – Directional fissure and pinhole	Office hallway	None Detected
HQ-CT-02C	White 2'x4' ceiling tile – Directional fissure and pinhole	Office hallway	None Detected
HQ-CT-03A	White 2'x4' ceiling tile – Fissure	Office hallway	None Detected
HQ-CT-03B	White 2'x4' ceiling tile – Fissure	Office hallway	None Detected
HQ-CT-03C	White 2'x4' ceiling tile – Fissure	Office hallway	None Detected
HQ-DJC-01A	Drywall joint compound – Upper floor	Entrance hallway to theatre	None Detected
HQ-DJC-01B	Drywall joint compound – Upper floor	Theatre	None Detected
HQ-DJC-01C	Drywall joint compound – Upper floor	Inside back entrance	None Detected
HQ-DJC-01D	Drywall joint compound – Upper floor	Office hallway	None Detected
HQ-DJC-01E	Drywall joint compound – Upper floor	Office hallway	None Detected
HQ-DJC-02A	Drywall joint compound – Lower floor	Stairwell	None Detected
HQ-DJC-02B	Drywall joint compound – Lower floor	Hallway at telecom room	None Detected
HQ-DJC-02C	Drywall joint compound – Lower floor	Entrance to storage room	None Detected
HQ-DM-01A	Duct mastic – Red	On seams and connectors of the air handling unit in the penthouse	None Detected
HQ-DM-01B	Duct mastic – Red	On seams and connectors of the air handling unit in the penthouse	Insufficient Material
HQ-DM-01C	Duct mastic – Red	On seams and connectors of the air handling unit in the penthouse	Insufficient Material

Table B-4.1.1 Suspected ACM Sample Collection and Analysis Summary KNP Headquarters Building, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
HQ-IWC-01A	Interior window caulking – Black	Around window/door panes and frames in the boardroom	None Detected
HQ-IWC-01B	Interior window caulking – Black	Around window/door panes and frames in the boardroom	None Detected
HQ-IWC-01C	Interior window caulking – Black	Around window/door panes and frames in the boardroom	None Detected
HQ-EWFC-01A	Exterior window frame caulking – White	Between window frames and the building on the exterior	None Detected
HQ-EWFC-01B	Exterior window frame caulking – White	Between window frames and the building on the exterior	None Detected
HQ-EWFC-01C	Exterior window frame caulking – White	Between window frames and the building on the exterior	None Detected
HQ-HVC-01A	**HVAC vent caulking – Black**	**Around exterior of HVAC exhaust vent from the penthouse**	**<0.25% Chrysotile**
HQ-HVC-01B	**HVAC vent caulking – Black**	**Around exterior of HVAC exhaust vent from the penthouse**	**0.45% Chrysotile**
HQ-HVC-01C	**HVAC vent caulking – Black**	**Around exterior of HVAC exhaust vent from the penthouse**	**1.2% Chrysotile**
HQ-PS-01A	Pipe sealant – White	Inside pipe fittings in the penthouse	None Detected
HQ-PS-01B	Pipe sealant – White	Inside pipe fittings in the penthouse	None Detected
HQ-PS-01C	Pipe sealant – White	Inside pipe fittings in the penthouse	None Detected
HQ-FT-01	**12”x12” vinyl floor tile – Brown with white streaks**	**Janitors closet**	**<0.25% Chrysotile**
HQ-FT-01-Mastic	Floor tile mastic – Black	Janitors closet	None Detected
HQ-FT-02	**12”x12” vinyl floor tile – Brown with white streaks**	**Shedder room**	**<0.25% Chrysotile**
HQ-FT-02-Mastic	Floor tile mastic – Black	Shedder room	None Detected
HQ-SF-01	Vinyl sheet flooring – Turquois with white streaks	Theatre projector room	None Detected
HQ-SF-02	Vinyl sheet flooring – Turquois with white streaks	Reception area	None Detected
HQ-SF-03	Vinyl sheet flooring – Turquois with white streaks	Kitchen	None Detected

Table B-4.1.1 Suspected ACM Sample Collection and Analysis Summary KNP Headquarters Building, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
HQ-RS-01A	Roof shingle – Tar and gravel	Roof	None Detected
HQ-RS-01B	Roof shingle – Tar and gravel	Roof	None Detected
HQ-RS-01C	Roof shingle – Tar and gravel	Roof	None Detected
HQ-WM-01A	Wall mastic – Tan	Roof above skylight windows	None Detected
HQ-WM-01B	Wall mastic – Tan	Roof above skylight windows	None Detected
HQ-WM-01C	Wall mastic – Tan	Roof above skylight windows	None Detected
HQ-RVM-01A	Roof vent mastic – White	On vent seam on roof of the penthouse	None Detected
HQ-RVM-01B	Roof vent mastic – White	On vent seam on roof of the penthouse	None Detected
HQ-RVM-01C	Roof vent mastic – White	On vent seam on roof of the penthouse	None Detected
HQ-KCC-01A	Kitchen counter caulking – White	Kitchen between counter and wall	None Detected
HQ-KCC-01B	Kitchen counter caulking – White	Kitchen between counter and wall	None Detected
HQ-KCC-01C	Kitchen counter caulking – White	Kitchen between counter and wall	None Detected
HQ-FC-01A	Floor caulking – Clear	Front entrance vestibule	None Detected
HQ-FC-01B	Floor caulking – Clear	Front entrance vestibule	None Detected
HQ-FC-01C	Floor caulking – Clear	Front entrance vestibule	None Detected
HQ-CC-01A	Counter caulking – White	Men's washroom between counter and wall	None Detected
HQ-CC-01B	Counter caulking – White	Men's washroom between counter and wall	None Detected
HQ-CC-01C	Counter caulking – White	Men's washroom between counter and wall	None Detected
HQ-CP-01A	**Cement panel**	**Base of exterior wall**	**8% Chrysotile**
HQ-CP-01B	**Cement panel**	**Base of exterior wall**	**Stop Positive**
HQ-CP-01C	**Cement panel**	**Base of exterior wall**	**Stop Positive**
HQ-EWPC-01A	**Exterior window pane caulking – Black**	**Between window frame and glass pane on the building exterior**	**1.4% Chrysotile**

Table B-4.1.1 Suspected ACM Sample Collection and Analysis Summary KNP Headquarters Building, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
HQ-EWPC-01B	**Exterior window pane caulking – Black**	**Between window frame and glass pane on the building exterior**	**Stop Positive**
HQ-EWPC-01C	**Exterior window pane caulking – Black**	**Between window frame and glass pane on the building exterior**	**Stop Positive**
HQ-EWFC-01A	Exterior window frame caulking – Black	Between window frame and building on the building exterior	None Detected
HQ-EWFC-01B	Exterior window frame caulking – Black	Between window frame and building on the building exterior	None Detected
HQ-EWFC-01C	Exterior window frame caulking – Black	Between window frame and building on the building exterior	None Detected
HQ-PS-02A	Pipe sealant – Red	Inside pipe fittings associated with exterior fuel tank	None Detected
HQ-PS-02B	Pipe sealant – Red	Inside pipe fittings associated with exterior fuel tank	None Detected
HQ-PS-02C	Pipe sealant – Red	Inside pipe fittings associated with exterior fuel tank	None Detected
HQ-PS-03A	Pipe sealant – Cream	Inside pipe fittings associated with exterior fuel tank	None Detected
HQ-PS-03B	Pipe sealant – Cream	Inside pipe fittings associated with exterior fuel tank	None Detected
HQ-PS-03C	Pipe sealant – Cream	Inside pipe fittings associated with exterior fuel tank	None Detected
HQ-CW-01A	Cement footing wrap – Yellow	Around base of cement footing of exterior columns	None Detected
HQ-CW-01A	Cement footing wrap – Yellow	Around base of cement footing of exterior columns	None Detected
HQ-CW-01A	Cement footing wrap – Yellow	Around base of cement footing of exterior columns	None Detected

Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of suspected ACM sample analytical results, the materials presented in Table B-4.1.2, below were identified as ACMs.

Table B-4.1.2 Summary of Identified ACMs KNP Headquarters Building, Haines Junction, YT

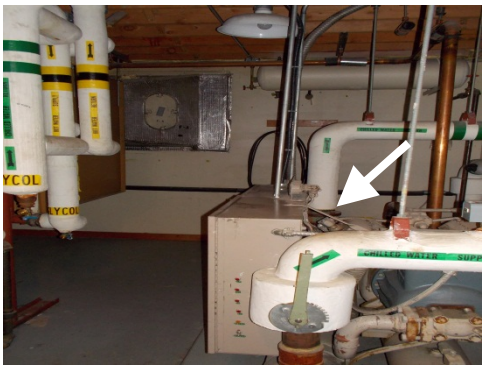
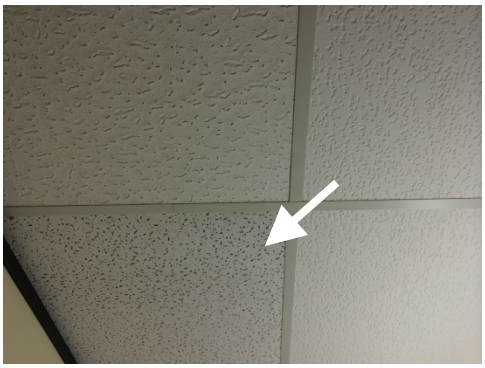
Identified ACM Description and Condition Information		Photo
White mechanical gaskets in flanges of chilled water supply lines in the penthouse		
Friability	Friable	
Condition	Good	
Content	25% Chrysotile	
Black window pane caulking between window frames and glass panes throughout, including inner vestibule windows at the front entrance		No photo.
Friability	Non-friable	
Condition	Good	
Content	< 0.25 – 1.4% Chrysotile	
White 2'x4' ceiling tile – Standard fissure and pinhole (light red backing) throughout		
Friability	Friable	
Condition	Good	
Content	< 1% Chrysotile	

Table B-4.1.2 Summary of Identified ACMs KNP Headquarters Building, Haines Junction, YT

Identified ACM Description and Condition Information		Photo
Black HVAC vent caulking around the seams of a vent from the penthouse to the roof		
Friability	Non-friable	
Condition	Good	
Content	< 0.25 – 1.2% Chrysotile	
12”x12” vinyl floor tile – Brown with white streaks in locations as indicated on attached drawings		
Friability	Non-friable	
Condition	Good	
Content	< 0.25% Chrysotile	
Cement panel around the base of exterior walls		
Friability	Non-friable	
Condition	Good	
Content	8% Chrysotile	

B-4.2 Lead

Lead is expected to be present in the following materials:

- Solder used on copper domestic pipes
- Caulking on bell fittings for cast iron drainage pipes
- Electrical equipment (i.e. batteries for emergency lighting/signage).

With respect to paint, 7 paint chip samples were obtained, where suspected LCPs were observed. A summary of the sample types, locations and analytical results is presented in Table B-4.2.1, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

Table B-4.2.1 Suspected LCP Sample Collection and Analysis Summary KNP Headquarters Building, Haines Junction, YT

Sample No.	Sample Location	Sample Colour	Lab Result (ppm)	Lead Containing (Yes/No)
HQ-P-01	Interior walls	Cream	<92	No
HQ-P-02	Floor of entrance vestibule	Brown	<90	No
HQ-P-03	**Penthouse floor**	**Grey**	**5,600**	**Yes**
HQ-P-04	**Steel structural components**	**Red**	**2,800**	**Yes**
HQ-P-05	Lower level walls	White	<90	No
HQ-P-06	**Exterior railings**	**Beige**	**13,000**	**Yes**
HQ-P-07	Wooden exterior deck	Grey	<90	No

Based on our observations and on our interpretations of suspected LCP sample analytical results, the materials presented in Table B-4.2.2, below were identified as LCPs.

Table B-4.2.2 Summary of Identified LCPs
KNP Headquarters Building, Haines Junction, YT

Identified LCP Description	Photo
Grey paint on the floor of the penthouse. This paint was observed to be in good condition (not bubbling, flaking or peeling).	
Red paint on structural steel components throughout. This paint was observed to be in good condition (not bubbling, flaking or peeling).	No photo.
Beige paint on exterior railings. This paint was observed to be in good condition (not bubbling, flaking or peeling).	

B-4.3 Polychlorinated Biphenyls

It is estimated that there are approximately 140 ballasts within the fluorescent light fixtures observed throughout. Based on the age of the building, fluorescent light ballasts may contain PCBs.

B-4.4 Mercury

Four (4) suspected mercury-containing thermometers were observed in the penthouse and four (4) were also observed in the lower level boiler room, as indicated on the attached floor plan drawings.

Mercury vapour is expected to be present in fluorescent light bulbs/tubes throughout.

B-4.5 Mould

Moisture damage was observed as summarized in **Table B-4.5**, below.

Table B-4.5 Summary of Identified Mould and/or Moisture-Impacted Materials KNP Headquarters Building, Haines Junction, YT

Identified Mould and/or Moisture Impacted Materials Description	Photo
Moisture stained drywall was observed at the top of the South wall in the theater.	

B-4.6 Ozone-Depleting Substances

ODSs were observed as summarized in **Table B-4.6**, below.

Table B-4.6: Summary of Equipment Containing ODSs KNP Headquarters Building, Haines Junction, YT

Suspected ODS-Containing Equipment	Photo
The small air conditioning unit located on the roof is suspected to contain ODSs.	

B-4.7 Silica

Silica may be present in concrete, cement, ceramic tiles, and acoustical ceiling tiles observed in various locations throughout.

B-5.0 BUILDING-SPECIFIC RECOMMENDATIONS

In general, identified hazardous building materials should be handled in accordance with the recommendations for renovation and continued operation that are provided in Section 5 of the main body of this report. Additional building-specific recommendations to be considered during the renovation project are provided below.

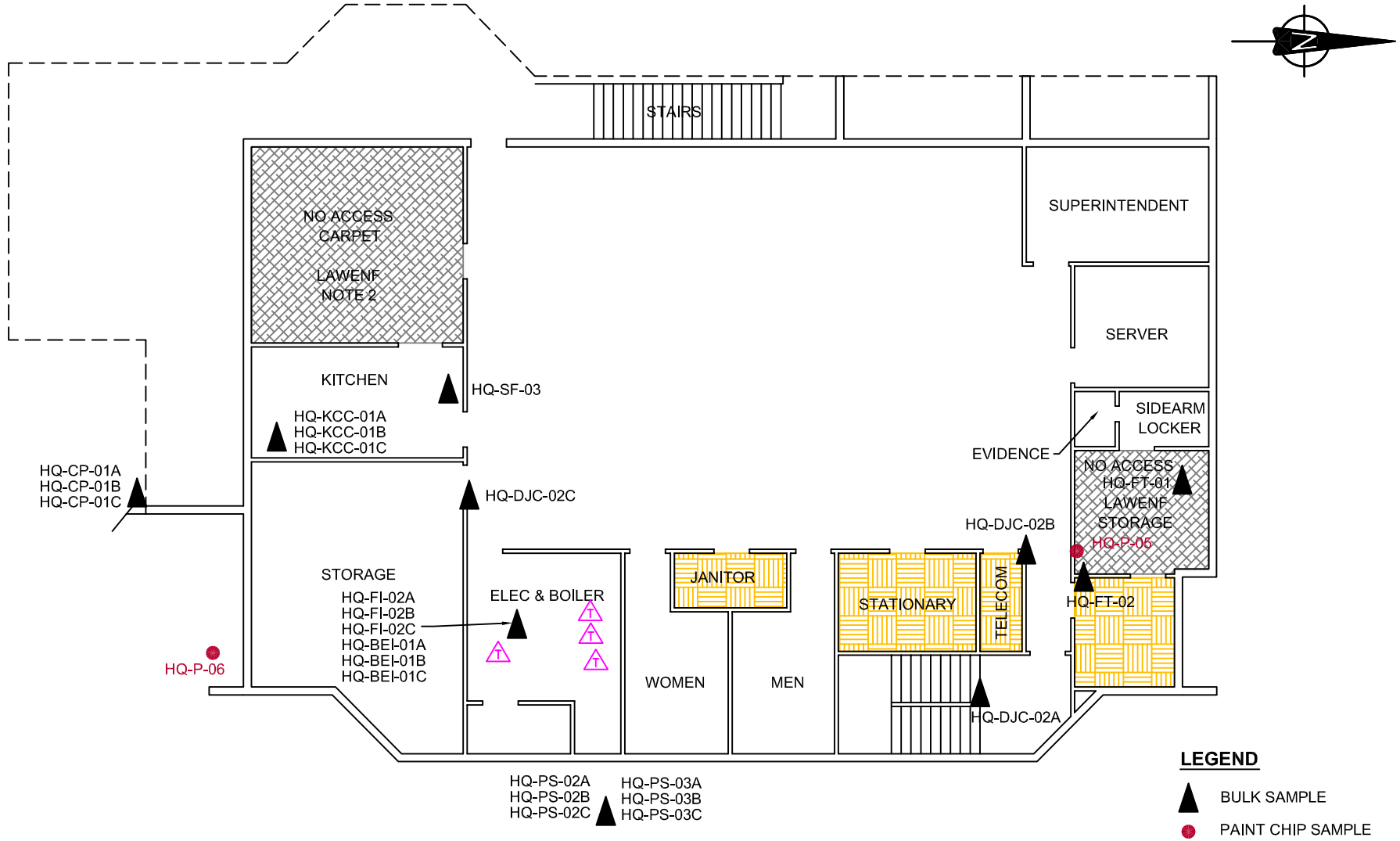
B-5.1 Mould

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

> "*Identifiable promoters of fungal growth require correction, and any visible fungi require removal.*"

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

- Remove and replace moisture-stained materials (drywall) with new materials.
  - This work can be conducted by renovation workers that are notified of the potential presence of mould contamination and provided with appropriate training and personal protective equipment (e.g. N95 respirators, disposable protective clothing).
  - If significant concealed mould contamination is identified during the work, additional assessment and/or completion of work by an experienced mould abatement contractor may be required.
  - An assessment to determine the likely source(s) of the observed moisture staining should be undertaken once building materials are removed, and the source(s) should be corrected as part of the renovation project.



LEGEND

- BULK SAMPLE
- PAINT CHIP SAMPLE
- ASBESTOS-CONTAINING VINYL FLOOR TILES
- AREA NOT ACCESSED
- MERCURY-CONTAINING THERMOMETER

KNP HEADQUARTERS BUILDING
LOWER LEVEL

NOTES:
1. **BLACK WINDOW PANE CAULKING BETWEEN FRAMES AND GLASS PANES THROUGHOUT IS ACM.**
2. **WHITE 2'X4' CEILING TILE (STANDARD FISSURE AND PINHOLE WITH LIGHT RED BACKING) THROUGHOUT IS ACM.**
3. **CEMENT PANEL AROUND THE BASE OF EXTERIOR WALLS IS ACM.**
4. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

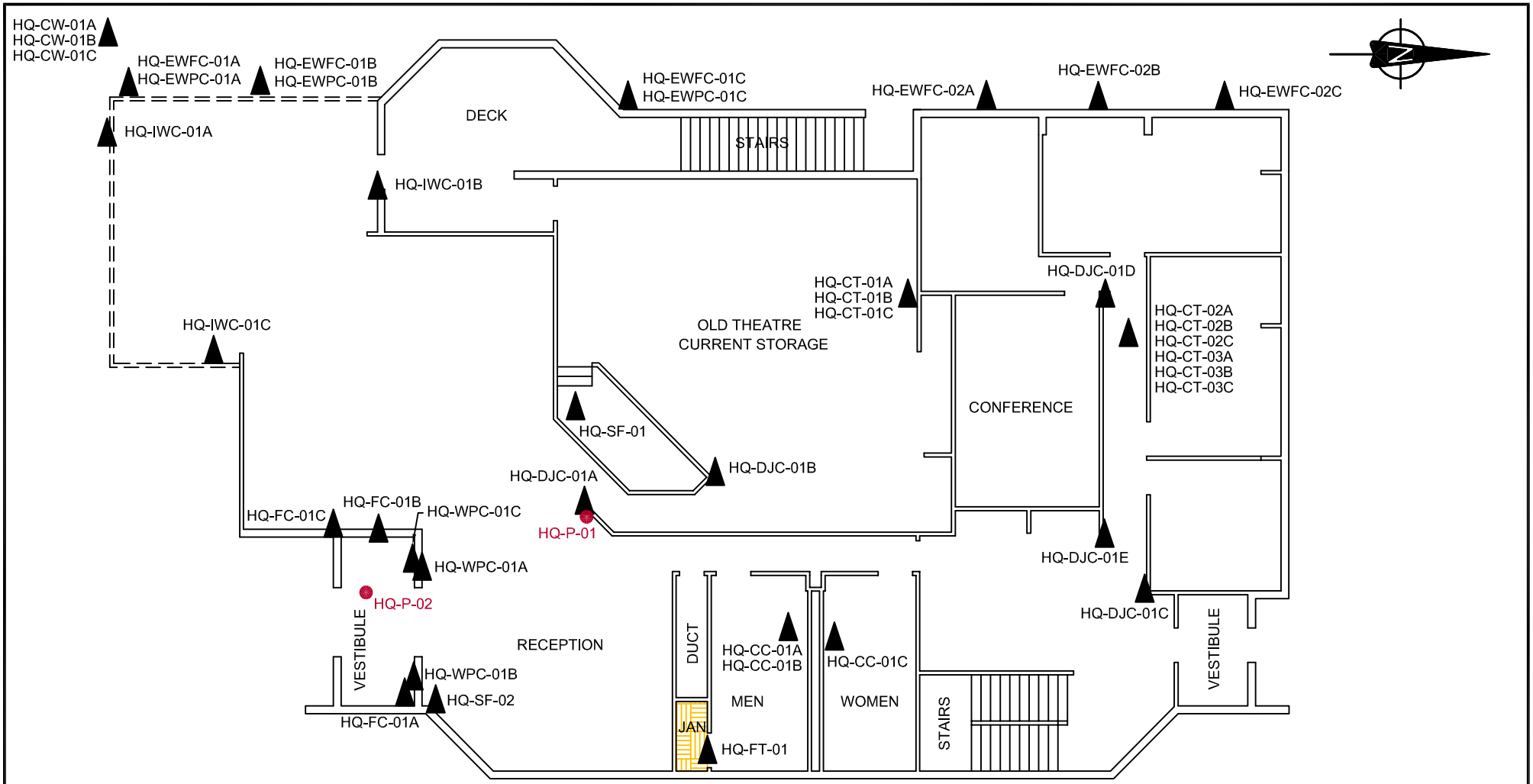
HAINES JUNCTION, YT

Client: PARKS CANADA

Project No.:	144901924
Scale:	NTS
Date:	14/11/18
Dwn. By:	CD SL2014110102 PK/DM
App'd By:	TW

Dwg. No.: B1

Stantec



KNP HEADQUARTERS BUILDING
UPPER LEVEL

HQ-PS-02A
HQ-PS-02B
HQ-PS-02C
HQ-PS-03A
HQ-PS-03B
HQ-PS-03C

LEGEND

- BULK SAMPLE
- PAINT CHIP SAMPLE
- ASBESTOS-CONTAINING VINYL FLOOR TILES

NOTES:
1. **BLACK WINDOW PANE CAULKING BETWEEN FRAMES AND GLASS PANES THROUGHOUT IS ACM.**
2. **WHITE 2'X4' CEILING TILE (STANDARD FISSURE AND PINHOLE WITH LIGHT RED BACKING) THROUGHOUT IS ACM.**
3. **CEMENT PANEL AROUND THE BASE OF EXTERIOR WALLS IS ACM.**
4. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

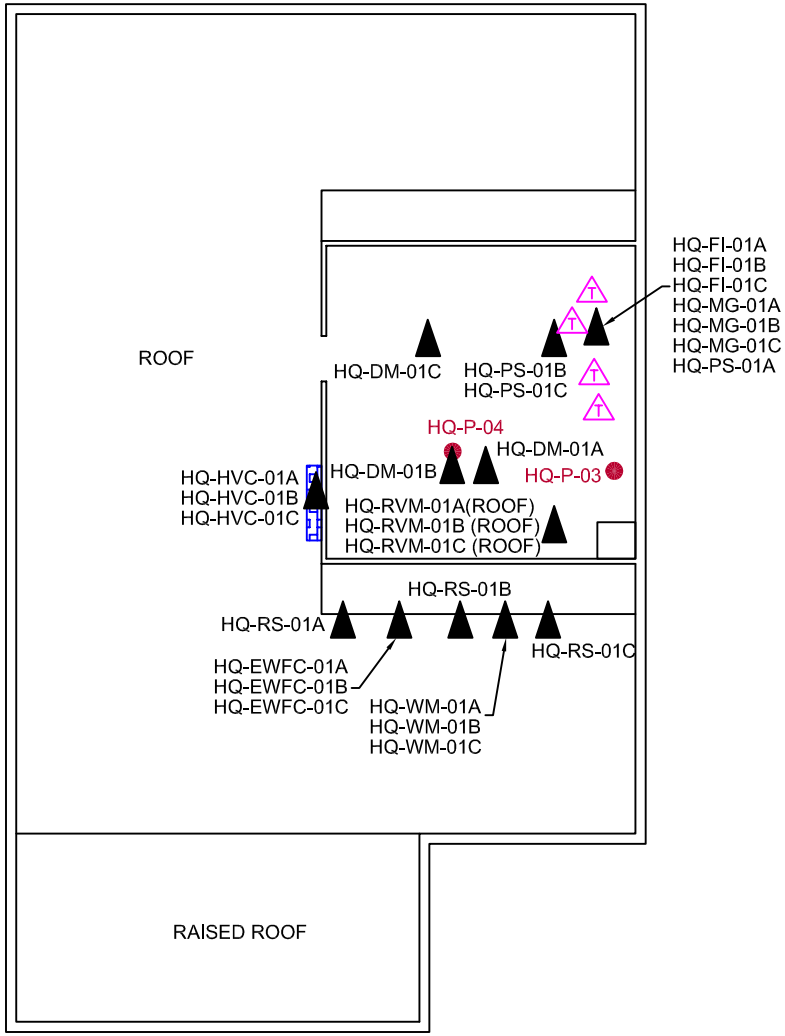
HAINES JUNCTION, YT

Client: PARKS CANADA

Project No.:	144901924
Scale:	NTS
Date:	14/11/18
Dwn. By:	CD SL2014110103 PK/DM
App'd By:	TW

Dwg. No.: B2

Stantec



KNP HEADQUARTERS BUILDING PENTHOUSE

LEGEND

- BULK SAMPLE
- PAINT CHIP SAMPLE
- ASBESTOS-CONTAINING VENT CAULKING
- MERCURY-CONTAINING THERMOMETER

NOTES: 1. **WHITE MECHANICAL GASKETS IN FLANGES OF CHILLED WATER SUPPLY LINES ARE ACM THROUGHOUT.**
2. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

HAINES JUNCTION, YT

Client: PARKS CANADA

Project No.:	144901924
Scale:	NTS
Date:	14/11/18
Dwn. By:	CD PK/DM SL2014110104
App'd By:	TW

Dwg. No.: B3

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Project: **144901924.801**

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
HQ-WPC-01A *551407481-0004*	WINDOW PANE CAULKING-BLACK - BETWEEN WINDOW FRAME AND GLASS PANE ON INNER VESTIBULE WINDOWS AT THE FRONT ENTRANCE	Gray Fibrous Homogeneous	99.4	None	0.58% Chrysotile
HQ-WPC-01B *551407481-0005*	WINDOW PANE CAULKING-BLACK - BETWEEN WINDOW FRAME AND GLASS PANE ON INNER VESTIBULE WINDOWS AT THE FRONT ENTRANCE	Gray/Black Non-Fibrous Homogeneous	100	None	<0.25% Chrysotile
HQ-WPC-01C *551407481-0006*	WINDOW PANE CAULKING-BLACK - BETWEEN WINDOW FRAME AND GLASS PANE ON INNER VESTIBULE WINDOWS AT THE FRONT ENTRANCE				
Insufficient Material					
HQ-DM-01A *551407481-0033*	DUCT MASTIC-RED - ON SEAMS AND CONNECTORS OF THE AIR HANDLING UNIT IN THE PENTHOUSE	Red/Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-DM-01B *551407481-0034*	DUCT MASTIC-RED - ON SEAMS AND CONNECTORS OF THE AIR HANDLING UNIT IN THE PENTHOUSE				
Insufficient Material					

Analyst(s)

Jon Delos Santos (14)
Nicole Yeo (36)

Kevin Pang
or other approved signatory

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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	551407481
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Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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HQ-DM-01C *551407481-0035*	DUCT MASTIC-RED - ON SEAMS AND CONNECTORS OF THE AIR HANDLING UNIT IN THE PENTHOUSE				
Insufficient Material					
HQ-IWC-01A *551407481-0036*	INTERIOR WINDOW CAULKING-BLACK - AROUND WINDOW/DOOR PANES AND FRAMES IN THE BOARDROOM	Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-IWC-01B *551407481-0037*	INTERIOR WINDOW CAULKING-BLACK - AROUND WINDOW/DOOR PANES AND FRAMES IN THE BOARDROOM	Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-IWC-01C *551407481-0038*	INTERIOR WINDOW CAULKING-BLACK - AROUND WINDOW/DOOR PANES AND FRAMES IN THE BOARDROOM	Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-EWFC-01A *551407481-0039*	EXTERIOR WINDOW FRAME CAULKING-WHITE - BETWEEN WINDOW FRAMES AND THE BUILDING ON THE EXTERIOR	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (14)
Nicole Yeo (36)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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HQ-EWFC-01B *551407481-0040*	EXTERIOR WINDOW FRAME CAULKING-WHITE - BETWEEN WINDOW FRAMES AND THE BUILDING ON THE EXTERIOR	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-EWFC-01C *551407481-0041*	EXTERIOR WINDOW FRAME CAULKING-WHITE - BETWEEN WINDOW FRAMES AND THE BUILDING ON THE EXTERIOR	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-HVC-01A *551407481-0042*	HVAC VENT CAULKING-BLACK - AROUND EXTERIOR OF HVAC EXHAUST VENT FROM THE PENTHOUSE	Brown Non-Fibrous Homogeneous	100	None	<0.25% Chrysotile
HQ-HVC-01B *551407481-0043*	HVAC VENT CAULKING-BLACK - AROUND EXTERIOR OF HVAC EXHAUST VENT FROM THE PENTHOUSE	Gray/Black Non-Fibrous Homogeneous	99.5	None	0.45% Chrysotile
HQ-HVC-01C *551407481-0044*	HVAC VENT CAULKING-BLACK - AROUND EXTERIOR OF HVAC EXHAUST VENT FROM THE PENTHOUSE	Gray Non-Fibrous Homogeneous	98.8	None	1.2% Chrysotile
HQ-PS-01A *551407481-0045*	PIPE SEALANT-WHITE - INSIDE PIPE FITTINGS IN THE PENTHOUSE	Gray/White Non-Fibrous Homogeneous	95.9	4.1 Wollastonite	No Asbestos Detected

Analyst(s)

Jon Delos Santos (14)
Nicole Yeo (36)

Kevin Pang
or other approved signatory

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

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

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SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
HQ-PS-01B *551407481-0046*	PIPE SEALANT-WHITE - INSIDE PIPE FITTINGS IN THE PENTHOUSE	Gray/White Non-Fibrous Homogeneous	94.5	5.5 Wollastonite	No Asbestos Detected
HQ-PS-01C *551407481-0047*	PIPE SEALANT-WHITE - INSIDE PIPE FITTINGS IN THE PENTHOUSE	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-FT-01 *551407481-0048*	12"X12" VINYL FLOOR TILE-BROWN WITH WHITE STREAKS - JANITORS CLOSET	Beige Non-Fibrous Homogeneous	100	None	<0.25% Chrysotile
HQ-FT-01-Mastic *551407481-0048A*	12"X12" VINYL FLOOR TILE-BROWN WITH WHITE STREAKS - JANITORS CLOSET	Brown/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-FT-02 *551407481-0049*	12"X12" VINYL FLOOR TILE-BROWN WITH WHITE STREAKS - SHEDDER ROOM	Beige Non-Fibrous Homogeneous	100	None	<0.25% Chrysotile
HQ-FT-02-Mastic *551407481-0049A*	12"X12" VINYL FLOOR TILE-BROWN WITH WHITE STREAKS - SHEDDER ROOM	Gray/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-SF-01 *551407481-0050*	VINYL SHEET FLOORING-TURQUOISE WITH WHITE STREAKS - THEATRE PROJECTOR ROOM	Blue Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (14)
Nicole Yeo (36)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

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SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
HQ-SF-02 *551407481-0051*	VINYL SHEET FLOORING-TURQUOISE WITH WHITE STREAKS - RECEPTION AREA	Blue/Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-SF-03 *551407481-0052*	VINYL SHEET FLOORING-TURQUOISE WITH WHITE STREAKS - KITCHEN	Black/Blue Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-RS-01A *551407481-0053*	ROOF SHINGLE-TAR AND GRAVEL - ROOF	Various/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-RS-01B *551407481-0054*	ROOF SHINGLE-TAR AND GRAVEL - ROOF	Various/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-RS-01C *551407481-0055*	ROOF SHINGLE-TAR AND GRAVEL - ROOF	Various/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-WM-01A *551407481-0056*	WALL MASTIC-TAN - ROOF ABOVE SKYLIGHT WINDOWS	White/Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-WM-01B *551407481-0057*	WALL MASTIC-TAN - ROOF ABOVE SKYLIGHT WINDOWS	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-WM-01C *551407481-0058*	WALL MASTIC-TAN - ROOF ABOVE SKYLIGHT WINDOWS	White/Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

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EMSL Canada Inc.
2756 Slough Street, Mississauga, ON L4T 1G3
Phone/Fax: 289-997-4602 / (289) 997-4607
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SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
HQ-RVM-01A *551407481-0059*	ROOF VENT MASTIC-WHITE - ON VENT SEAM ON ROOF OF THE PENTHOUSE	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-RVM-01B *551407481-0060*	ROOF VENT MASTIC-WHITE - ON VENT SEAM ON ROOF OF THE PENTHOUSE	Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-RVM-01C *551407481-0061*	ROOF VENT MASTIC-WHITE - ON VENT SEAM ON ROOF OF THE PENTHOUSE	Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-KCC-01A *551407481-0062*	KITCHEN COUNTER CAULKING-WHITE - KITCHEN BETWEEN COUNTER AND WALL	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-KCC-01B *551407481-0063*	KITCHEN COUNTER CAULKING-WHITE - KITCHEN BETWEEN COUNTER AND WALL	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-KCC-01C *551407481-0064*	KITCHEN COUNTER CAULKING-WHITE - KITCHEN BETWEEN COUNTER AND WALL	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-FC-01A *551407481-0065*	FLOOR CAULKING-CLEAR - FRONT ENTRANCE VESTIBULE	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-FC-01B *551407481-0066*	FLOOR CAULKING-CLEAR - FRONT ENTRANCE VESTIBULE	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (14)
Nicole Yeo (36)

Kevin Pang
or other approved signatory

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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

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Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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HQ-FC-01C *551407481-0067*	FLOOR CAULKING-CLEAR - FRONT ENTRANCE VESTIBULE	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-CC-01A *551407481-0068*	COUNTER CAULKING-WHITE - MEN'S WASHROOM BETWEEN COUNTER AND WALL	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-CC-01B *551407481-0069*	COUNTER CAULKING-WHITE - MEN'S WASHROOM BETWEEN COUNTER AND WALL	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-CC-01C *551407481-0070*	COUNTER CAULKING-WHITE - MEN'S WASHROOM BETWEEN COUNTER AND WALL	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-EWPC-01A *551407481-0074*	EXTERIOR WINDOW PANE CAULKING-BLACK - BETWEEN WINDOW FRAME AND GLASS PANE ON THE BUILDING EXTERIOR	Brown Non-Fibrous Homogeneous	98.6	None	1.4% Chrysotile
HQ-EWPC-01B *551407481-0075*	EXTERIOR WINDOW PANE CAULKING-BLACK - BETWEEN WINDOW FRAME AND GLASS PANE ON THE BUILDING EXTERIOR				

Positive Stop (Not Analyzed)

Analyst(s)

Jon Delos Santos (14)
Nicole Yeo (36)

Kevin Pang
or other approved signatory

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

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EMSL Canada Inc.
2756 Slough Street, Mississauga, ON L4T 1G3
Phone/Fax: 289-997-4602 / (289) 997-4607
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EMSL Canada Or	551407481
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SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
HQ-EWPC-01C *551407481-0076*	EXTERIOR WINDOW PANE CAULKING-BLACK - BETWEEN WINDOW FRAME AND GLASS PANE ON THE BUILDING EXTERIOR				
Positive Stop (Not Analyzed)					
HQ-EWFC-01A *551407481-0077*	EXTERIOR WINDOW FRAME CAULKING-BLACK - BETWEEN WINDOW FRAME AND BUILDING ON THE BUILDING EXTERIOR	Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-EWFC-01B *551407481-0078*	EXTERIOR WINDOW FRAME CAULKING-BLACK - BETWEEN WINDOW FRAME AND BUILDING ON THE BUILDING EXTERIOR	Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-EWFC-01C *551407481-0079*	EXTERIOR WINDOW FRAME CAULKING-BLACK - BETWEEN WINDOW FRAME AND BUILDING ON THE BUILDING EXTERIOR	Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-PS-02A *551407481-0080*	PIPE SEALANT-RED - INSIDE PIPE FITTINGS ASSOCIATED WITH EXTERIOR FULE TANK	Red Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-PS-02B *551407481-0081*	PIPE SEALANT-RED - INSIDE PIPE FITTINGS ASSOCIATED WITH EXTERIOR FULE TANK	Red Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (14)
Nicole Yeo (36)

Kevin Pang
or other approved signatory

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

Initial report from 10/18/2014 10:08:34

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
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Project: **144901924.801**

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
HQ-PS-02C *551407481-0082*	PIPE SEALANT-RED - INSIDE PIPE FITTINGS ASSOCIATED WITH EXTERIOR FULE TANK	Red Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-PS-03A *551407481-0083*	PIPE SEALANT-CREAM - INSIDE PIPE FITTINGS ASSOCIATED WITH EXTERIOR FUEL TANK	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-PS-03B *551407481-0084*	PIPE SEALANT-CREAM - INSIDE PIPE FITTINGS ASSOCIATED WITH EXTERIOR FUEL TANK	Gray/Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
HQ-PS-03C *551407481-0085*	PIPE SEALANT-CREAM - INSIDE PIPE FITTINGS ASSOCIATED WITH EXTERIOR FUEL TANK	Brown/Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (14)
Nicole Yeo (36)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos	
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**%**	**Type**
HQ-MG-01A *551407481-0001*	MECHANICAL GASKET-WHITE - PENTHOUSE	Gray Fibrous Homogeneous			75%	Non-fibrous (other)	**25%**	**Chrysotile**
HQ-MG-01B *551407481-0002*	MECHANICAL GASKET-WHITE - PENTHOUSE						**Stop Positive (Not Analyzed)**	
HQ-MG-01C *551407481-0003*	MECHANICAL GASKET-WHITE - PENTHOUSE						**Stop Positive (Not Analyzed)**	
HQ-FI-01A *551407481-0007*	FITTING INSULATION-GRAY - PENTHOUSE	Gray Fibrous Homogeneous	5%	Cellulose	95%	Non-fibrous (other)	**None Detected**	
HQ-FI-01B *551407481-0008*	FITTING INSULATION-GRAY - PENTHOUSE	Gray Fibrous Homogeneous	5%	Cellulose	95%	Non-fibrous (other)	**None Detected**	
HQ-FI-01C *551407481-0009*	FITTING INSULATION-GRAY - PENTHOUSE	Gray Fibrous Homogeneous	10% 10%	Cellulose Min. Wool	80%	Non-fibrous (other)	**None Detected**	
HQ-FI-02A *551407481-0010*	FITTING INSULATION-GRAY - BOILER ROOM	Gray Fibrous Homogeneous	15%	Min. Wool	85%	Non-fibrous (other)	**None Detected**	

Analyst(s)

Arabee Sathiaseelan (3) *Matthew Davis (22)*
Jon Delos Santos (6)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos	
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**%**	**Type**
HQ-FI-02B *551407481-0011*	FITTING INSULATION-GRAY - BOILER ROOM	Gray Fibrous Homogeneous	15%	Min. Wool	85%	Non-fibrous (other)		**None Detected**
HQ-FI-02C *551407481-0012*	FITTING INSULATION-GRAY - BOILER ROOM	Gray Fibrous Homogeneous	10% 10%	Cellulose Min. Wool	80%	Non-fibrous (other)		**None Detected**
HQ-BEI-01A *551407481-0013*	BOILER EXHAUST INSULATION-WHITE - BOILER ROOM	White Fibrous Homogeneous	2%	Synthetic	98%	Non-fibrous (other)		**None Detected**
HQ-BEI-01B *551407481-0014*	BOILER EXHAUST INSULATION-WHITE - BOILER ROOM	White Fibrous Homogeneous	2%	Synthetic	98%	Non-fibrous (other)		**None Detected**
HQ-BEI-01C *551407481-0015*	BOILER EXHAUST INSULATION-WHITE - BOILER ROOM	White Fibrous Homogeneous	2%	Synthetic	98%	Non-fibrous (other)		**None Detected**
HQ-CT-01A *551407481-0016*	WHITE 2'X4' CEILING TILE-STANDARD FISSURE AND -PINHOLE(LIGHT RED BACKING)/ THEATRE	Gray/White/Red Fibrous Homogeneous			100%	Non-fibrous (other)	**<1%**	**Chrysotile**

Analyst(s)

Arabee Sathiaseelan (3) *Matthew Davis (22)*
Jon Delos Santos (6)

Kevin Pang
or other approved signatory

Initial report from 10/18/2014 10:08:34

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos	
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**%**	**Type**
HQ-CT-01B *551407481-0017*	WHITE 2'X4' CEILING TILE-STANDARD FISSURE AND -PINHOLE(LIGHT RED BACKING)/ THEATRE	Gray/White/Red Fibrous Homogeneous			100%	Non-fibrous (other)	**<1%**	**Chrysotile**
HQ-CT-01C *551407481-0018*	WHITE 2'X4' CEILING TILE-STANDARD FISSURE AND -PINHOLE(LIGHT RED BACKING)/ THEATRE	Gray/Red Fibrous Homogeneous			100%	Non-fibrous (other)	**<1%**	**Chrysotile**
HQ-CT-02A *551407481-0019*	WHITE 2'X4' CEILING TILE-DIRECTIONAL FISSURE AND -PINHOLE/OFFICE HALLWAY	Yellow Fibrous Homogeneous	80%	Cellulose	20%	Non-fibrous (other)		**None Detected**
HQ-CT-02B *551407481-0020*	WHITE 2'X4' CEILING TILE-DIRECTIONAL FISSURE AND -PINHOLE/OFFICE HALLWAY	Yellow Fibrous Homogeneous	80%	Cellulose	20%	Non-fibrous (other)		**None Detected**

Analyst(s)

Arabee Sathiaseelan (3) *Matthew Davis (22)*
Jon Delos Santos (6)

Kevin Pang
or other approved signatory

Initial report from 10/18/2014 10:08:34

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
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Project: **144901924.801**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
HQ-CT-02C *551407481-0021*	WHITE 2'X4' CEILING TILE-DIRECTIONAL FISSURE AND -PINHOLE/OFFICE HALLWAY	Tan Non-Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**
HQ-CT-03A *551407481-0022*	WHITE 2'X4' CEILING TILE-FISSURE -OFFICE HALLWAY	White/Yellow Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**
HQ-CT-03B *551407481-0023*	WHITE 2'X4' CEILING TILE-FISSURE -OFFICE HALLWAY	White/Yellow Fibrous Homogeneous	80%	Cellulose	20%	Non-fibrous (other)	**None Detected**
HQ-CT-03C *551407481-0024*	WHITE 2'X4' CEILING TILE-FISSURE -OFFICE HALLWAY	Tan Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**
HQ-DJC-01A *551407481-0025*	DRYWALL JOINT COMPOUND-UPPER FLOOR -ENTRANCE HALLWAY TO THEATRE	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
HQ-DJC-01B *551407481-0026*	DRYWALL JOINT COMPOUND-UPPER FLOOR -THEATRE	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**

Analyst(s)

Arabee Sathiaseelan (3) *Matthew Davis (22)*
Jon Delos Santos (6)

Kevin Pang
or other approved signatory

Initial report from 10/18/2014 10:08:34

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
HQ-DJC-01C *551407481-0027*	DRYWALL JOINT COMPOUND-UPPER FLOOR - INSIDE BACK ENTRANCE	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
HQ-DJC-01D *551407481-0028*	DRYWALL JOINT COMPOUND-UPPER FLOOR - OFFICE HALLWAY	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
HQ-DJC-01E *551407481-0029*	DRYWALL JOINT COMPOUND-UPPER FLOOR - OFFICE HALLWAY	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
HQ-DJC-02A *551407481-0030*	DRYWALL JOINT COMPOUND-LOWER FLOOR - STIARWELL	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
HQ-DJC-02B *551407481-0031*	DRYWALL JOINT COMPOUND-LOWER FLOOR - HALLWAY AT TELECOM ROOM	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
HQ-DJC-02C *551407481-0032*	DRYWALL JOINT COMPOUND-LOWER FLOOR - ENTRANCE TO STORAGE ROOM	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Arabee Sathiaseelan (3) *Matthew Davis (22)*
Jon Delos Santos (6)

Kevin Pang
or other approved signatory

Initial report from 10/18/2014 10:08:34

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
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Project: **144901924.801**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
HQ-CP-01A *551407481-0071*	CEMENT PANEL - BASE OF EXTERIOR WALL	Gray/White Fibrous Homogeneous			92%	Non-fibrous (other)	**8% Chrysotile**
HQ-CP-01B *551407481-0072*	CEMENT PANEL - BASE OF EXTERIOR WALL						**Stop Positive (Not Analyzed)**
HQ-CP-01C *551407481-0073*	CEMENT PANEL - BASE OF EXTERIOR WALL						**Stop Positive (Not Analyzed)**
HQ-CW-01A *551407481-0086*	CEMENT FOOTING WRAP-YELLOW - AROUND BASE OF CEMENT FOOTING OF EXTERIOR COLUMNS	Tan Non-Fibrous Homogeneous	85%	Cellulose	15%	Non-fibrous (other)	**None Detected**
HQ-CW-01B *551407481-0087*	CEMENT FOOTING WRAP-YELLOW - AROUND BASE OF CEMENT FOOTING OF EXTERIOR COLUMNS	Tan Non-Fibrous Homogeneous	85%	Cellulose	15%	Non-fibrous (other)	**None Detected**

Analyst(s)

Arabee Sathiaseelan (3) *Matthew Davis (22)*
Jon Delos Santos (6)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
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Project: **144901924.801**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
HQ-CW-01C *551407481-0088*	CEMENT FOOTING WRAP-YELLOW - AROUND BASE OF CEMENT FOOTING OF EXTERIOR COLUMNS	Brown/Tan Fibrous Homogeneous	85%	Cellulose	15%	Non-fibrous (other)	**None Detected**

Analyst(s)

Arabee Sathiaseelan (3) *Matthew Davis (22)*
Jon Delos Santos (6)

Kevin Pang
or other approved signatory

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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	551407512
CustomerID:	55JACQ30L
CustomerPO:	144901924.801
ProjectID:	

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

Phone: (604) 412-3004
Fax:
Received: 10/10/14 11:01 AM
Collected:

Project: **144901924.801**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
HQ-P-01	*551407512-0001*		10/16/2014	<92 ppm
	Site: CREAM COLOUR Desc: INTERIOR WALLS Insufficient sample to reach reporting limit.			
HQ-P-02	*551407512-0002*		10/16/2014	<90 ppm
	Site: BROWN COLOUR Desc: FLOOR OF ENTRANCE VESTIBULES			
HQ-P-03	*551407512-0003*		10/16/2014	5600 ppm
	Site: GREY COLOUR Desc: PENTHOUSE FLOOR			
HQ-P-04	*551407512-0004*		10/16/2014	2800 ppm
	Site: RED COLOUR Desc: STEEL STRUCTURAL COMPONENTS			
HQ-P-05	*551407512-0005*		10/16/2014	<90 ppm
	Site: WHITE COLOUR Desc: LOWER LEVEL WALLS			
HQ-P-06	*551407512-0006*		10/16/2014	13000 ppm
	Site: BEIGE COLOUR Desc: EXTERIOR RAILINGS			
HQ-P-07	*551407512-0007*		10/16/2014	<90 ppm
	Site: GREY COLOUR Desc: WOODEN EXTERIOR DECK			

Kevin Pang
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 established by the AIHA-LAP, unless specifically indicated otherwise.

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

Initial report from 10/16/2014 16:39:04

Appendix C
Findings and Recommendations – Public Washrooms Building

C-4.0 FINDINGS – PUBLIC WASHROOMS BUILDING

The Public Washrooms Building was reportedly constructed in 1996.

Stantec understands that significant renovations are planned for the Public Washrooms Building.

The results of the assessment for each of the considered hazardous materials within the Public Washrooms Building are provided in the following sub-sections.

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

C-4.1 Asbestos

Stantec identified and sampled various suspected ACMs, including the following:

- Exterior penetration caulking
- Duct mastic
- Drywall joint compound
- Cement panel.

10 samples of the above-noted suspected ACMs were collected and submitted to EMSL for analysis of asbestos content and nature.

A summary of the sample types, locations and analytical results is presented in Table C-4.1.1, below. Copies of the certificates of analysis provided by EMSL for the suspected ACM samples submitted are attached at the end of this Appendix.

Table C-4.1.1 Suspected ACM Sample Collection and Analysis Summary Public Washrooms Building, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
PW-EPS-01A	Exterior penetration caulking – Beige	Exterior – Around electrical panels and penetrations	None Detected
PW-EPS-01B	Exterior penetration caulking – Beige	Exterior – Around electrical panels and penetrations	None Detected
PW-EPS-01C	Exterior penetration caulking – Beige	Exterior – Around electrical panels and penetrations	None Detected
PW-DM-01A	Duct mastic – Grey	On seams of HVAC ducting in the mechanical room	None Detected

Table C-4.1.1 Suspected ACM Sample Collection and Analysis Summary Public Washrooms Building, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
PW-DM-01B	Duct mastic – Grey	On seams of HVAC ducting in the mechanical room	None Detected
PW-DM-01C	Duct mastic – Grey	On seams of HVAC ducting in the mechanical room	None Detected
PW-DJC-01A	Drywall joint compound	Men's washroom	None Detected
PW-DJC-01B	Drywall joint compound	Men's washroom	None Detected
PW-DJC-01C	Drywall joint compound	Men's washroom	None Detected
PW-CP-01	Cement Panel	Base of exterior walls	None Detected

Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of suspected ACM sample analytical results, no ACMs were identified.

C-4.2 Lead

Lead is expected to be present in the following materials:

- Solder used on copper domestic pipes
- Caulking on bell fittings for cast iron drainage pipes
- Electrical equipment (i.e. batteries for emergency lighting/signage).

With respect to paint, 2 paint chip samples were obtained, where suspected LCPs were observed. A summary of the sample types, locations and analytical results is presented in Table C-4.2.1, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

Table C-4.2.1 Suspected LCP Sample Collection and Analysis Summary Public Washrooms Building, Haines Junction, YT

Sample No.	Sample Location	Sample Colour	Lab Result (ppm)	Lead Containing (Yes/No)
PW-P-01	Beige colour	Concrete floors	120	No
PW-P-02	White colour	Walls	<90	No

Based on our observations and on our interpretations of suspected LCP sample analytical results, no LCPs were identified.

C-4.3 Polychlorinated Biphenyls

It is estimated that there are approximately 11 ballasts within the fluorescent light fixtures observed throughout. Based on the reported construction date (1996) these ballasts are not suspected to be PCB-containing.

C-4.4 Mercury

Mercury vapour is expected to be present in fluorescent light bulbs/tubes throughout.

C-4.5 Mould

No suspect mould or moisture-impacted materials were observed during the assessment.

C-4.6 Ozone-Depleting Substances

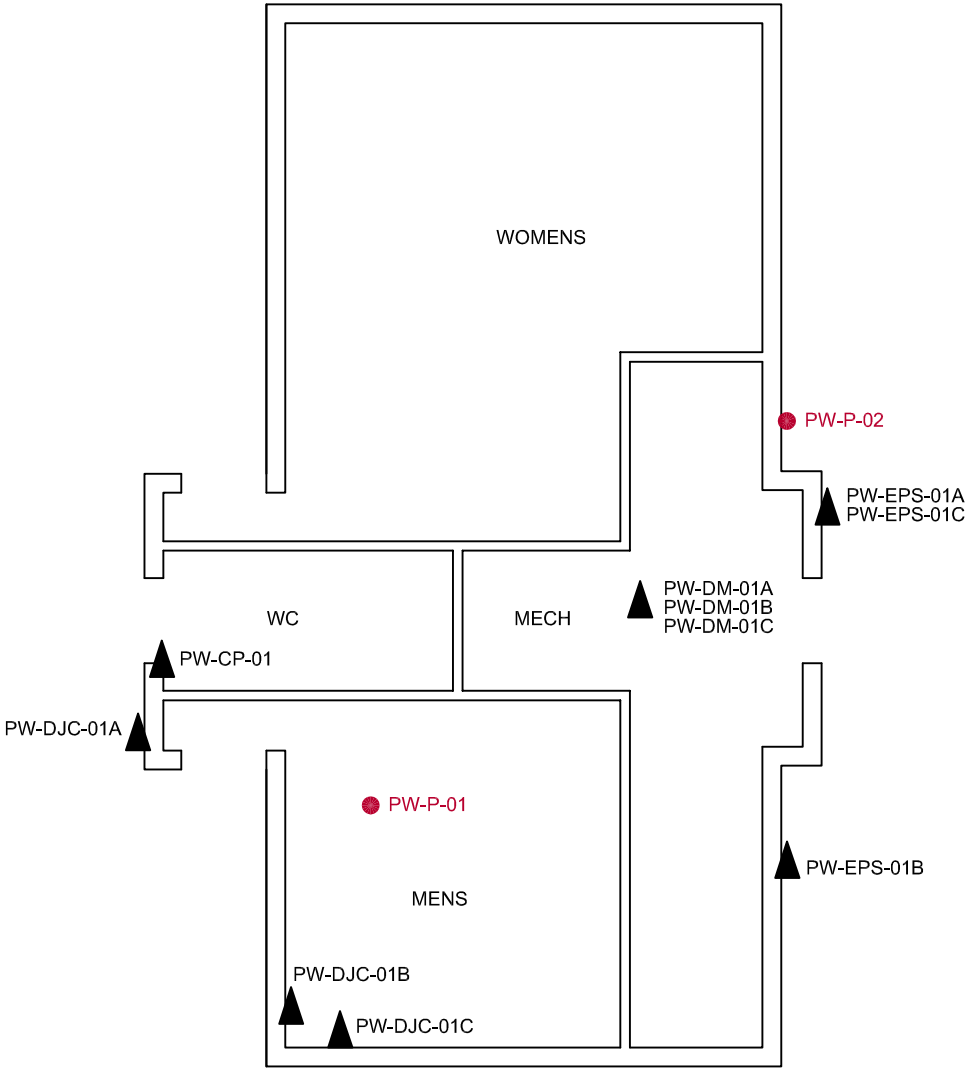
No suspected ODS-containing equipment was observed during the assessment.

C-4.7 Silica

Silica may be present in concrete and cement observed in various locations throughout.

C-5.0 BUILDING-SPECIFIC RECOMMENDATIONS

In general, identified hazardous building materials should be handled in accordance with the recommendations for renovation and continued operation that are provided in Section 5 of the main body of this report.



PUBLIC WASHROOMS BUILDING

LEGEND

- BULK SAMPLE
- PAINT CHIP SAMPLE

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

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

HAINES JUNCTION, YT

Client:	PARKS CANADA	Project No.:	144901924
		Scale:	NTS
		Date:	14/11/18
		Dwn. By:	CD PK/DM SL2014110105
		App'd By:	TW

Dwg. No.: C

Stantec

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
PW-EPS-01A *551407481-0089*	EXTERIOR PENETRATION CAULKING-BEIGE - EXTERIOR-AROUND ELECTRICAL PANELS AND PENETRATIONS	Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
PW-EPS-01B *551407481-0090*	EXTERIOR PENETRATION CAULKING-BEIGE - EXTERIOR-AROUND ELECTRICAL PANELS AND PENETRATIONS	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected
PW-EPS-01C *551407481-0091*	EXTERIOR PENETRATION CAULKING-BEIGE - EXTERIOR-AROUND ELECTRICAL PANELS AND PENETRATIONS	Brown/White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
PW-DM-01A *551407481-0092*	DUCT MASTIC-GREY - ON SEAMS OF HVAC DUCTING IN THE MECHANICAL ROOM	Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected
PW-DM-01B *551407481-0093*	DUCT MASTIC-GREY - ON SEAMS OF HVAC DUCTING IN THE MECHANICAL ROOM	Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected
PW-DM-01C *551407481-0094*	DUCT MASTIC-GREY - ON SEAMS OF HVAC DUCTING IN THE MECHANICAL ROOM	Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (2)
Nicole Yeo (4)

Kevin Pang
or other approved signatory

Initial report from 10/18/2014 10:20:20

THIS IS THE LAST PAGE OF THE REPORT.

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

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Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
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Project: **144901924.801**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
PW-DJC-01A *551407481-0095*	DRYWALL JOINT COMPOUND - MEN'S WASHROOM	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
PW-DJC-01B *551407481-0096*	DRYWALL JOINT COMPOUND - MEN'S WASHROOM	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
PW-DJC-01C *551407481-0097*	DRYWALL JOINT COMPOUND - MEN'S WASHROOM	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
PW-CP-01 *551407481-0098*	CEMENT PANEL - BASE OF EXTERIOR WALLS	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Matthew Davis (4)

Kevin Pang
or other approved signatory

Initial report from 10/18/2014 10:20:20

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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	551407512
CustomerID:	55JACQ30L
CustomerPO:	144901924.801
ProjectID:	

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

Phone: (604) 412-3004
Fax:
Received: 10/10/14 11:01 AM
Collected:

Project: **144901924.801**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
PW-P-01	*551407512-0008* Site: BEIGE COLOUR Desc: CONCRETE FLOORS		10/16/2014	120 ppm
PW-P-02	*551407512-0009* Site: WHITE COLOUR Desc: WALLS		10/16/2014	<90 ppm

Kevin Pang
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 established by the AIHA-LAP, unless specifically indicated otherwise.

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

Initial report from 10/16/2014 16:40:21

Appendix D
Findings and Recommendations – Stores Maintenance Building

D-4.0 FINDINGS – STORES MAINTENANCE BUILDING

The Stores Maintenance Building was reportedly constructed in 1988.

Stantec understands that demolition of the Stores Maintenance Building has been proposed.

The results of the assessment for each of the considered hazardous materials within the Stores Maintenance Building are provided in the following sub-sections.

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

D-4.1 Asbestos

Stantec identified and sampled various suspected ACMs, including the following:

- Pipe fitting insulation
- Fire door insulation
- Window pane caulking
- HVAC duct mastic
- Pipe fitting sealant
- Window frame caulking
- Ceiling tile
- HVAC duct wrap
- Countertop mastic
- Door caulking
- Roof mastic
- Drywall joint compound
- Cove base mastic
- Sheet flooring.

64 samples of the above-noted suspected ACMs were collected and submitted to EMSL for analysis of asbestos content and nature.

A summary of the sample types, locations and analytical results is presented in Table D-4.1.1, below. Copies of the certificates of analysis provided by EMSL for the suspected ACM samples submitted are attached at the end of this Appendix.

Table D-4.1.1 Suspected ACM Sample Collection and Analysis Summary Stores Maintenance Building, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
SM-FI-01A	Fitting insulation – Grey	At the top of the stairs in the unheated general stores	None Detected
SM-FI-01B	Fitting insulation – Grey	At the top of the stairs in the unheated general stores	None Detected
SM-FI-01C	Fitting insulation – Grey	At the top of the stairs in the unheated general stores	None Detected
SM-FDI-01A	Fire door insulation – Grey	Inside door between woodwork shop and paint room	None Detected
SM-FDI-01B	Fire door insulation – Grey	Inside door between woodwork shop and paint room	None Detected
SM-FDI-01C	Fire door insulation – Grey	Inside door between woodwork shop and paint room	None Detected
SM-WPC-01A	**Window pane caulking – Black**	**Between window frame and glass pane at the rear of the building**	**1.3% Chrysotile**
SM-WPC-01B	**Window pane caulking – Black**	**Between window frame and glass pane at the rear of the building**	**Stop Positive**
SM-WPC-01C	**Window pane caulking – Black**	**Between window frame and glass pane at the rear of the building**	**Stop Positive**
SM-WPC-02A	Window pane caulking – White	Between window frame and glass pane of windows in the door to the general stores	None Detected
SM-WPC-02B	Window pane caulking – White	Between window frame and glass pane of windows in the door to the general stores	None Detected
SM-WPC-02C	Window pane caulking – White	Between window frame and glass pane of windows in the door to the general stores	None Detected
SM-DM-01A	Duct mastic - Red	On duct seams at the top of the stairs in the unheated general stores	None Detected
SM-DM-01B	Duct mastic - Red	On duct seams at the top of the stairs in the unheated general stores	None Detected
SM-DM-01C	Duct mastic - Red	On duct seams at the top of the stairs in the unheated general stores	None Detected
SM-DM-02A	Duct mastic – Clear	On seams of dust exhaust system in the woodwork shop	None Detected
SM-DM-02B	Duct mastic – Clear	On seams of dust exhaust system in the woodwork shop	None Detected

Table D-4.1.1 Suspected ACM Sample Collection and Analysis Summary Stores Maintenance Building, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
SM-DM-02C	Duct mastic – Clear	On seams of dust exhaust system in the woodwork shop	None Detected
SM-PS-01A	Pipe sealant – Cream	Inside pipe fittings at the top of the stairs in the unheated general stores	None Detected
SM-PS-01B	Pipe sealant – Cream	Inside pipe fittings at the top of the stairs in the unheated general stores	None Detected
SM-PS-01C	Pipe sealant – Cream	Inside pipe fittings at the top of the stairs in the unheated general stores	None Detected
SM-PS-02A	Pipe sealant – Blue	Inside pipe fittings of the fire suppression system in the pump room	None Detected
SM-PS-02B	Pipe sealant – Blue	Inside pipe fittings of the fire suppression system in the pump room	None Detected
SM-PS-02C	Pipe sealant – Blue	Inside pipe fittings of the fire suppression system in the pump room	None Detected
SM-PS-03A	**Pipe sealant – Cream**	**Inside fittings of decommissioned 2" black pipes next to water tank**	**0.36% Chrysotile**
SM-PS-03B	**Pipe sealant – Cream**	**Inside fittings of decommissioned 2" black pipes next to water tank**	**0.42% Chrysotile**
SM-PS-03C	**Pipe sealant – Cream**	**Inside fittings of decommissioned 2" black pipes next to water tank**	**0.32% Chrysotile**
SM-WFC-01A	**Window frame caulking – White**	**Between window frame and building at exterior of the front entrance**	**<0.25% Chrysotile**
SM-WFC-01B	**Window frame caulking – White**	**Between window frame and building at exterior of the front entrance**	**0.97% Chrysotile**
SM-WFC-01C	**Window frame caulking – White**	**Between window frame and building at exterior of the front entrance**	**0.62% Chrysotile**
SM-CT-01A	White 2'x4' ceiling tile – Standard fissure and pinhole	Lunchroom	None Detected
SM-CT-01B	White 2'x4' ceiling tile – Standard fissure and pinhole	Lunchroom	None Detected

Table D-4.1.1 Suspected ACM Sample Collection and Analysis Summary Stores Maintenance Building, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
SM-CT-01C	White 2'x4' ceiling tile – Standard fissure and pinhole	Lunchroom	None Detected
SM-CT-02A	White 2'x4' ceiling tile – Horizontal fissure and pinhole	Lunchroom	None Detected
SM-CT-02B	White 2'x4' ceiling tile – Horizontal fissure and pinhole	Lunchroom	None Detected
SM-CT-02C	White 2'x4' ceiling tile – Horizontal fissure and pinhole	Lunchroom	None Detected
SM-CT-03A	White 2'x4' ceiling tile – Fissure	Corridor	None Detected
SM-CT-03B	White 2'x4' ceiling tile – Fissure	Corridor	None Detected
SM-CT-03C	White 2'x4' ceiling tile – Fissure	Corridor	None Detected
SM-DW-01A	Duct wrap	On duct insulation at the top of the stairs in the unheated stores	None Detected
SM-DW-01B	Duct wrap	On duct insulation at the top of the stairs in the unheated stores	None Detected
SM-DW-01C	Duct wrap	On duct insulation at the top of the stairs in the unheated stores	None Detected
SM-CTM-01A	**Countertop mastic – Cream**	**Around counters in brochure and furniture storage**	**1.7% Chrysotile**
SM-CTM-01B	**Countertop mastic – Cream**	**Around counters in brochure and furniture storage**	**Stop Positive**
SM-CTM-01C	**Countertop mastic – Cream**	**Around counters in brochure and furniture storage**	**Stop Positive**
SM-DC-01A	**Door caulking – Grey**	**Around doors at loading bay**	**2.8% Chrysotile**
SM-DC-01B	**Door caulking – Grey**	**Around doors at loading bay**	**Stop Positive**
SM-DC-01C	**Door caulking – Grey**	**Around doors at loading bay**	**Stop Positive**
SM-RRM-01A	Remnant roof mastic – Clear	Roof	None Detected
SM-RRM-01B	Remnant roof mastic – Clear	Roof	None Detected

Table D-4.1.1 Suspected ACM Sample Collection and Analysis Summary Stores Maintenance Building, Haines Junction, YT

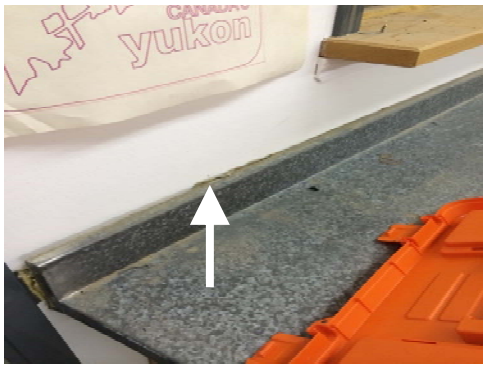
Sample Number	Material Description	Sample Location	Result (%/type asbestos)
SM-RRM-01C	Remnant roof mastic – Clear	Roof	None Detected
SM-DJC-01A	Drywall joint compound	Lunchroom	None Detected
SM-DJC-01B	Drywall joint compound	Corridor	None Detected
SM-DJC-01C	Drywall joint compound	Heated general stores	None Detected
SM-DJC-01D	Drywall joint compound	Woodwork shop	None Detected
SM-DJC-01E	Drywall joint compound	Men's washroom	None Detected
SM-DJC-01F	Drywall joint compound	Heating, plumbing, and electrical workshop	None Detected
SM-DJC-01G	Drywall joint compound	Heating, plumbing, and electrical workshop	None Detected
SM-CBM-01A	Cove base mastic – Tan	Corridor	None Detected
SM-CBM-01B	Cove base mastic – Tan	Brochure and furniture storage	None Detected
SM-CBM-01C	Cove base mastic – Tan	Heating, plumbing, and electrical workshop	None Detected
SM-SF-01	Vinyl sheet flooring – Blue with white streaks	Foyer	None Detected
SM-SF-02	Vinyl sheet flooring – Grey and white pebble pattern	Heating, plumbing, and electrical workshop storage room	None Detected
SM-SF-03	Vinyl sheet flooring – Beige speckles pattern	Fire resistant storage	None Detected

Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of suspected ACM sample analytical results, the materials presented in Table D-4.1.2, below were identified as ACMs.

Table D-4.1.2 Summary of Identified ACMs
Stores Maintenance Building, Haines Junction, YT

Identified ACM Description and Condition Information		Photo
Black window pane caulking between window frames and glass panes throughout		No photo.
Friability	Non-friable	
Condition	Good	
Content	1.3% Chrysotile	
Cream pipe sealant inside fittings of 2" decommissioned black pipes next to water tank in the pump room		
Friability	Non-friable	
Condition	Good	
Content	0.32 – 0.42% Chrysotile	
White window frame caulking between window frames and siding throughout the exterior		
Friability	Non-friable	
Condition	Good	
Content	<0.25 – 0.97% Chrysotile	

Table D-4.1.2 Summary of Identified ACMs
Stores Maintenance Building, Haines Junction, YT

Identified ACM Description and Condition Information		Photo
Cream countertop mastic between counters and the wall in then brochure and furniture storage		
Friability	Non-friable	
Condition	Good	
Content	1.7% Chrysotile	
Grey caulking around loading bay doors both garage and exit doors		
Friability	Non-friable	
Condition	Good	
Content	2.8% Chrysotile	

D-4.2 Lead

Lead is expected to be present in the following materials:

- Solder used on copper domestic pipes
- Caulking on bell fittings for cast iron drainage pipes
- Electrical equipment (i.e. batteries for emergency lighting/signage).

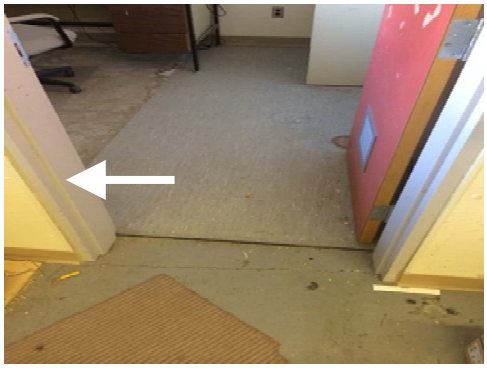
With respect to paint, 10 paint chip samples were obtained, where suspected LCPs were observed. A summary of the sample types, locations and analytical results is presented in Table D-4.2.1, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

Table D-4.2.1 Suspected LCP Sample Collection and Analysis Summary Stores Maintenance Building, Haines Junction, YT

Sample No.	Sample Location	Sample Colour	Lab Result (ppm)	Lead Containing (Yes/No)
SM-P-01	Floors throughout	Grey	<90	No
SM-P-02	Structural steel throughout	Cream	320	No
SM-P-03	Stair railing in unheated general stores	Black	<220	No
SM-P-04	Doors throughout	Red	<160	No
SM-P-05	**Interior trim**	**Grey**	**2,000**	**Yes**
SM-P-06	Janitors room walls	Blue	<90	No
SM-P-07	Door of heating, plumbing, and electrical workshop office	Brown	380	No
SM-P-08	**Structural steel throughout**	**Red**	**2,500**	**Yes**
SM-P-09	Exterior siding	Grey	<350	No
SM-P-10	Interior walls	White	<90	No

Based on our observations and on our interpretations of suspected LCP sample analytical results, the materials presented in Table D-4.2.2, below were identified as LCPs.

Table D-4.2.2 Summary of Identified LCPs
Stores Maintenance Building, Haines Junction, YT

Identified LCP Description	Photo
Grey paint on interior trim. This paint was observed to be in good condition (not bubbling, flaking or peeling).	
Red paint on structural steel. This paint was observed to be in good condition (not bubbling, flaking or peeling).	

D-4.3 Polychlorinated Biphenyls

Based on the construction date of the building PCB-containing fluorescent light ballasts are not expected to be present.

D-4.4 Mercury

One (1) mercury-containing thermostat was observed. Several suspected mercury containing thermometers were also observed in the boiler room.

Mercury vapour is expected to be present in fluorescent light bulbs/tubes throughout.

D-4.5 Mould

Moisture damage was observed as summarized in Table D-4.5, below.

Table D-4.5 Summary of Identified Mould and/or Moisture-Impacted Materials Stores Maintenance Building, Haines Junction, YT

Identified Mould and/or Moisture Impacted Materials Description	Photo
Moisture stained ceiling tiles were observed in various locations throughout.	

D-4.6 Ozone-Depleting Substances

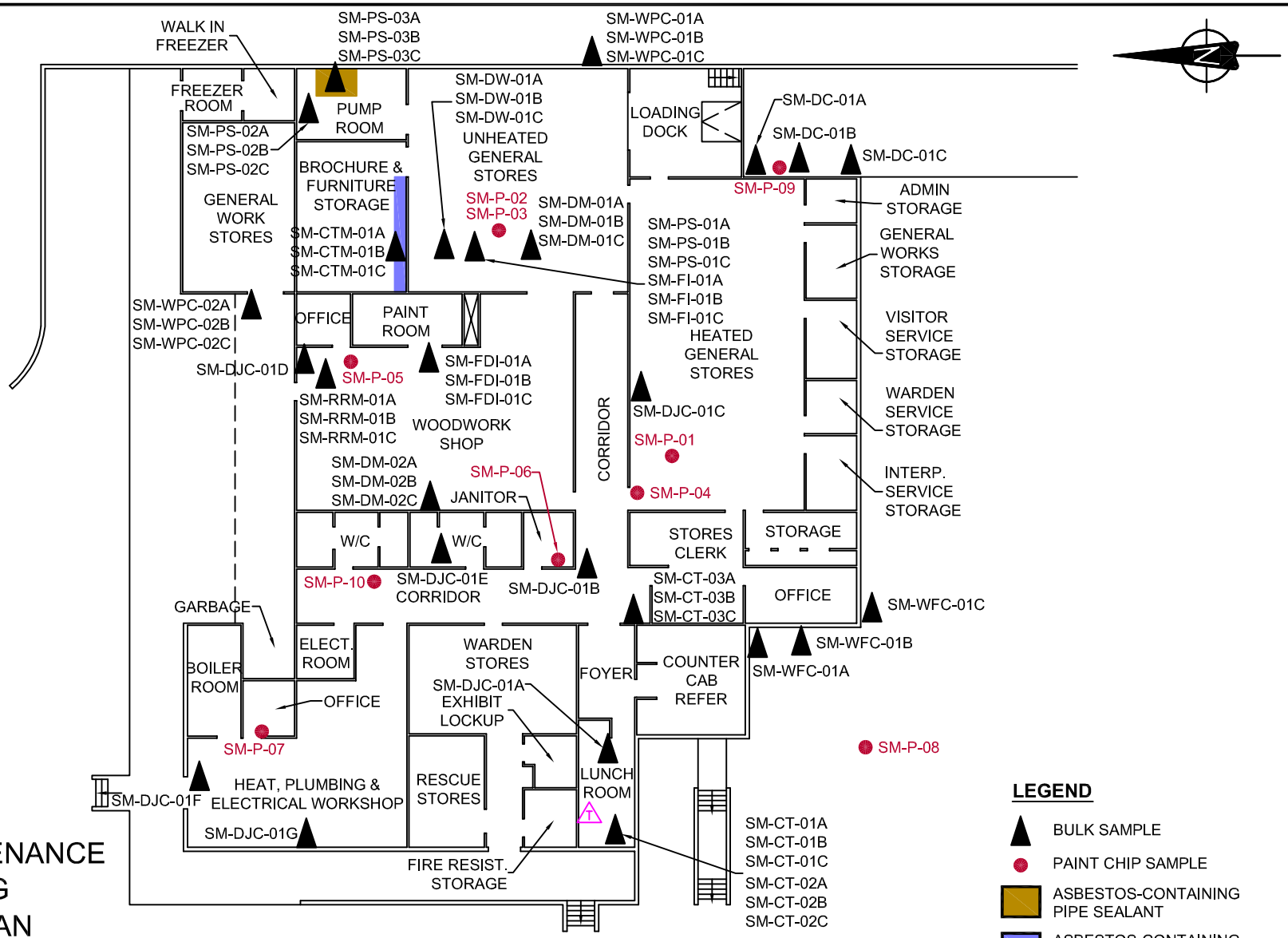
No suspected ODS-containing equipment was observed during the assessment.

D-4.7 Silica

Silica may be present in concrete, cement, ceramic tiles, and acoustical ceiling tiles observed in various locations throughout.

D-5.0 BUILDING-SPECIFIC RECOMMENDATIONS

In general, identified hazardous building materials should be handled in accordance with the recommendations for demolition that are provided in Section 5 of the main body of this report.



STORES MAINTENANCE BUILDING FLOOR PLAN

NOTES:
1. **BLACK WINDOW PANE CAULKING BETWEEN WINDOW FRAMES AND GLASS PANES THROUGHOUT IS ACM.**
2. **WHITE WINDOW FRAME CAULKING BETWEEN WINDOW FRAMES AND SIDING THROUGHOUT THE EXTERIOR IS ACM.**
3. **GREY CULKING AROUND LOADING BAY DOORS IS ACM.**
4. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

HAINES JUNCTION, YT

Client: PARKS CANADA

Project No.:	144901924
Scale:	NTS
Date:	14/11/18
Dwn. By:	CD SL2014110106 PK/DM
App'd By:	TW
Dwg. No.:	D

Stantec

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	551407481
CustomerID:	55JACQ30N
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Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
SM-WPC-01A *551407481-0105*	WINDOW PANE CAULKING-BLACK - BETWEEN WINDOW FRAME AND GLASS PANE AT THE REAR OF THE BUILDING	Black Non-Fibrous Homogeneous	98.7	None	1.3% Chrysotile
SM-WPC-01B *551407481-0106*	WINDOW PANE CAULKING-BLACK - BETWEEN WINDOW FRAME AND GLASS PANE AT THE REAR OF THE BUILDING				
Positive Stop (Not Analyzed)					
SM-WPC-01C *551407481-0107*	WINDOW PANE CAULKING-BLACK - BETWEEN WINDOW FRAME AND GLASS PANE AT THE REAR OF THE BUILDING				
Positive Stop (Not Analyzed)					
SM-WPC-02A *551407481-0108*	WINDOW PANE CAULKING-WHITE - BETWEEN WINDOW FRAME AND GLASS PANE OF WINDOWS IN THE DOOR TO THE GENERAL STORES	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SM-WPC-02B *551407481-0109*	WINDOW PANE CAULKING-WHITE - BETWEEN WINDOW FRAME AND GLASS PANE OF WINDOWS IN THE DOOR TO THE GENERAL STORES	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (9)
Nicole Yeo (24)

Kevin Pang
or other approved signatory

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

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2756 Slough Street, Mississauga, ON L4T 1G3
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SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
SM-WPC-02C *551407481-0110*	WINDOW PANE CAULKING-WHITE - BETWEEN WINDOW FRAME AND GLASS PANE OF WINDOWS IN THE DOOR TO THE GENERAL STORES	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SM-DM-01A *551407481-0111*	DUCT MASTIC-RED - ON DUCT SEAMS AT THE TOP OF THE STAIRS IN THE UNHEATED GENERAL STORES	Brown/Blue Non-Fibrous Homogeneous	96.9	3.1 Wollastonite	No Asbestos Detected
SM-DM-01B *551407481-0112*	DUCT MASTIC-RED - ON DUCT SEAMS AT THE TOP OF THE STAIRS IN THE UNHEATED GENERAL STORES	Brown Non-Fibrous Homogeneous	98.7	1.3 Wollastonite	No Asbestos Detected
SM-DM-01C *551407481-0113*	DUCT MASTIC-RED - ON DUCT SEAMS AT THE TOP OF THE STAIRS IN THE UNHEATED GENERAL STORES	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SM-DM-02A *551407481-0114*	DUCT MASTIC-CLEAR - ON SEAMS OF DUST EXHAUST SYSTEM IN THE WOODWORK SHOP	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SM-DM-02B *551407481-0115*	DUCT MASTIC-CLEAR - ON SEAMS OF DUST EXHAUST SYSTEM IN THE WOODWORK SHOP	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (9)
Nicole Yeo (24)

Kevin Pang
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Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
SM-DM-02C *551407481-0116*	DUCT MASTIC-CLEAR - ON SEAMS OF DUST EXHAUST SYSTEM IN THE WOODWORK SHOP	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SM-PS-01A *551407481-0117*	PIPE SEALANT-CREAM - INSIDE PIPE FITTINGS AT THE TOP OF THE STAIRS IN THE UNHEATED GENERAL STORES	Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SM-PS-01B *551407481-0118*	PIPE SEALANT-CREAM - INSIDE PIPE FITTINGS AT THE TOP OF THE STAIRS IN THE UNHEATED GENERAL STORES	Blue/Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SM-PS-01C *551407481-0119*	PIPE SEALANT-CREAM - INSIDE PIPE FITTINGS AT THE TOP OF THE STAIRS IN THE UNHEATED GENERAL STORES	Blue/Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SM-PS 02A *551407481-0120*	PIPE SEALANT-BLUE - INSIDE PIPE FITTINGS OF THE FIRE SUPPRESSION SYSTEM IN THE PUMP ROOM	Blue Non-Fibrous Homogeneous	98.0	2.0 Fibrous (other)	No Asbestos Detected
SM-PS 02B *551407481-0121*	PIPE SEALANT-BLUE - INSIDE PIPE FITTINGS OF THE FIRE SUPPRESSION SYSTEM IN THE PUMP ROOM	Blue Non-Fibrous Homogeneous	98.6	1.4 Fibrous (other)	No Asbestos Detected

Analyst(s)

Jon Delos Santos (9)
Nicole Yeo (24)

Kevin Pang
or other approved signatory

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

Initial report from 10/18/2014 10:32:43

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
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SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
SM-PS 02C *551407481-0122*	PIPE SEALANT-BLUE - INSIDE PIPE FITTINGS OF THE FIRE SUPPRESSION SYSTEM IN THE PUMP ROOM	Blue Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SM-PS-03A *551407481-0123*	PIPE SEALANT-CREAM - INSIDE FITTINGS OF DECOMMISSIONED 2" BLACK PIPES NEXT TO WATER TANK	White Non-Fibrous Homogeneous	99.6	None	0.36% Chrysotile
SM-PS-03B *551407481-0124*	PIPE SEALANT-CREAM - INSIDE FITTINGS OF DECOMMISSIONED 2" BLACK PIPES NEXT TO WATER TANK	White Non-Fibrous Homogeneous	99.6	None	0.42% Chrysotile
SM-PS-03C *551407481-0125*	PIPE SEALANT-CREAM - INSIDE FITTINGS OF DECOMMISSIONED 2" BLACK PIPES NEXT TO WATER TANK	White Non-Fibrous Homogeneous	99.7	None	0.32% Chrysotile
SM-WFC-01A *551407481-0126*	WINDOW FRMAE CAULKING-WHITE - BETWEEN WINDOW FRAME AND BUILDING AT EXTERIOR OF THE FRONT ENTRANCE	Gray Non-Fibrous Homogeneous	100	None	<0.25% Chrysotile

Analyst(s)

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Phone/Fax: 289-997-4602 / (289) 997-4607
http://www.EMSL.com torontolab@emsl.com

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Stantec Consulting, Ltd.
4370 Dominion Street
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SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
SM-WFC-01B *551407481-0127*	WINDOW FRMAE CAULKING-WHITE - BETWEEN WINDOW FRAME AND BUILDING AT EXTERIOR OF THE FRONT ENTRANCE	Gray Non-Fibrous Homogeneous	99.0	None	0.97% Chrysotile
SM-WFC-01C *551407481-0128*	WINDOW FRMAE CAULKING-WHITE - BETWEEN WINDOW FRAME AND BUILDING AT EXTERIOR OF THE FRONT ENTRANCE	Gray Non-Fibrous Homogeneous	99.4	None	0.62% Chrysotile
SM-CTM-01A *551407481-0141*	COUNTERTOP MASTIC-CREAM - AROUND COUNTERS IN BROCHURE AND FURNITURE STORAGE	Yellow Non-Fibrous Homogeneous	98.3	None	1.7% Chrysotile
SM-CTM-01B *551407481-0142*	COUNTERTOP MASTIC-CREAM - AROUND COUNTERS IN BROCHURE AND FURNITURE STORAGE				
Positive Stop (Not Analyzed)					
SM-CTM-01C *551407481-0143*	COUNTERTOP MASTIC-CREAM - AROUND COUNTERS IN BROCHURE AND FURNITURE STORAGE				
Positive Stop (Not Analyzed)					
SM-DC-01A *551407481-0144*	DOOR CAULKING-GREY - AROUND DOORS AA LOADING BAY	Gray Non-Fibrous Homogeneous	97.2	None	2.8% Chrysotile

Analyst(s)

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Phone/Fax: 289-997-4602 / (289) 997-4607
http://www.EMSL.com torontolab@emsl.com

EMSL Canada Or	551407481
CustomerID:	55JACQ30N
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Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
SM-DC-01B *551407481-0145*	DOOR CAULKING-GREY - AROUND DOORS AA LOADING BAY				
Positive Stop (Not Analyzed)					
SM-DC-01C *551407481-0146*	DOOR CAULKING-GREY - AROUND DOORS AA LOADING BAY				
Positive Stop (Not Analyzed)					
SM-RRM-01A *551407481-0147*	REMNANT ROOF MASTIC-CLEAR - ROOF	Blue/Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SM-RRM-01B *551407481-0148*	REMNANT ROOF MASTIC-CLEAR - ROOF	Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SM-RRM-01C *551407481-0149*	REMNANT ROOF MASTIC-CLEAR - ROOF	Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SM-CBM-01A *551407481-0157*	COVE BASE MASTIC-TAN - CORRIDOR	Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SM-CBM-01B *551407481-0158*	COVE BASE MASTIC-TAN - BROCHURE AND FURNITURE STORAGE	Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SM-CBM-01C *551407481-0159*	COVE BASE MASTIC-TAN - HEATING, PLUMBING AND ELECTRICAL WORKSHOP	White/Beige Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

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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	551407481
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CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
SM-SF-01 *551407481-0160*	VINYL SHEET FLOORING-BLUE WITH WHITE STREAKS - FOYER	Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SM-SF-02 *551407481-0161*	VINYL SHEET FLOORING-GREY AND WHITE PEBBLE PATTERN - HEATING, PLUMBING AND ELECTRICAL WORKSHOP STORAGE ROOM	Gray/White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
SM-SF-03 *551407481-0162*	VINYL SHEET FLOORING-BEIGE SPECKELS PATTERN - FIRE RESISTANT STORAGE	Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (9)
Nicole Yeo (24)

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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	551407481
CustomerID:	55JACQ30N
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Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
SM-FI-01A *551407481-0099*	FITTING INSULATION-GREY - AT THE TOP OF THE STAIRS IN THE UNHEATED GENERAL STORES	Gray Fibrous Homogeneous	10%	Min. Wool	90%	Non-fibrous (other)	**None Detected**
SM-FI-01B *551407481-0100*	FITTING INSULATION-GREY - AT THE TOP OF THE STAIRS IN THE UNHEATED GENERAL STORES	Gray Fibrous Homogeneous	10%	Min. Wool	90%	Non-fibrous (other)	**None Detected**
SM-FI-01C *551407481-0101*	FITTING INSULATION-GREY - AT THE TOP OF THE STAIRS IN THE UNHEATED GENERAL STORES	Gray Fibrous Homogeneous	10%	Min. Wool	90%	Non-fibrous (other)	**None Detected**
SM-FDI-01A *551407481-0102*	FIRE DOOR INSULATION-GREY - INSIDE DOOR BETWEEN WOODWORK SHOP AND PAINT ROOM	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**

Analyst(s)

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Matthew Davis (19)

Kevin Pang
or other approved signatory

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Phone/Fax: 289-997-4602 / (289) 997-4607
http://www.EMSL.com torontolab@emsl.com

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Stantec Consulting, Ltd.
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5th Floor
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
SM-FDI-01B *551407481-0103*	FIRE DOOR INSULATION-GREY - INSIDE DOOR BETWEEN WOODWORK SHOP AND PAINT ROOM	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
SM-FDI-01C *551407481-0104*	FIRE DOOR INSULATION-GREY - INSIDE DOOR BETWEEN WOODWORK SHOP AND PAINT ROOM	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
SM-CT-01A *551407481-0129*	WHITE 2'X4' CEILING TILE-STANDARD FISSURES AND - PINHOLE/ LUNCHROOM	Gray/White Fibrous Homogeneous	35% 45%	Cellulose Min. Wool	20%	Non-fibrous (other)	**None Detected**
SM-CT-01B *551407481-0130*	WHITE 2'X4' CEILING TILE-STANDARD FISSURES AND - PINHOLE/ LUNCHROOM	Gray/White Fibrous Homogeneous	35% 45%	Cellulose Min. Wool	20%	Non-fibrous (other)	**None Detected**

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Matthew Davis (19)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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Fax:	(604) 436-3752
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
SM-CT-01C *551407481-0131*	WHITE 2'X4' CEILING TILE-STANDARD FISSURES AND -PINHOLE/ LUNCHROOM	Gray/White Fibrous Homogeneous	35% 45%	Cellulose Min. Wool	20%	Non-fibrous (other)	**None Detected**
SM-CT-02A *551407481-0132*	WHITE 2'X4' CEILING TILE-HORIZONTAL FISSURE - AND PINHOLE/ LUNCHROOM	Gray/White Fibrous Homogeneous	35% 45%	Cellulose Min. Wool	20%	Non-fibrous (other)	**None Detected**
SM-CT-02B *551407481-0133*	WHITE 2'X4' CEILING TILE-HORIZONTAL FISSURE - AND PINHOLE/ LUNCHROOM	Gray/White Fibrous Homogeneous	35% 45%	Cellulose Min. Wool	20%	Non-fibrous (other)	**None Detected**
SM-CT-02C *551407481-0134*	WHITE 2'X4' CEILING TILE-HORIZONTAL FISSURE - AND PINHOLE/ LUNCHROOM	Gray/White Fibrous Homogeneous	35% 45%	Cellulose Min. Wool	20%	Non-fibrous (other)	**None Detected**
SM-CT-03A *551407481-0135*	WHITE 2'X4' CEILING TILE-FISURE - CORRIDOR	Gray/White Fibrous Homogeneous	35% 45%	Cellulose Min. Wool	20%	Non-fibrous (other)	**None Detected**

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
SM-CT-03B *551407481-0136*	WHITE 2'X4' CEILING TILE-FISURE - CORRIDOR	Gray/White Fibrous Homogeneous	35% 45%	Cellulose Min. Wool	20%	Non-fibrous (other)	**None Detected**
SM-CT-03C *551407481-0137*	WHITE 2'X4' CEILING TILE-FISURE - CORRIDOR	Gray/White Fibrous Homogeneous	35% 45%	Cellulose Min. Wool	20%	Non-fibrous (other)	**None Detected**
SM-DW-01A *551407481-0138*	DUCT WRAP - ON DUCT INSULATIN AT THE TOP OF THE STAIRS IN THE UNHEATED STORES	Tan Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
SM-DW-01B *551407481-0139*	DUCT WRAP - ON DUCT INSULATIN AT THE TOP OF THE STAIRS IN THE UNHEATED STORES	Tan Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
SM-DW-01C *551407481-0140*	DUCT WRAP - ON DUCT INSULATIN AT THE TOP OF THE STAIRS IN THE UNHEATED STORES	Brown Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
SM-DJC-01A *551407481-0150*	DRYWALL JOINT COMPOUND - LUNCHROOM	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
SM-DJC-01B *551407481-0151*	DRYWALL JOINT COMPOUND - CORRIDOR	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
SM-DJC-01C *551407481-0152*	DRYWALL JOINT COMPOUND - HEATED GENERAL STORES	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
SM-DJC-01D *551407481-0153*	DRYWALL JOINT COMPOUND - WOODWORK SHOP	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
SM-DJC-01E *551407481-0154*	DRYWALL JOINT COMPOUND - MEN'S WASHROOM	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
SM-DJC-01F *551407481-0155*	DRYWALL JOINT COMPOUND - HEATING, PLUMBING, AND ELECTRICAL WORKSHOP	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

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Matthew Davis (19)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**		**% Type**
SM-DJC-01G *551407481-0156*	DRYWALL JOINT COMPOUND - HEATING, PLUMIBING, AND ELECTRICAL WORKSHOP	White Non-Fibrous Homogeneous		100%	Non-fibrous (other)	**None Detected**

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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	551407512
CustomerID:	55JACQ30L
CustomerPO:	144901924.801
ProjectID:	

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

Phone: (604) 412-3004
Fax:
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Collected:

Project: **144901924.801**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
SM-P-01	*551407512-0010*		10/16/2014	<90 ppm
	Site: GREY COLOUR Desc: FLOORS THROUGHOUT			
SM-P-02	*551407512-0011*		10/16/2014	320 ppm
	Site: CREAM COLOUR Desc: STRUCTURAL STEEL THROUGHOUT			
SM-P-03	*551407512-0012*		10/16/2014	<220 ppm
	Site: BLACK COLOUR Desc: STAIR RAILING IN UNHEATED GENERAL STORES			
SM-P-04	*551407512-0013*		10/16/2014	<160 ppm
	Site: RED COLOUR Desc: DOORS THROUGHOUT			
SM-P-05	*551407512-0014*		10/16/2014	2000 ppm
	Site: GREY COLOUR Desc: INTERIOR TRIM			
SM-P-06	*551407512-0015*		10/16/2014	<90 ppm
	Site: BLUE COLOUR Desc: JANITORS ROOM WALLS			
SM-P-07	*551407512-0016*		10/16/2014	380 ppm
	Site: BROWN COLOUR Desc: DOOR OF HEATING, PLUMBING, AND ELECTRICAL WORKSHOP OFFICE			
SM-P-08	*551407512-0017*		10/16/2014	2500 ppm
	Site: RED COLOUR Desc: STRUCTURAL STEEL THROUGHOUT			
SM-P-09	*551407512-0018*		10/16/2014	<350 ppm
	Site: GREY COLOUR Desc: EXTERIOR SIDING			
SM-P-10	*551407512-0019*		10/16/2014	<90 ppm
	Site: WHITE COLOUR Desc: INTERIOR WALLS			

Insufficient sample to reach reporting limit for sample#551407512-0012/-0013/-0018.

Kevin Pang
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 established by the AIHA-LAP, unless specifically indicated otherwise.

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

Initial report from 10/16/2014 16:40:31

Appendix E
Findings and Recommendations
– Wardens Office Building

E-4.0 FINDINGS – WARDEN'S OFFICE BUILDING

The Warden's Office Building was reportedly constructed in 1956.

Stantec understands that demolition of the Warden's Office Building has been proposed.

The results of the assessment for each of the considered hazardous materials within the Warden's Office Building are provided in the following sub-sections.

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

E-4.1 Asbestos

Stantec identified and sampled various suspected ACMs, including the following:

- Wall panel
- Pipe fitting insulation
- Straight pipe insulation
- Roof flashing mastic
- Electrical penetration putty
- Vinyl floor tile
- Building paper
- Window frame and pane caulking
- Chimney flashing sealant
- Ceiling tile
- Drywall joint compound
- Roofing shingle
- Brick mortar
- Donnacona board
- Sheet flooring
- Carpet mastic (remnant).

49 samples of the above-noted suspected ACMs were collected and submitted to EMSL for analysis of asbestos content and nature.

A summary of the sample types, locations and analytical results is presented in Table E-4.1.1, below. Copies of the certificates of analysis provided by EMSL for the suspected ACM samples submitted are attached at the end of this Appendix.

It should be noted that several bulk samples of vinyl floor tile were further separated into layers during laboratory analysis.

Table E-4.1.1 Suspected ACM Sample Collection and Analysis Summary Warden's Office Building, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
WO-WP-01	**Wall panel**	**Boiler room**	**8% Chrysotile**
WO-PI-01A	**Pipe fitting insulation - Grey**	**Basement room 8**	**45% Chrysotile**
WO-PI-01B	**Pipe fitting insulation - Grey**	**Boiler room**	**Stop Positive**
WO-PI-01C	**Pipe fitting insulation - Grey**	**Basement room 10**	**Stop Positive**
WO-API-01A	**"Air-O-Cel" pipe insulation**	**Basement room 12**	**20% Chrysotile**
WO-API-01B	**"Air-O-Cel" pipe insulation**	**Basement corridor**	**Stop Positive**
WO-API-01C	**"Air-O-Cel" pipe insulation**	**Basement room 8**	**Stop Positive**
WO-RFM-01A	**Roof flashing mastic – Grey/black**	**Seams of stairwell roof**	**6.3% Chrysotile**
WO-RFM-01B	**Roof flashing mastic – Grey/black**	**Seams of stairwell roof**	**Stop Positive**
WO-RFM-01C	**Roof flashing mastic – Grey/black**	**Seams of stairwell roof**	**Stop Positive**
WO-EPP-01A	Electrical penetration putty – Beige	Front entrance exterior around electrical penetrations	None Detected
WO-EPP-01B	Electrical penetration putty – Beige	Front entrance exterior around electrical penetrations	None Detected
WO-EPP-01C	Electrical penetration putty – Beige	Front entrance exterior around electrical penetrations	None Detected
WO-FT-01	9"x9" vinyl floor tile – Light green with white streaks	Basement room 12	None Detected
WO-FT-01-Mastic	**Floor tile mastic – Black**	**Basement room 12**	**<0.25% Chrysotile**
WO-FT-02	**9"x9" vinyl floor tile – Grey with black streaks**	**Basement room 12**	**8% Chrysotile**
WO-FT-02-Mastic	**Floor tile mastic – Black**	**Basement room 12**	**0.52% Chrysotile**
WO-FT-03	**9"x9" vinyl floor tile – Beige with black streaks**	**Basement room 12**	**4.7% Chrysotile**
WO-FT-03-Mastic	**Floor tile mastic – Black**	**Basement room 12**	**0.54% Chrysotile**
WO-FT-04	**9"x9" vinyl floor tile – Dark green with white streaks**	**Basement room 12**	**3.5% Chrysotile**

Table E-4.1.1 Suspected ACM Sample Collection and Analysis Summary Warden's Office Building, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
WO-FT-04-Mastic	**Floor tile mastic – Black**	**Basement room 12**	**1.7% Chrysotile**
WO-BP-01A	Building paper – Black	Roof (concealed under wood shingles)	None Detected
WO-BP-01B	Building paper – Black	Roof (concealed under wood shingles)	None Detected
WO-BP-01C	Building paper – Black	Roof (concealed under wood shingles)	None Detected
WO-WFC-01A	**Window frame caulking – Grey**	**Between window frame and the building on the front exterior**	**2.5% Chrysotile**
WO-WFC-01B	**Window frame caulking – Grey**	**Between window frame and the building on the front exterior**	**Stop Positive**
WO-WFC-01C	**Window frame caulking – Grey**	**Between window frame and the building on the front exterior**	**Stop Positive**
WO-CFS-01A	**Chimney flashing sealant – Black (painted brown)**	**Around seams of chimney flashing on the roof**	**2.8% Chrysotile**
WO-CFS-01B	**Chimney flashing sealant – Black (painted brown)**	**Around seams of chimney flashing on the roof**	**Stop Positive**
WO-CFS-01C	**Chimney flashing sealant – Black (painted brown)**	**Around seams of chimney flashing on the roof**	**Stop Positive**
WO-WPC-01A	**Window pane caulking – Black**	**Between window frame and glass pane interior of NE window**	**1.5% Chrysotile**
WO-WPC-01B	**Window pane caulking – Black**	**Between window frame and glass pane interior of W window**	**Stop Positive**
WO-WPC-01C	**Window pane caulking – Black**	**Between window frame and glass pane interior of NW window**	**Stop Positive**
WO-CT-01A	Ceiling tile – White 1'x1'	Main floor room 1	None Detected
WO-CT-01B	Ceiling tile – White 1'x1'	Main floor room 1	None Detected
WO-CT-01C	Ceiling tile – White 1'x1'	Main floor room 1	None Detected
WO-DJC-01A	**Drywall joint compound**	**Top of the basement stairwell**	**None Detected**
WO-DJC-01B	**Drywall joint compound**	**Main floor corridor**	**3% Chrysotile**
WO-DJC-01C	**Drywall joint compound**	**Main floor room 1**	**None Detected**
WO-DJC-01D	**Drywall joint compound**	**Bottom of basement stairwell**	**None Detected**
WO-DJC-01E	**Drywall joint compound**	**Basement room 11 ceiling**	**None Detected**
WO-RS-01A	Roofing shingle – Tar and gravel	Roof (concealed under wood shingles and building paper)	None Detected

Table E-4.1.1 Suspected ACM Sample Collection and Analysis Summary Warden's Office Building, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
WO-RS-01B	Roofing shingle – Tar and gravel	Roof (concealed under wood shingles and building paper)	None Detected
WO-RS-01C	Roofing shingle – Tar and gravel	Roof (concealed under wood shingles and building paper)	None Detected
WO-BM-01A	Brick mortar	Exterior of the chimney	None Detected
WO-BM-01B	Brick mortar	Exterior of the chimney	None Detected
WO-BM-01C	Brick mortar	Exterior of the chimney	None Detected
WO-DCB-01A	"Donnacona board"	West wall of basement room 9	None Detected
WO-DCB-01B	"Donnacona board"	West wall of basement room 9	None Detected
WO-DCB-01C	"Donnacona board"	West wall of basement room 9	None Detected
WO-SF-01	Vinyl sheet flooring – Grey and cream gravel pattern	Main floor bathroom 1	None Detected
WO-CM-01A	Carpet mastic (remnant) – Tan	Basement corridor	None Detected
WO-CM-01B	Carpet mastic (remnant) – Tan	Basement corridor	None Detected
WO-CM-01C	Carpet mastic (remnant) – Tan	Basement corridor	None Detected

Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of suspected ACM sample analytical results, the materials presented in Table E-4.1.2, below were identified as ACMs.

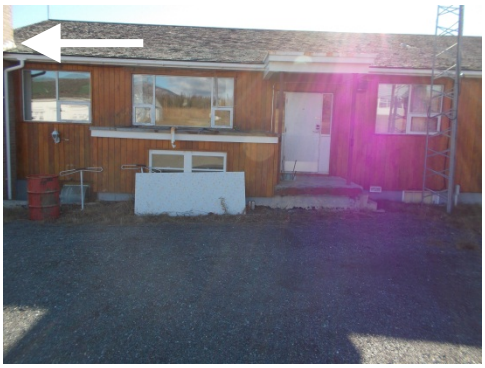
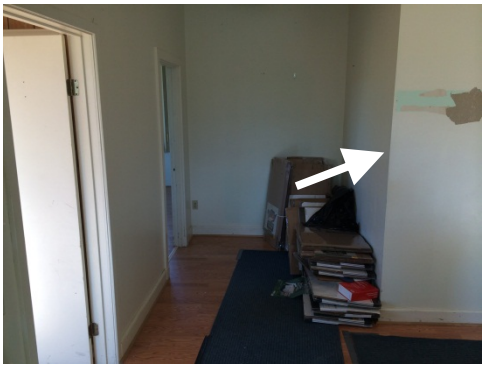
Table E-4.1.2 Summary of Identified ACMs Warden's Office Building, Haines Junction, YT

Identified ACM Description and Condition Information		Photo
Cement panel around the top of the walls in the boiler room.		
Friability	Non-friable	
Condition	Good	
Content	8% Chrysotile	
Pipe fitting insulation throughout (cementitious insulation applied to elbows, t's, and valves)		
Friability	Friable	
Condition	Good	
Content	45% Chrysotile	
Pipe straight insulation throughout ("Air-O-Cel" corrugated paper insulation on straight sections of pipe)		
Friability	Friable	
Condition	Good	
Content	20% Chrysotile	

Table E-4.1.2 Summary of Identified ACMs Warden's Office Building, Haines Junction, YT

Identified ACM Description and Condition Information		Photo
Grey/black roof flashing mastic on the seams of the aluminum roof of the basement exit stairwell		
Friability	Non-friable	
Condition	Good	
Content	6.3% Chrysotile	
9"x9" vinyl floor tile in basement room 12 (various colours, only the light green tiles are non-ACM) and the associated mastic (including that for the non-ACM light green tiles)		
Friability	Non-friable	
Condition	Good	
Content	Floor tile – 3.5 – 8% Chrysotile Mastic - <0.25 – 1.7% Chrysotile	
Grey window frame caulking (between window frame and the building) on the exterior of windows throughout		
Friability	Non-friable	
Condition	Good	
Content	2.5% Chrysotile	

Table E-4.1.2 Summary of Identified ACMs Warden's Office Building, Haines Junction, YT

Identified ACM Description and Condition Information		Photo
Black (painted brown) flashing sealant between the chimney and the roof		
Friability	Non-friable	
Condition	Good	
Content	2.8% Chrysotile	
Black window pane caulking (between window frame and glass pane) on windows throughout		
Friability	Non-friable	
Condition	Good	
Content	1.5% Chrysotile	
Drywall joint compound applied to walls throughout		
Friability	Non-friable in-situ but may become friable when it is disturbed	
Condition	Good	
Content	3% Chrysotile	

E-4.1.1 Drywall Joint Compound

Chrysotile asbestos was detected in 1 of 5 samples of drywall joint compound, which were collected from various application types (interior partition, perimeter, ceilings, etc.) within the building. As visual distinction between asbestos-containing drywall joint compound and non-asbestos-containing drywall joint compound is not practical (it is likely that over the years there were several renovations where drywall joint compound may have been layered; finished drywall walls and ceilings are covered with multiple layers of paint, and finishing is conducted to blend different types of wall materials such that the surface is continuous) and as the asbestos content of this material may be inconsistent (the application of drywall joint compound was often conducted by hand-mixing the components), the extent of asbestos-containing drywall joint compound is difficult to determine. As such, drywall joint compound throughout the building should be considered asbestos-containing.

E-4.2 Lead

Lead is expected to be present in the following materials:

- Solder used on copper domestic pipes
- Caulking on bell fittings for cast iron drainage pipes
- Electrical equipment (i.e. batteries for emergency lighting/signage).

With respect to paint, 11 paint chip samples were obtained, where suspected LCPs were observed. A summary of the sample types, locations and analytical results is presented in Table E-4.2.1, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

Table E-4.2.1 Suspected LCP Sample Collection and Analysis Summary Warden's Office Building, Haines Junction, YT

Sample No.	Sample Location	Sample Colour	Lab Result (ppm)	Lead Containing (Yes/No)
WO-P-01	**Basement corridor floor**	**Red/grey**	**1,400**	**Yes**
WO-P-02	**Basement stairwell floor**	**Yellow**	**2,000**	**Yes**
WO-P-03	**Basement trim**	**Yellow**	**3,400**	**Yes**
WO-P-04	**Basement floors**	**Red**	**3,500**	**Yes**
WO-P-05	Basement room 8 walls	Cream	<90	No
WO-P-06	Basement floors	Grey	<90	No
WO-P-07	Main floor walls	Cream/green	920	Yes
WO-P-08	Main floor ceilings	White	370	No
WO-P-09	**Exterior concrete at front entrance**	**Grey**	**2,200**	**Yes**
WO-P-10	**Exterior wood at front entrance**	**Orange**	**26,000**	**Yes**
WO-P-11	**Exterior trim**	**White**	**20,000**	**Yes**

Based on our observations and on our interpretations of suspected LCP sample analytical results, the materials presented in Table E-4.2.2, below were identified as LCPs.

Table E-4.2.2 Summary of Identified LCPs Warden's Office Building, Haines Junction, YT

Identified LCP Description	Photo
Red/grey paint on the basement corridor floor. This paint was observed to be in fair condition (minimal bubbling, flaking or peeling).	
Yellow paint on the basement stairwell. This paint was observed to be in good condition (not bubbling, flaking or peeling).	
Yellow paint on trim throughout the basement. This paint was observed to be in good condition (not bubbling, flaking or peeling).	

Table E-4.2.2 Summary of Identified LCPs Warden's Office Building, Haines Junction, YT

Identified LCP Description	Photo
Red paint on the basement floors. This paint was observed to be in good condition (not bubbling, flaking or peeling).	
Grey paint on the exterior concrete at the front entrance. This paint was observed to be in fair condition (minimal bubbling, flaking or peeling).	
Orange paint on exterior wood at the front entrance. This paint was observed to be in fair condition (minimal bubbling, flaking or peeling).	

Table E-4.2.2 Summary of Identified LCPs
Warden's Office Building, Haines Junction, YT

Identified LCP Description	Photo
White paint on exterior trim. This paint was observed to be in good condition (not bubbling, flaking or peeling).	

E-4.3 Polychlorinated Biphenyls

It is estimated that there are approximately 50 ballasts within the fluorescent light fixtures observed throughout. Based on the age of the building, fluorescent light ballasts may contain PCBs.

E-4.4 Mercury

Mercury vapour is expected to be present in fluorescent light bulbs/tubes throughout.

E-4.5 Mould

No suspect mould or moisture impacted materials were observed during the assessment.

E-4.6 Ozone-Depleting Substances

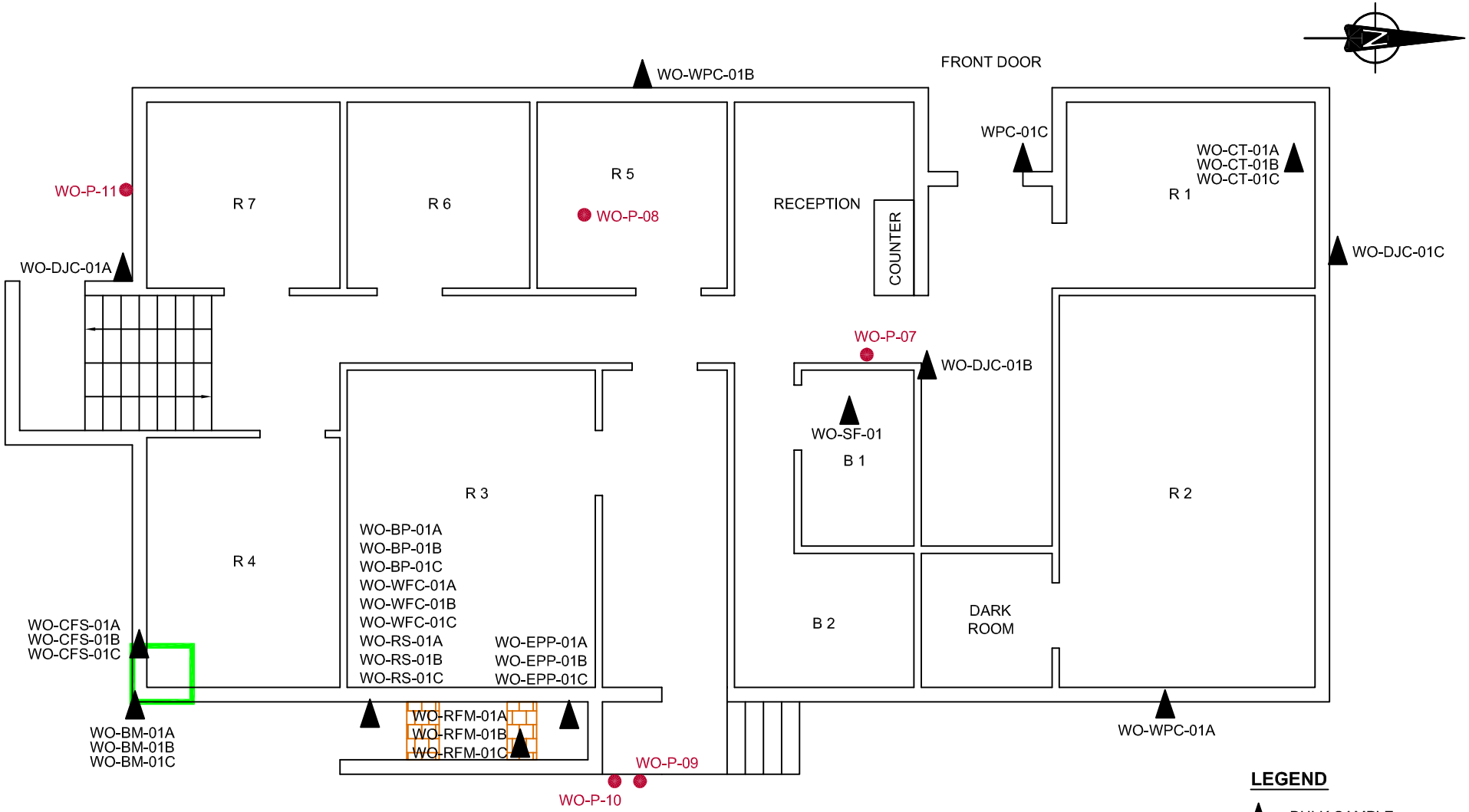
No suspected ODS-containing equipment was observed during the assessment.

E-4.7 Silica

Silica may be present in concrete, cement, mortar, ceramic tiles, and acoustic ceiling tiles observed in various locations throughout.

E-5.0 BUILDING-SPECIFIC RECOMMENDATIONS

In general, identified hazardous building materials should be handled in accordance with the recommendations for demolition that are provided in Section 5 of the main body of this report.



WARDENS OFFICE UPPER LEVEL

LEGEND

- BULK SAMPLE
- PAINT CHIP SAMPLE
- ASBESTOS-CONTAINING ROOF FLASHING MASTIC
- ASBESTOS-CONTAINING FLASHING SEALANT

NOTES:
1. **PIPE FITTING INSULATION ON ELBOWS †'S AND VALVES THROUGHOUT IS ACM.**
2. **CORRUGATED PAPER INSULATION ON STRAIGHT SECTIONS OF PIPE THROUGHOUT IS ACM.**
3. **GREY WINDOW FRAME CAULKING BETWEEN FRAME AND THE BUILDING EXTERIOR THROUGHOUT IS ACM.**
4. **BLACK WINDOW PANE CAULKING BETWEEN WINDOW FRAME AND GLASS PANE ON WINDOWS THROUGHOUT IS ACM.**
5. **DRYWALL JOINT COMPOUND THROUGHOUT IS ACM.**
6. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

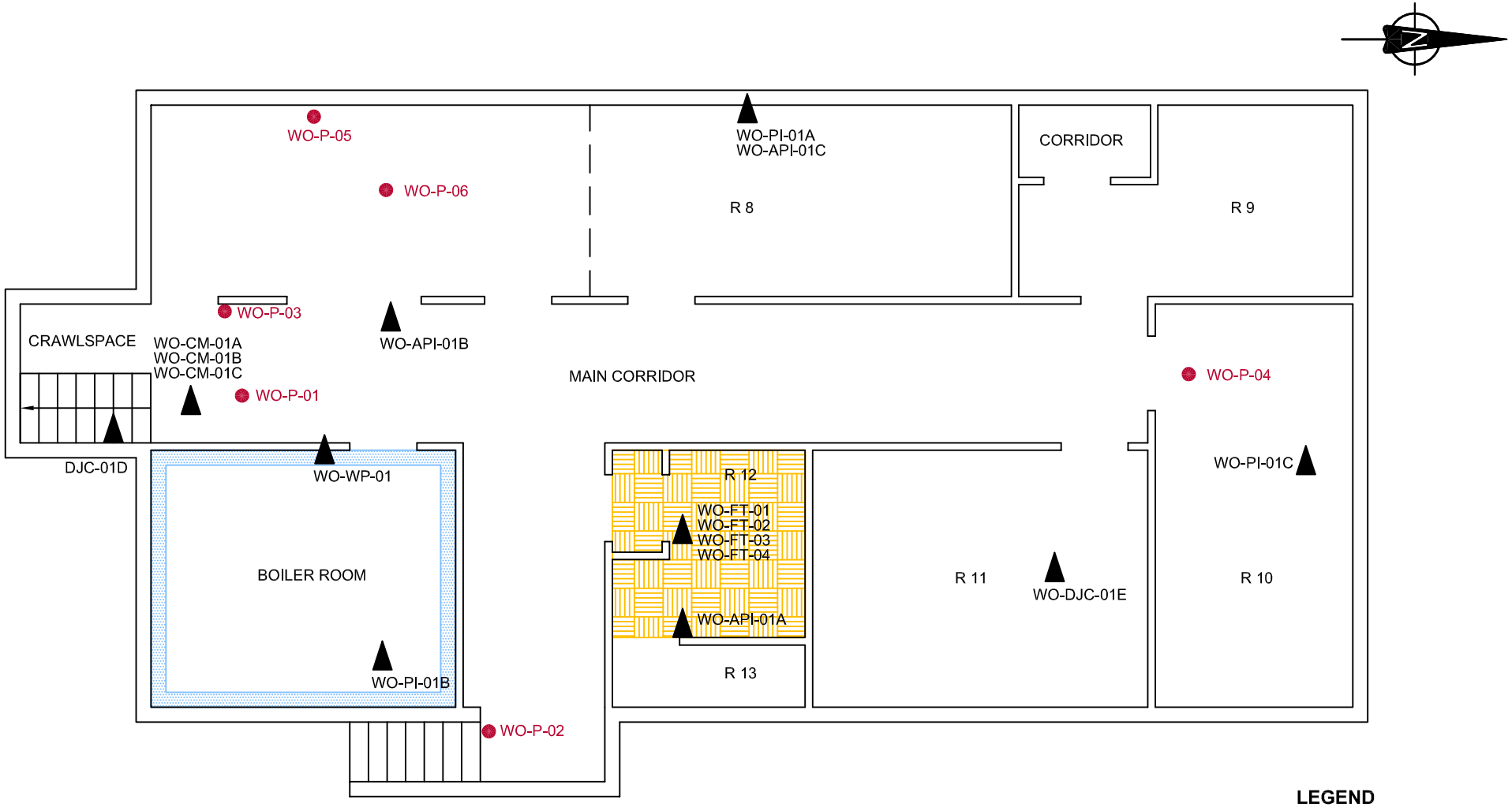
HAINES JUNCTION, YT

Client: PARKS CANADA

Project No.:	144901924
Scale:	NTS
Date:	14/11/18
Dwn. By:	CD PK/DM SL2014110107
App'd By:	TW

Dwg. No.: E1

Stantec



WARDENS OFFICE LOWER LEVEL

LEGEND

- BULK SAMPLE
- PAINT CHIP SAMPLE
- ASBESTOS-CONTAINING VINYL FLOOR TILES
- ASBESTOS-CONTAINING CEMENT PANEL

NOTES:
1. **PIPE FITTING INSULATION ON ELBOWS †'S AND VALVES THROUGHOUT IS ACM.**
2. **CORRUGATED PAPER INSULATION ON STRAIGHT SECTIONS OF PIPE THROUGHOUT IS ACM.**
3. **GREY WINDOW FRAME CAULKING BETWEEN FRAME AND THE BUILDING EXTERIOR THROUGHOUT IS ACM.**
4. **BLACK WINDOW PANE CAULKING BETWEEN WINDOW FRAME AND GLASS PANE ON WINDOWS THROUGHOUT IS ACM.**
5. **DRYWALL JOINT COMPOUND THROUGHOUT IS ACM.**
6. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

HAINES JUNCTION, YT

Client: PARKS CANADA

Project No.:	144901924
Scale:	NTS
Date:	14/11/18
Dwn. By:	CD PK/DM SL2014110108
App'd By:	TW

Dwg. No.: E2

Stantec

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
WO-RFM-01A *551407481-0170*	ROOF FLASHING MASTIC-GREY/BLACK - SEAMS OF STAIRWELL ROOF	Black Non-Fibrous Homogeneous	93.7	None	6.3% Chrysotile
WO-RFM-01B *551407481-0171*	ROOF FLASHING MASTIC-GREY/BLACK - SEAMS OF STAIRWELL ROOF				
Positive Stop (Not Analyzed)					
WO-RFM-01C *551407481-0172*	ROOF FLASHING MASTIC-GREY/BLACK - SEAMS OF STAIRWELL ROOF				
Positive Stop (Not Analyzed)					
WO-EPP-01A *551407481-0173*	ELECTRICAL PENETRATION PUTTY-BEIGE - FRONT ENTRANCE EXTERIOR AROUND ELECTRICAL PENETRATIONS	Gray/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
WO-EPP-01B *551407481-0174*	ELECTRICAL PENETRATION PUTTY-BEIGE - FRONT ENTRANCE EXTERIOR AROUND ELECTRICAL PENETRATIONS	Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected
WO-EPP-01C *551407481-0175*	ELECTRICAL PENETRATION PUTTY-BEIGE - FRONT ENTRANCE EXTERIOR AROUND ELECTRICAL PENETRATIONS	Gray/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (4)
Nicole Yeo (21)

Kevin Pang
or other approved signatory

Initial report from 10/17/2014 22:58:12

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
WO-FT-01 *551407481-0176*	9"X9" VINYL FLOOR TILE-LIGHT GREEN WITH WHITE STRE - BASEMENT ROOM 12	Green Non-Fibrous Homogeneous	100	None	No Asbestos Detected
WO-FT-01-Mastic *551407481-0176A*	9"X9" VINYL FLOOR TILE-LIGHT GREEN WITH WHITE STRE - BASEMENT ROOM 12	Brown/Black Non-Fibrous Homogeneous	100	None	<0.25% Chrysotile
WO-FT-02 *551407481-0177*	9"X9" VINYL FLOOR TILE-GREY WITH BLACK STREAKS - BASEMENT ROOM 12	Gray Non-Fibrous Homogeneous	92.0	None	8.0% Chrysotile
WO-FT-02-Mastic *551407481-0177A*	9"X9" VINYL FLOOR TILE-GREY WITH BLACK STREAKS - BASEMENT ROOM 12	Brown Non-Fibrous Homogeneous	99.5	None	0.52% Chrysotile
WO-FT-03 *551407481-0178*	9"X9" VINYL FLOOR TILE-BEIGE WITH BLACK STREAKS - BASEMENT ROOM 12	Beige Non-Fibrous Homogeneous	95.3	None	4.7% Chrysotile
WO-FT-03-Mastic *551407481-0178A*	9"X9" VINYL FLOOR TILE-BEIGE WITH BLACK STREAKS - BASEMENT ROOM 12	Black Non-Fibrous Homogeneous	99.5	None	0.54% Chrysotile
WO-FT-04 *551407481-0179*	9"X9" VINYL FLOOR TILE-DARK GREEN W WHITE STREAKS - BASEMENT ROOM 12	Green Non-Fibrous Homogeneous	96.5	None	3.5% Chrysotile

Analyst(s)

Jon Delos Santos (4)
Nicole Yeo (21)

Kevin Pang
or other approved signatory

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

Initial report from 10/17/2014 22:58:12

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Project: **144901924.801**

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
WO-FT-04-Mastic *551407481-0179A*	9"X9" VINYL FLOOR TILE-DARK GREEN W WHITE STREAKS - BASEMENT ROOM 12	Black Non-Fibrous Homogeneous	98.3	None	1.7% Chrysotile
WO-BP-01A *551407481-0180*	BUILDING PAPER-BLACK - ROOF(CONCELAED UNDER WOOD SHINGLES)	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected
WO-BP-01B *551407481-0181*	BUILDING PAPER-BLACK - ROOF(CONCELAED UNDER WOOD SHINGLES)	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected
WO-BP-01C *551407481-0182*	BUILDING PAPER-BLACK - ROOF(CONCELAED UNDER WOOD SHINGLES)	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected
WO-WFC-01A *551407481-0183*	WINDOW FRAME CAULKING-GREY - BETWEEN WINDOW FRAME AND THE BUILDING ON THE FRONT EXTERIOR	Gray Non-Fibrous Homogeneous	97.5	None	2.5% Chrysotile
WO-WFC-01B *551407481-0184*	WINDOW FRAME CAULKING-GREY - BETWEEN WINDOW FRAME AND THE BUILDING ON THE FRONT EXTERIOR				
Positive Stop (Not Analyzed)					

Analyst(s)

Jon Delos Santos (4)
Nicole Yeo (21)

Kevin Pang
or other approved signatory

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

Initial report from 10/17/2014 22:58:12

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
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Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
WO-WFC-01C *551407481-0185*	WINDOW FRAME CAULKING-GREY - BETWEEN WINDOW FRAME AND THE BUILDING ON THE FRONT EXTERIOR				
Positive Stop (Not Analyzed)					
WO-CFS-01A *551407481-0186*	CHIMNEY FLASHING SEALANT-BLACK(PAINTED BROWN) - AROUND SEAMS OF CHIMNEY FLASHING ON THE ROOF	Brown/Yellow Non-Fibrous Homogeneous	97.2	None	2.8% Chrysotile
WO-CFS-01B *551407481-0187*	CHIMNEY FLASHING SEALANT-BLACK(PAINTED BROWN) - AROUND SEAMS OF CHIMNEY FLASHING ON THE ROOF				
Positive Stop (Not Analyzed)					
WO-CFS-01C *551407481-0188*	CHIMNEY FLASHING SEALANT-BLACK(PAINTED BROWN) - AROUND SEAMS OF CHIMNEY FLASHING ON THE ROOF				
Positive Stop (Not Analyzed)					
WO-WPC-01A *551407481-0189*	WINDOW PANE CAULKING-BLACK - BETWEEN WINDOW FRAME AND GLASS PANE INTERIOR OF NE WINDOW	White/Black Non-Fibrous Homogeneous	98.5	None	1.5% Chrysotile

Analyst(s)

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
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Project: **144901924.801**

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
WO-WPC-01B *551407481-0190*	WINDOW PANE CAULKING-BLACK - BETWEEN WINDOW FRAME AND GLASS PANE INTERIOR OF W WINDOW				
Positive Stop (Not Analyzed)					
WO-WPC-01C *551407481-0191*	WINDOW PANE CAULKING-BLACK - BETWEEN WINDOW FRAME AND GLASS PANE INTERIOR OF NW WINDOW				
Positive Stop (Not Analyzed)					
WO-RS-01A *551407481-0200*	ROOFING SHINGLE-TAR AND GRAVEL - ROOF(CONCEALED UNDER WOOD SHINGLES AND BUILDING PAPER)	Black/Green Non-Fibrous Homogeneous	100	None	No Asbestos Detected
WO-RS-01B *551407481-0201*	ROOFING SHINGLE-TAR AND GRAVEL - ROOF(CONCEALED UNDER WOOD SHINGLES AND BUILDING PAPER)	Black/Green Non-Fibrous Homogeneous	100	None	No Asbestos Detected
WO-RS-01C *551407481-0202*	ROOFING SHINGLE-TAR AND GRAVEL - ROOF(CONCEALED UNDER WOOD SHINGLES AND BUILDING PAPER)	Black/Green Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (4)
Nicole Yeo (21)

Kevin Pang
or other approved signatory

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

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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	551407481
CustomerID:	55JACQ30N
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Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
WO-SF-01 *551407481-0209*	VINYL SHEET FLOORING-GREY AND CREAM GRAVEL PATTERN - MAIN FLOOR BATHROOM 1	Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected
WO-CM-01A *551407481-0210*	CARPET MASTIC(REMNANT)-TAN - BASEMENT CORRIDOR	Gray/White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
WO-CM-01B *551407481-0211*	CARPET MASTIC(REMNANT)-TAN - BASEMENT CORRIDOR	Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected
WO-CM-01C *551407481-0212*	CARPET MASTIC(REMNANT)-TAN - BASEMENT CORRIDOR	Gray/Red Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (4)
Nicole Yeo (21)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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Fax:	(604) 436-3752
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Project: **144901924.801**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
WO-WP-01 *551407481-0163*	WALL PANEL - BOILER ROOM	Gray/Yellow Fibrous Homogeneous		92% Non-fibrous (other)	**8% Chrysotile**
WO-PI-01A *551407481-0164*	PIPE FITTING INSULATION-GREY - BASEMENT ROOM 8	Gray Fibrous Homogeneous		55% Non-fibrous (other)	**45% Chrysotile**
WO-PI-01B *551407481-0165*	PIPE FITTING INSULATION-GREY - BOILER ROOM				**Stop Positive (Not Analyzed)**
WO-PI-01C *551407481-0166*	PIPE FITTING INSULATION-GREY - BASEMENT ROOM 10				**Stop Positive (Not Analyzed)**
WO-API-01A *551407481-0167*	"AIR-O-CELL" PIPE INSULATION - BASEMENT ROOM 12	Gray Fibrous Homogeneous		80% Non-fibrous (other)	**20% Chrysotile**
WO-API-01B *551407481-0168*	"AIR-O-CELL" PIPE INSULATION - BASEMENT CORRIDOR				**Stop Positive (Not Analyzed)**

Analyst(s)

Jon Delos Santos (2)
Matthew Davis (15)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
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Project: **144901924.801**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos	
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**%**	**Type**
WO-API-01C *551407481-0169*	"AIR-O-CELL" PIPE INSULATION - BASEMENT ROOM 8						**Stop Positive (Not Analyzed)**	
WO-CT-01A *551407481-0192*	CEILING TILE-WHITE 1'X1' - MAIN FLOOR ROOM 1	Tan/White Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**	
WO-CT-01B *551407481-0193*	CEILING TILE-WHITE 1'X1' - MAIN FLOOR ROOM 1	Tan/White Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**	
WO-CT-01C *551407481-0194*	CEILING TILE-WHITE 1'X1' - MAIN FLOOR ROOM 1	Tan/White Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**	
WO-DJC-01A *551407481-0195*	DRYWALL JOINT COMPOUND - TOP OF THE BASEMENT STAIRWELL	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**	
WO-DJC-01B *551407481-0196*	DRYWALL JOINT COMPOUND - MAIN FLOOR CORRIDOR	Tan Non-Fibrous Homogeneous			97%	Non-fibrous (other)	**3%**	**Chrysotile**
WO-DJC-01C *551407481-0197*	DRYWALL JOINT COMPOUND - MAIN FLOOR ROOM 1	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**	

Analyst(s)

Jon Delos Santos (2)
Matthew Davis (15)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

Phone:	(604) 436-3014
Fax:	(604) 436-3752
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
WO-DJC-01D *551407481-0198*	DRYWALL JOINT COMPOUND - BOTTOM OF BASEMENT STAIRWELL	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
WO-DJC-01E *551407481-0199*	DRYWALL JOINT COMPOUND - BASEMENT ROOM 11 CEILING	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
WO-BM-01A *551407481-0203*	BRICK MORTAR - EXTERIOR OF THE CHIMNEY	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
WO-BM-01B *551407481-0204*	BRICK MORTAR - EXTERIOR OF THE CHIMNEY	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
WO-BM-01C *551407481-0205*	BRICK MORTAR - EXTERIOR OF THE CHIMNEY	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
WO-DCB-01A *551407481-0206*	"DONNACONA BOARD" - WEST WALL OF BASEMENT ROOM 9	Tan Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**

Analyst(s)

Jon Delos Santos (2)
Matthew Davis (15)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

Phone:	(604) 436-3014
Fax:	(604) 436-3752
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Analysis Date:	10/17/2014
Collected:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
WO-DCB-01B *551407481-0207*	"DONNACONA BOARD" - WEST WALL OF BASEMENT ROOM 9	Tan Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**
WO-DCB-01C *551407481-0208*	"DONNACONA BOARD" - WEST WALL OF BASEMENT ROOM 9	Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**

Analyst(s)

Jon Delos Santos (2)
Matthew Davis (15)

Kevin Pang
or other approved signatory

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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	551407512
CustomerID:	55JACQ30L
CustomerPO:	144901924.801
ProjectID:	

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

Phone: (604) 412-3004
Fax:
Received: 10/10/14 11:01 AM
Collected:

Project: **144901924.801**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
WO-P-01	*551407512-0020*		10/16/2014	1400 ppm
	Site: RED/GREY COLOUR Desc: BASEMENT CORRIDOR FLOOR			
WO-P-02	*551407512-0021*		10/16/2014	2000 ppm
	Site: YELLOW COLOUR Desc: BASEMENT STAIRWELL FLOOR			
WO-P-03	*551407512-0022*		10/16/2014	3400 ppm
	Site: YELLOW COLOUR Desc: BASEMENT TRIM			
WO-P-04	*551407512-0023*		10/16/2014	3500 ppm
	Site: RED COLOUR Desc: BASEMENT FLOORS			
WO-P-05	*551407512-0024*		10/16/2014	<90 ppm
	Site: CREAM COLOUR Desc: BASEMENT ROOM 8 WALLS			
WO-P-06	*551407512-0025*		10/16/2014	<90 ppm
	Site: GREY COLOUR Desc: BASEMENT FLOORS			
WO-P-07	*551407512-0026*		10/16/2014	920 ppm
	Site: CREAM/GREEN COLOUR Desc: MAIN FLOOR WALLS			
WO-P-08	*551407512-0027*		10/16/2014	370 ppm
	Site: WHITE COLOR Desc: MAIN FLOOR CEILINGS			
WO-P-09	*551407512-0028*		10/16/2014	2200 ppm
	Site: GREY COLOUR Desc: EXTERIOR CONCRETE AT FRONT ENTRANCE			
WO-P-10	*551407512-0029*		10/16/2014	26000 ppm
	Site: ORANGE COLOUR Desc: EXTERIOR WOOD AT FRONT ENTRANCE			
WO-P-11	*551407512-0030*		10/16/2014	20000 ppm
	Site: WHITE COLOUR Desc: EXTERIOR TRIM			

Kevin Pang
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 established by the AIHA-LAP, unless specifically indicated otherwise.

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

Initial report from 10/16/2014 16:43:47

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	551407512
CustomerID:	55JACQ30L
CustomerPO:	144901924.801
ProjectID:	

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

Phone:	(604) 412-3004
Fax:	
Received:	10/10/14 11:01 AM
Collected:	

Project: **144901924.801**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*

Kevin Pang
or other approved signatory

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Appendix F
Findings and Recommendations
– Vehicle Garage Building

F-4.0 FINDINGS – VEHICLE GARAGE BUILDING

The Vehicle Garage Building was reportedly constructed in 1957.

Stantec understands that demolition of the Vehicle Garage Building has been proposed.

The results of the assessment for each of the considered hazardous materials within the Vehicle Garage Building are provided in the following sub-sections.

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

F-4.1 Asbestos

Stantec identified and sampled various suspected ACMs, including the following:

- Cement panel
- Pipe fitting insulation
- Pipe sealant
- Window frame and pane caulking
- Door caulking
- Drywall joint compound
- Roofing paper
- Roofing shingle
- Corrugated panel mastic.

30 samples of the above-noted suspected ACMs were collected and submitted to EMSL for analysis of asbestos content and nature.

A summary of the sample types, locations and analytical results is presented in Table F-4.1.1, below. Copies of the certificates of analysis provided by EMSL for the suspected ACM samples submitted are attached at the end of this Appendix.

Table F-4.1.1 Suspected ACM Sample Collection and Analysis Summary Vehicle Garage Building, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
VG-CP-01	Cement panel	Interior wall of boiler room	**10% Chrysotile**
VG-PI-01A	Pipe fitting insulation – Grey	Boiler room	None Detected
VG-PI-01B	Pipe fitting insulation – Grey	Boiler room	None Detected
VG-PI-01C	Pipe fitting insulation – Grey	Storage shed	None Detected
VG-PS-01A	**Pipe sealant - Cream/black**	**Inside pipe fittings in boiler room**	**0.39% Chrysotile**
VG-PS-01B	**Pipe sealant - Cream/black**	**Inside pipe fittings in water tank room**	**None Detected**
VG-PS-01C	**Pipe sealant - Cream/black**	**Inside pipe fittings in boiler room**	**None Detected**
VG-WFC-01A	**Window frame caulking – Yellow (painted black)**	**Exterior of windows between frame and building**	**1.1% Chrysotile**
VG-WFC-01B	**Window frame caulking – Yellow (painted black)**	**Exterior of windows between frame and building**	**Stop Positive**
VG-WFC-01C	**Window frame caulking – Yellow (painted black)**	**Exterior of windows between frame and building**	**Stop Positive**
VG-WFC-02A	Window frame caulking – Yellow (painted white)	Exterior of windows between frame and building	None Detected
VG-WFC-02B	Window frame caulking – Yellow (painted white)	Exterior of windows between frame and building	None Detected
VG-WFC-02C	Window frame caulking – Yellow (painted white)	Exterior of windows between frame and building	None Detected
VG-DC-01A	**Door caulking – Cream**	**Around exterior of doors**	**0.47% Chrysotile**
VG-DC-01B	**Door caulking – Cream**	**Around exterior of doors**	**0.29% Chrysotile**
VG-DC-01C	**Door caulking – Cream**	**Around exterior of doors**	**None Detected**
VG-DC-02A	Door caulking – Clear (painted white)	Around garage doors on the west of the building	None Detected
VG-DC-02B	Door caulking – Clear (painted white)	Around garage doors on the west of the building	None Detected
VG-DC-02C	Door caulking – Clear (painted white)	Around garage doors on the west of the building	None Detected
VG-DJC-01A	Drywall joint compound	Room 1	None Detected
VG-DJC-01B	Drywall joint compound	Room 1	None Detected

Table F-4.1.1 Suspected ACM Sample Collection and Analysis Summary Vehicle Garage Building, Haines Junction, YT

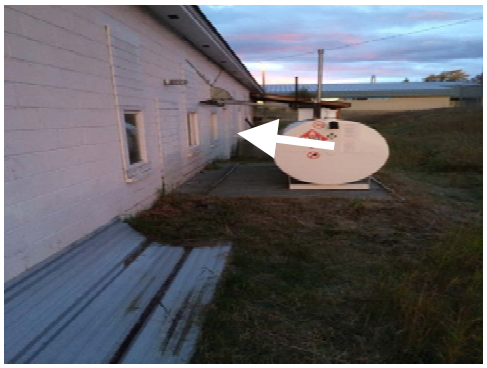
Sample Number	Material Description	Sample Location	Result (%/type asbestos)
VG-DJC-01C	Drywall joint compound	Room 1	None Detected
VG-RP-01A	Roofing paper – Black	Storage roof (concealed under wood shingles)	None Detected
VG-RP-01B	Roofing paper – Black	Storage roof (concealed under wood shingles)	None Detected
VG-RP-01C	Roofing paper – Black	Storage roof (concealed under wood shingles)	None Detected
VG-RS-01A	Roof shingle – Tar and gravel	Storage roof (concealed under wood shingles and roof paper)	None Detected
VG-RS-01B	Roof shingle – Tar and gravel	Storage roof (concealed under wood shingles and roof paper)	None Detected
VG-RS-01C	Roof shingle – Tar and gravel	Storage roof (concealed under wood shingles and roof paper)	None Detected
VG-CPM-01A	**Corrugated panel mastic – Beige**	**On panels in the ATV garage**	**0.48% Chrysotile**
VG-CPM-01B	**Corrugated panel mastic – Beige**	**On panels in the ATV garage**	**0.73% Chrysotile**
VG-CPM-01C	**Corrugated panel mastic – Beige**	**On panels in the ATV garage**	**1.3% Chrysotile**

Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of suspected ACM sample analytical results, the materials presented in Table F-4.1.2, below were identified as ACMs.

Table F-4.1.2 Summary of Identified ACMs Vehicle Garage Building, Haines Junction, YT

Identified ACM Description and Condition Information		Photo
Cement panel on interior walls and ceiling throughout.		
Friability	Non-friable	
Condition	Good	
Content	10% Chrysotile	
Pipe sealant cream/black inside cast iron pipe fittings throughout		
Friability	Non-friable	
Condition	Good	
Content	0.39% Chrysotile	
Yellow window frame caulking (painted black) on the exterior of windows at the rear of the building (between window frame and the building		
Friability	Non-friable	
Condition	Good	
Content	1.1% Chrysotile	

Table F-4.1.2 Summary of Identified ACMs
Vehicle Garage Building, Haines Junction, YT

Identified ACM Description and Condition Information		Photo
Cream caulking around doors on the exterior of the building		
Friability	Non-friable	
Condition	Good	
Content	0.29 - 0.47% Chrysotile	
Beige mastic on the backside of corrugated wall panels throughout		
Friability	Non-friable	
Condition	Good	
Content	0.48 – 1.3% Chrysotile	

F-4.2 Lead

Lead is expected to be present in the following materials:

- Solder used on copper domestic pipes
- Caulking on bell fittings for cast iron drainage pipes
- Electrical equipment (i.e. batteries for emergency lighting/signage).

With respect to paint, 6 paint chip samples were obtained, where suspected LCPs were observed. A summary of the sample types, locations and analytical results is presented in Table F-4.2.1, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

Table F-4.2.1 Suspected LCP Sample Collection and Analysis Summary Vehicle Garage Building, Haines Junction, YT

Sample No.	Sample Location	Sample Colour	Lab Result (ppm)	Lead Containing (Yes/No)
VG-P-01	**Floors**	**Grey**	**2,200**	**Yes**
VG-P-02	Interior cinder block walls	White	550	No
VG-P-03	Drywall walls in room 1	Cream	<90	No
VG-P-04	Washroom walls	Pink	950	Yes
VG-P-05	On steel lift	Blue	260	No
VG-P-06	Exterior walls	White	230	No

Based on our observations and on our interpretations of suspected LCP sample analytical results, the materials presented in Table F-4.2.2, below were identified as LCPs.

Table F-4.2.2 Summary of Identified LCPs Vehicle Garage Building, Haines Junction, YT

Identified LCP Description	Photo
Grey paint on floors. This paint was observed to be in good condition (not bubbling, flaking or peeling).	

F-4.3 Polychlorinated Biphenyls

Approximately 33 fluorescent light fixtures were observed throughout. Based on the age of the building the ballasts within these fixtures may contain PCBs.

F-4.4 Mercury

Two (2) suspected mercury-containing thermostats were observed, as indicated on the attached floor plan drawings.

Mercury vapour is expected to be present in fluorescent light tubes/bulbs throughout.

F-4.5 Mould

No suspect mould or moisture impacted materials were observed during the assessment.

F-4.6 Ozone-Depleting Substances

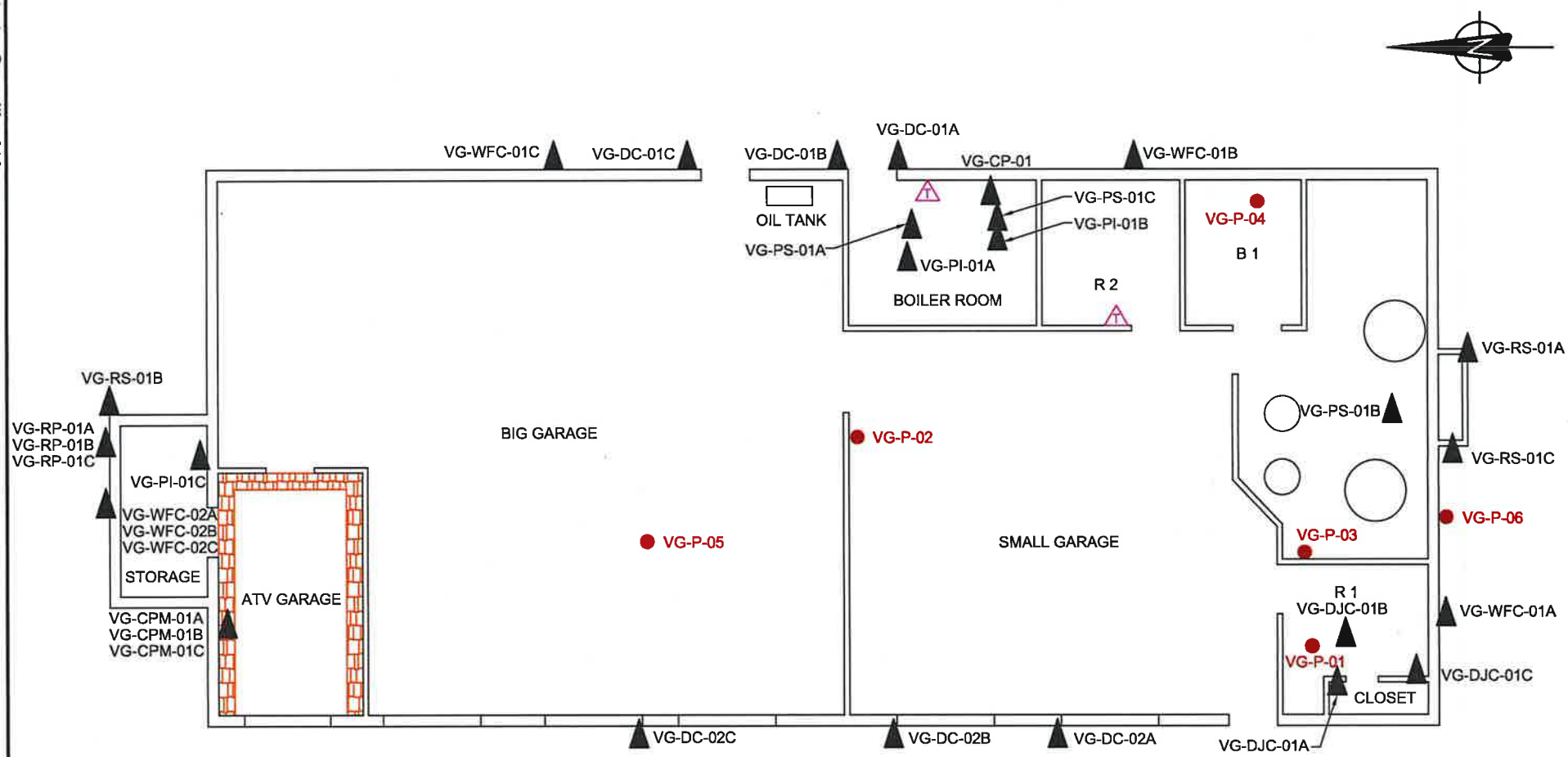
No suspected ODS-containing equipment was observed during the assessment.

F-4.7 Silica

Silica may be present in in concrete, cement, and mortar observed in various locations throughout.

F-5.0 BUILDING-SPECIFIC RECOMMENDATIONS

In general, identified hazardous building materials should be handled in accordance with the recommendations for demolition that are provided in Section 5 of the main body of this report.



VEHICLE GARAGE BUILDING

LEGEND

- BULK SAMPLE
- PAINT CHIP SAMPLE
- ASBESTOS-CONTAINING CORRUGATED PANEL MASTIC
- MERCURY-CONTAINING THERMOSTAT

NOTES:
1. **CEMENT PANEL ON WALLS AND CEILING THROUGHOUT IS ACM.**
2. **PIPE SEALANT IN CAST IRON PIPE FITTINGS THROUGHOUT IS ACM.**
3. **YELLOW WINDOW FRAME CAULKING (PAINTED BLACK) ON EXTERIOR OF WINDOWS THROUGHOUT IS ACM.**
4. **CREAM CAULKING AROUND DOORS ON THE EXTERIOR IS ACM.**
5. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

HAINES JUNCTION, YT

Client: PARKS CANADA

Project No.:	144901924
Scale:	NTS
Date:	14/11/18
Dwn. By:	CD SL2014110109 PK/DM
App'd By:	TW

Dwg. No.: F

Stantec

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
VG-PS-01A *551407481-0217*	PIPE SEALANT-CREAM/BLACK - INSIDE PIPE FITTINGS IN BOILER ROOM	Gray/Black Non-Fibrous Homogeneous	99.6	None	0.39% Chrysotile
VG-PS-01B *551407481-0218*	PIPE SEALANT-CREAM/BLACK - INSIDE PIPE FITTINGS IN WATER TANK ROOM	Gray/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
VG-PS-01C *551407481-0219*	PIPE SEALANT-CREAM/BLACK - INSIDE PIPE FITTINGS IN BOILER ROOM	Gray/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
VG-WFC-01A *551407481-0220*	WINDOW FRAME CAULKING-YELLOW(PAINTED BLACK) - EXTERIOR OF WINDOWS BETWEEN FRAME AND BUILDING	Black/Yellow Non-Fibrous Homogeneous	98.9	None	1.1% Chrysotile
VG-WFC-01B *551407481-0221*	WINDOW FRAME CAULKING-YELLOW(PAINTED BLACK) - EXTERIOR OF WINDOWS BETWEEN FRAME AND BUILDING				
Positive Stop (Not Analyzed)					

Analyst(s)

Jon Delos Santos (7)
Nicole Yeo (15)

Kevin Pang
or other approved signatory

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

Initial report from 10/17/2014 22:58:12

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
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Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
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Project: **144901924.801**

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SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
VG-WFC-01C *551407481-0222*	WINDOW FRAME CAULKING-YELLOW(PAINTED BLACK) - EXTERIOR OF WINDOWS BETWEEN FRAME AND BUILDING				
Positive Stop (Not Analyzed)					
VG-WFC-02A *551407481-0223*	WINDOW FRAME CAULKING-YELLOW(PAINTED WHITE) - EXTERIOR OF WINDOWS BETWEEN FRAME AND BUILDING	White/Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
VG-WFC-02B *551407481-0224*	WINDOW FRAME CAULKING-YELLOW(PAINTED WHITE) - EXTERIOR OF WINDOWS BETWEEN FRAME AND BUILDING	White/Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
VG-WFC-02C *551407481-0225*	WINDOW FRAME CAULKING-YELLOW(PAINTED WHITE) - EXTERIOR OF WINDOWS BETWEEN FRAME AND BUILDING	White/Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
VG-DC-01A *551407481-0226*	DOOR CAULKING-CREAM - AROUND EXTERIOR OF DOORS	Gray/White Non-Fibrous Homogeneous	99.5	None	0.47% Chrysotile

Analyst(s)

Jon Delos Santos (7)
Nicole Yeo (15)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

Phone:	(604) 436-3014
Fax:	(604) 436-3752
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SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
VG-DC-01B *551407481-0227*	DOOR CAULKING-CREAM - AROUND EXTERIOR OF DOORS	Gray/White Non-Fibrous Homogeneous	99.7	None	0.29% Chrysotile
VG-DC-01C *551407481-0228*	DOOR CAULKING-CREAM - AROUND EXTERIOR OF DOORS	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected
VG-DC-02A *551407481-0229*	DOOR CAULKING-CLEAR(PAINTED WHITE) - AROUND GARAGE DOORS ON THE WEST OF THE BUILDING	White/Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
VG-DC-02B *551407481-0230*	DOOR CAULKING-CLEAR(PAINTED WHITE) - AROUND GARAGE DOORS ON THE WEST OF THE BUILDING	White/Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
VG-DC-02C *551407481-0231*	DOOR CAULKING-CLEAR(PAINTED WHITE) - AROUND GARAGE DOORS ON THE WEST OF THE BUILDING	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
VG-RP-01A *551407481-0235*	ROOFING PAPER-BLACK - STORAGE ROOF(CONCELAED UNDER WOOD SHINGLES)	Brown/White Fibrous Homogeneous	100	None	No Asbestos Detected
VG-RP-01B *551407481-0236*	ROOFING PAPER-BLACK - STORAGE ROOF(CONCELAED UNDER WOOD SHINGLES)	Brown/White Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (7)
Nicole Yeo (15)

Kevin Pang
or other approved signatory

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

Initial report from 10/17/2014 22:58:12

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

Phone:	(604) 436-3014
Fax:	(604) 436-3752
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Analysis Date:	10/17/2014
Collected:	

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
VG-RP-01C *551407481-0237*	ROOFING PAPER-BLACK - STORAGE ROOF(CONCELAED UNDER WOOD SHINGLES)	Brown Fibrous Homogeneous	100	None	No Asbestos Detected
VG-RS-01A *551407481-0238*	ROOF SHINGLE-TAR AND GRAVEL - STORAGE ROOF(CONCELAED UNDER WOOD SHINGLES AND ROOF PAPER)	Brown/Various Non-Fibrous Homogeneous	100	None	No Asbestos Detected
VG-RS-01B *551407481-0239*	ROOF SHINGLE-TAR AND GRAVEL - STORAGE ROOF(CONCELAED UNDER WOOD SHINGLES AND ROOF PAPER)	Various/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
VG-RS-01C *551407481-0240*	ROOF SHINGLE-TAR AND GRAVEL - STORAGE ROOF(CONCELAED UNDER WOOD SHINGLES AND ROOF PAPER)	Various/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
VG-CPM-01A *551407481-0241*	CORRUGATED PANEL MASTIC-BEIGE - ON PANELS IN THE ATV GARAGE	Yellow Non-Fibrous Homogeneous	99.5	None	0.48% Chrysotile
VG-CPM-01B *551407481-0242*	CORRUGATED PANEL MASTIC-BEIGE - ON PANELS IN THE ATV GARAGE	Yellow Non-Fibrous Homogeneous	99.3	None	0.73% Chrysotile

Analyst(s)

Jon Delos Santos (7)
Nicole Yeo (15)

Kevin Pang
or other approved signatory

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

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Project: **144901924.801**

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
VG-CPM-01C *551407481-0243*	CORRUGATED PANEL MASTIC-BEIGE - ON PANELS IN THE ATV GARAGE	Yellow Non-Fibrous Homogeneous	98.7	None	1.3% Chrysotile

Analyst(s)

Jon Delos Santos (7)
Nicole Yeo (15)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos	
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**%**	**Type**
VG-CP-01 *551407481-0213*	CEMENT PANEL - INTERIOR WALL OF BOILER ROOM	Gray/White Non-Fibrous Homogeneous			90%	Non-fibrous (other)	**10%**	**Chrysotile**
VG-PI-01A *551407481-0214*	PIPE FITTING INSULATION-GREY - BOILER ROOM	Gray Fibrous Homogeneous	20% 10%	Cellulose Min. Wool	70%	Non-fibrous (other)		**None Detected**
VG-PI-01B *551407481-0215*	PIPE FITTING INSULATION-GREY - BOILER ROOM	Gray Fibrous Homogeneous	20% 10%	Cellulose Min. Wool	70%	Non-fibrous (other)		**None Detected**
VG-PI-01C *551407481-0216*	PIPE FITTING INSULATION-GREY - STORAGE SHED	Gray Non-Fibrous Homogeneous	20% 10%	Cellulose Min. Wool	70%	Non-fibrous (other)		**None Detected**
VG-DJC-01A *551407481-0232*	DRYWALL JOINT COMPOUND - ROOM 1	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)		**None Detected**
VG-DJC-01B *551407481-0233*	DRYWALL JOINT COMPOUND - ROOM 1	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)		**None Detected**
VG-DJC-01C *551407481-0234*	DRYWALL JOINT COMPOUND - ROOM 1	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)		**None Detected**

Analyst(s)

Arabee Sathiaseelan (5)
Jon Delos Santos (2)

Kevin Pang
or other approved signatory

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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	551407512
CustomerID:	55JACQ30L
CustomerPO:	144901924.801
ProjectID:	

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

Phone: (604) 412-3004
Fax:
Received: 10/10/14 11:01 AM
Collected:

Project: **144901924.801**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
VG-P-01	*551407512-0031*		10/16/2014	2200 ppm
	Site: GREY COLOUR Desc: FLOORS			
VG-P-02	*551407512-0032*		10/16/2014	550 ppm
	Site: WHITE COLOUR Desc: INTERIOR CINDER BLOCK WALLS			
VG-P-03	*551407512-0033*		10/16/2014	<90 ppm
	Site: CREAM COLOUR Desc: DRYWALL WALLS IN ROOM 1			
VG-P-04	*551407512-0034*		10/16/2014	950 ppm
	Site: PINK COLOUR Desc: WASHROOM WALLS			
VG-P-05	*551407512-0035*		10/16/2014	260 ppm
	Site: BLUE COLOUR Desc: ON STEEL LIFT			
VG-P-06	*551407512-0036*		10/16/2014	230 ppm
	Site: WHITE COLOUR Desc: EXTERIOR WALLS			

Kevin Pang
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 established by the AIHA-LAP, unless specifically indicated otherwise.

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

Initial report from 10/16/2014 16:47:54

Appendix G
Findings and Recommendations
– Butler Storage Shed

G-4.0 FINDINGS – BUTLER STORAGE SHED

The Butler Storage Shed was reportedly constructed in 1957.

Stantec understands that demolition of the Butler Storage Shed has been proposed.

The results of the assessment for each of the considered hazardous materials within the Butler Storage Shed are provided in the following sub-sections.

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

G-4.1 Asbestos

Stantec identified and sampled various suspected ACMs, including the following:

- Window pane caulking
- Door caulking
- Light panels
- Concrete foundation sealant.

12 samples of the above-noted suspected ACMs were collected and submitted to EMSL for analysis of asbestos content and nature.

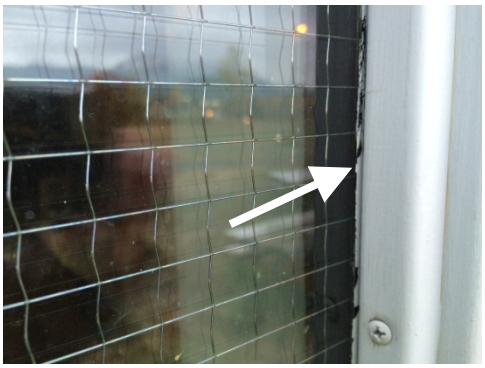
A summary of the sample types, locations and analytical results is presented in Table G-4.1.1, below. Copies of the certificates of analysis provided by EMSL for the suspected ACM samples submitted are attached at the end of this Appendix.

Table G-4.1.1 Suspected ACM Sample Collection and Analysis Summary Butler Storage Shed, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
BS-WPC-01A	**Window pane caulking – Black**	**Between window frame and glass pane on exterior of windows beside doors**	**1.7% Chrysotile**
BS-WPC-01B	**Window pane caulking – Black**	**Between window frame and glass pane on exterior of windows beside doors**	**Stop Positive**
BS-WPC-01C	**Window pane caulking – Black**	**Between window frame and glass pane on exterior of windows beside doors**	**Stop Positive**
BS-DC-01A	**Door caulking – Grey**	**Around exterior of doors**	**<0.25% Chrysotile**
BS-DC-01B	**Door caulking – Grey**	**Around exterior of doors**	**<0.25% Chrysotile**
BS-DC-01C	**Door caulking – Grey**	**Around exterior of doors**	**<0.25% Chrysotile**
BS-LP-01A	Light panel – Green	West exterior	None Detected
BS-LP-01B	Light panel – Green	West exterior	None Detected
BS-LP-01C	Light panel – Green	West exterior	None Detected
BS-CFS-01A	Concrete foundation sealant - Grey	Exterior wall base	None Detected
BS-CFS-01B	Concrete foundation sealant - Grey	Exterior wall base	None Detected
BS-CFS-01C	Concrete foundation sealant - Grey	Exterior wall base	None Detected

Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of suspected ACM sample analytical results, the materials presented in Table G-4.1.2, below were identified as ACMs.

Table G-4.1.2 Summary of Identified ACMs
Butler Storage Shed, Haines Junction, YT

Identified ACM Description and Condition Information		Photo
Black/grey window pane caulking between window frame and glass pane on exterior of windows beside doors		
Friability	Non-friable	
Condition	Good	
Content	1.7% Chrysotile	
Grey/white door caulking around the exterior door frames		
Friability	Non-friable	
Condition	Good	
Content	<0.25% Chrysotile	

G-4.2 Lead

Typical potential lead-containing items (solder on wiring, in domestic water pipes and/or in the bell fittings of cast iron drain pipes; lead acid batteries associated with emergency exit signage, etc.) were not observed.

With respect to paint, 2 paint chip samples were obtained, where suspected LCPs were observed. A summary of the sample types, locations and analytical results is presented in Table G-4.2.1, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

Table G-4.2.1 Suspected LCP Sample Collection and Analysis Summary Butler Storage Shed, Haines Junction, YT

Sample No.	Sample Location	Sample Colour	Lab Result (ppm)	Lead Containing (Yes/No)
BS-P-01	Floors	Grey	<100	No
BS-P-02	**Structural steel**	**Red**	**1,200**	**Yes**

Based on our observations and on our interpretations of suspected LCP sample analytical results, the material presented in Table G-4.2.2, below was identified as an LCP.

Table G-4.2.2 Summary of Identified LCPs Butler Storage Shed, Haines Junction, YT

Identified LCP Description	Photo
Red paint on the structural steel throughout. This paint was observed to be in good condition (not bubbling, flaking or peeling).	

G-4.3 Polychlorinated Biphenyls

No suspected PCB-containing equipment was observed during the assessment.

G-4.4 Mercury

No suspected mercury-containing equipment was observed during the assessment.

G-4.5 Mould

No suspect mould or moisture impacted materials were observed during the assessment.

G-4.6 Ozone-Depleting Substances

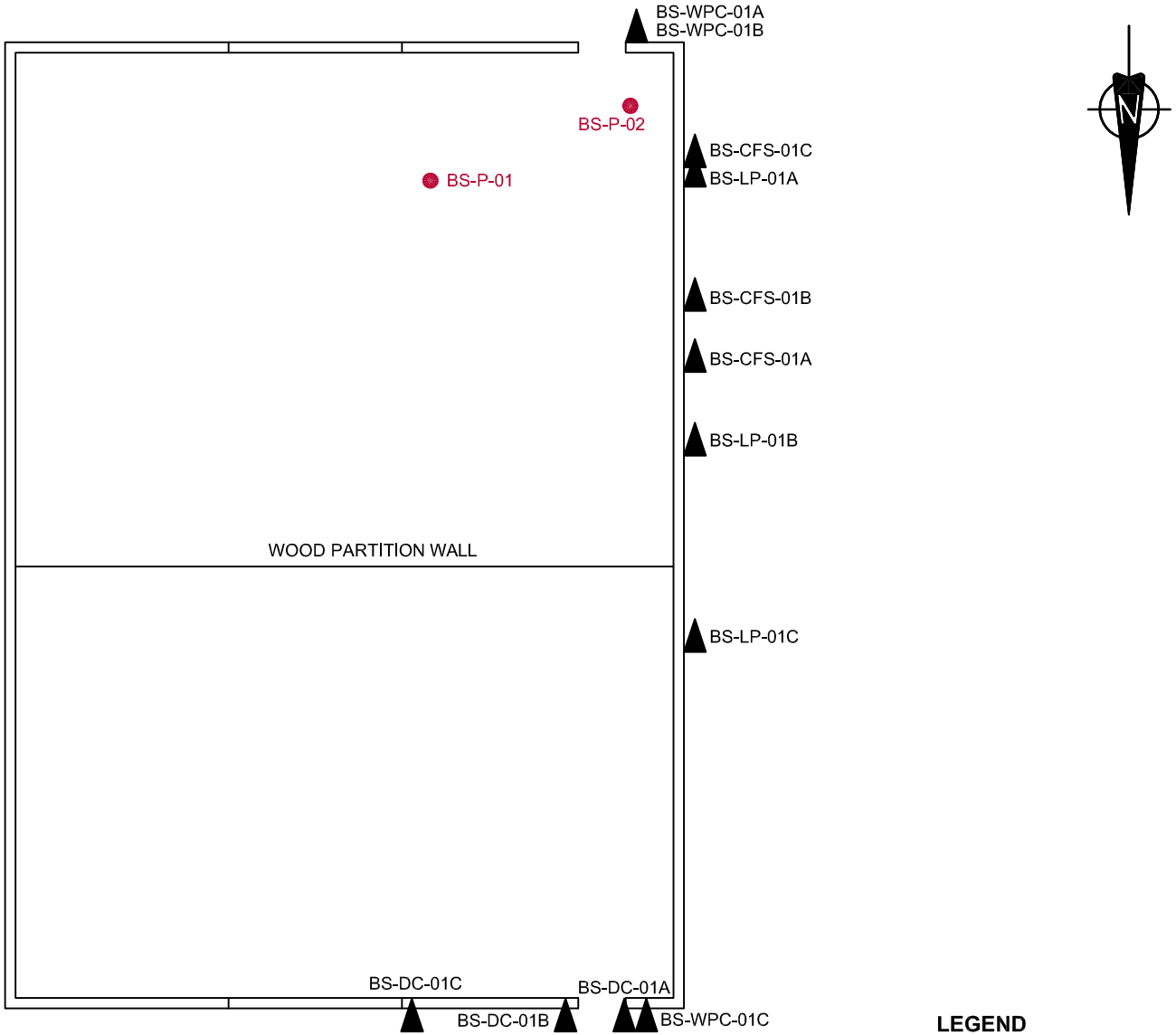
No suspected ODS-containing equipment was observed during the assessment.

G-4.7 Silica

Silica may be present in concrete and cement observed in various locations throughout.

G-5.0 BUILDING-SPECIFIC RECOMMENDATIONS

In general, identified hazardous building materials should be handled in accordance with the recommendations for demolition that are provided in Section 5 of the main body of this report.



BUTLER STORAGE SHED

LEGEND

- BULK SAMPLE
- PAINT CHIP SAMPLE

NOTES: **1. BLACK/GREY WINDOW PANE CAULKING BETWEEN WINDOW FRAME AND GLASS PANES THROUGHOUT IS ACM.**
2. GREY/WHITE DOOR CAULKING AROUND EXTERIOR OF DOORS IS ACM.
3. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

HAINES JUNCTION, YT

Client: PARKS CANADA

Project No.:	144901924
Scale:	NTS
Date:	14/11/18
Dwn. By:	CD PK/DM SL2014110110
App'd By:	TW

Dwg. No.: G

Stantec

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
BS-WPC-01A *551407481-0244*	WINDOW PANE CAULKING-BLACK - BETWEEN WINDOW FRAME AND GLASS PANE ON EXTERIOR OF WINDOWS BESIDE DOORS	Gray/Black Non-Fibrous Homogeneous	98.3	None	1.7% Chrysotile
BS-WPC-01B *551407481-0245*	WINDOW PANE CAULKING-BLACK - BETWEEN WINDOW FRAME AND GLASS PANE ON EXTERIOR OF WINDOWS BESIDE DOORS				
Positive Stop (Not Analyzed)					
BS-WPC-01C *551407481-0246*	WINDOW PANE CAULKING-BLACK - BETWEEN WINDOW FRAME AND GLASS PANE ON EXTERIOR OF WINDOWS BESIDE DOORS				
Positive Stop (Not Analyzed)					
BS-DC-01A *551407481-0247*	DOOR CAULKING-GREY - AROUND EXTERIOR OF DOORS	Gray/White Non-Fibrous Homogeneous	100	None	<0.25% Chrysotile
BS-DC-01B *551407481-0248*	DOOR CAULKING-GREY - AROUND EXTERIOR OF DOORS	Gray/White Non-Fibrous Homogeneous	100	None	<0.25% Chrysotile
BS-DC-01C *551407481-0249*	DOOR CAULKING-GREY - AROUND EXTERIOR OF DOORS	Gray/White Non-Fibrous Homogeneous	100	None	<0.25% Chrysotile

Analyst(s)

Jon Delos Santos (2)
Nicole Yeo (5)

Kevin Pang
or other approved signatory

Initial report from 10/17/2014 22:58:12

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	551407481
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CustomerPO:	144901924.801
ProjectID:	

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Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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Fax: (604) 436-3752
Received: 10/10/14 11:01 AM
Analysis Date: 10/17/2014
Collected:

Project: **144901924.801**

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
BS-CFS-01A *551407481-0253*	CONCRETE FOUNDATION SEALANT-GREY - EXTERIOR WALL BASE	Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected
BS-CFS-01B *551407481-0254*	CONCRETE FOUNDATION SEALANT-GREY - EXTERIOR WALL BASE	Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected
BS-CFS-01C *551407481-0255*	CONCRETE FOUNDATION SEALANT-GREY - EXTERIOR WALL BASE	Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (2)
Nicole Yeo (5)

Kevin Pang
or other approved signatory

Initial report from 10/17/2014 22:58:12

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	551407481
CustomerID:	55JACQ30N
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Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
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Burnaby, BC V5G 4L7

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Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Project: **144901924.801**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
BS-LP-01A *551407481-0250*	LIGHT PANEL-GREEN - WEST EXTERIOR	White Fibrous Homogeneous	35%	Glass	65%	Non-fibrous (other)	**None Detected**
BS-LP-01B *551407481-0251*	LIGHT PANEL-GREEN - WEST EXTERIOR	White Fibrous Homogeneous	35%	Glass	65%	Non-fibrous (other)	**None Detected**
BS-LP-01C *551407481-0252*	LIGHT PANEL-GREEN - WEST EXTERIOR	Gray Fibrous Homogeneous	20%	Glass	80%	Non-fibrous (other)	**None Detected**

Analyst(s)

Arabee Sathiaseelan (2)
Jon Delos Santos (1)

Kevin Pang
or other approved signatory

Initial report from 10/17/2014 22:58:12

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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	551407512
CustomerID:	55JACQ30L
CustomerPO:	144901924.801
ProjectID:	

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

Phone: (604) 412-3004
Fax:
Received: 10/10/14 11:01 AM
Collected:

Project: **144901924.801**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
BS-P-01	*551407512-0037*		10/16/2014	<100 ppm
	Site: GREY COLOUR Desc: FLOORS Insufficient sample to reach reporting limit.			
BS-P-02	*551407512-0038*		10/16/2014	1200 ppm
	Site: RED COLOUR Desc: STRUCTURAL STEEL			

Kevin Pang
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 established by the AIHA-LAP, unless specifically indicated otherwise.

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

Initial report from 10/16/2014 16:49:55

Appendix H
Findings and Recommendations – Fire Cache

H-4.0 FINDINGS – FIRE CACHE

The original construction date of the Fire Cache was not provided.

Stantec understands that demolition of the Fire Cache has been proposed.

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

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

H-4.1 Asbestos

Stantec identified and sampled various suspected ACMs, including the following:

- Window frame caulking.

3 samples of the above-noted suspected ACMs were collected and submitted to EMSL for analysis of asbestos content and nature.

A summary of the sample types, locations and analytical results is presented in Table H-4.1.1, below. Copies of the certificates of analysis provided by EMSL for the suspected ACM samples submitted are attached at the end of this Appendix.

Table H-4.1.1 Suspected ACM Sample Collection and Analysis Summary Fire Cache, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
FC-WFC-01A	**Window frame caulking – Grey**	**Between window frame and building on the exterior**	**3.1% Chrysotile**
FC-WFC-01B	**Window frame caulking – Grey**	**Between window frame and building on the exterior**	**Stop Positive**
FC-WFC-01C	**Window frame caulking – Grey**	**Between window frame and building on the exterior**	**Stop Positive**

Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of suspected ACM sample analytical results, the material presented in Table H-4.1.2, below was identified as an ACM.

Table H-4.1.2 Summary of Identified ACMs Fire Cache, Haines Junction, YT

Identified ACM Description and Condition Information		Photo
Grey window frame caulking between window frame and building on the exterior		
Friability	Non-friable	
Condition	Good	
Content	3.1% Chrysotile	

H-4.2 Lead

Typical potential lead-containing items (solder on wiring, in domestic water pipes and/or in the bell fittings of cast iron drain pipes; lead acid batteries associated with emergency exit signage, etc.) were not observed.

With respect to paint, 2 paint chip samples were obtained, where suspected LCPs were observed. A summary of the sample types, locations and analytical results is presented in Table H-4.2.1, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

Table H-4.2.1 Suspected LCP Sample Collection and Analysis Summary Fire Cache, Haines Junction, YT

Sample No.	Sample Location	Sample Colour	Lab Result (ppm)	Lead Containing (Yes/No)
FC-P-01	**Exterior trim**	**Grey**	**20,000**	**Yes**
FC-P-02	**Exterior siding**	**Beige**	**6,100**	**Yes**

Based on our observations and on our interpretations of suspected LCP sample analytical results, the materials presented in Table H-4.2.2, below were identified as LCPs.

Table H-4.2.2 Summary of Identified LCPs Fire Cache, Haines Junction, YT

Identified LCP Description	Photo
Grey paint on the exterior trim. This paint was observed to be in good condition (not bubbling, flaking or peeling).	
Beige paint on the exterior siding. This paint was observed to be in good condition (not bubbling, flaking or peeling).	

H-4.3 Polychlorinated Biphenyls

No suspected PCB-containing equipment was observed during the assessment.

H-4.4 Mercury

No suspected mercury-containing equipment was observed during the assessment.

H-4.5 Mould

No suspect mould or moisture impacted materials were observed during the assessment.

H-4.6 Ozone-Depleting Substances

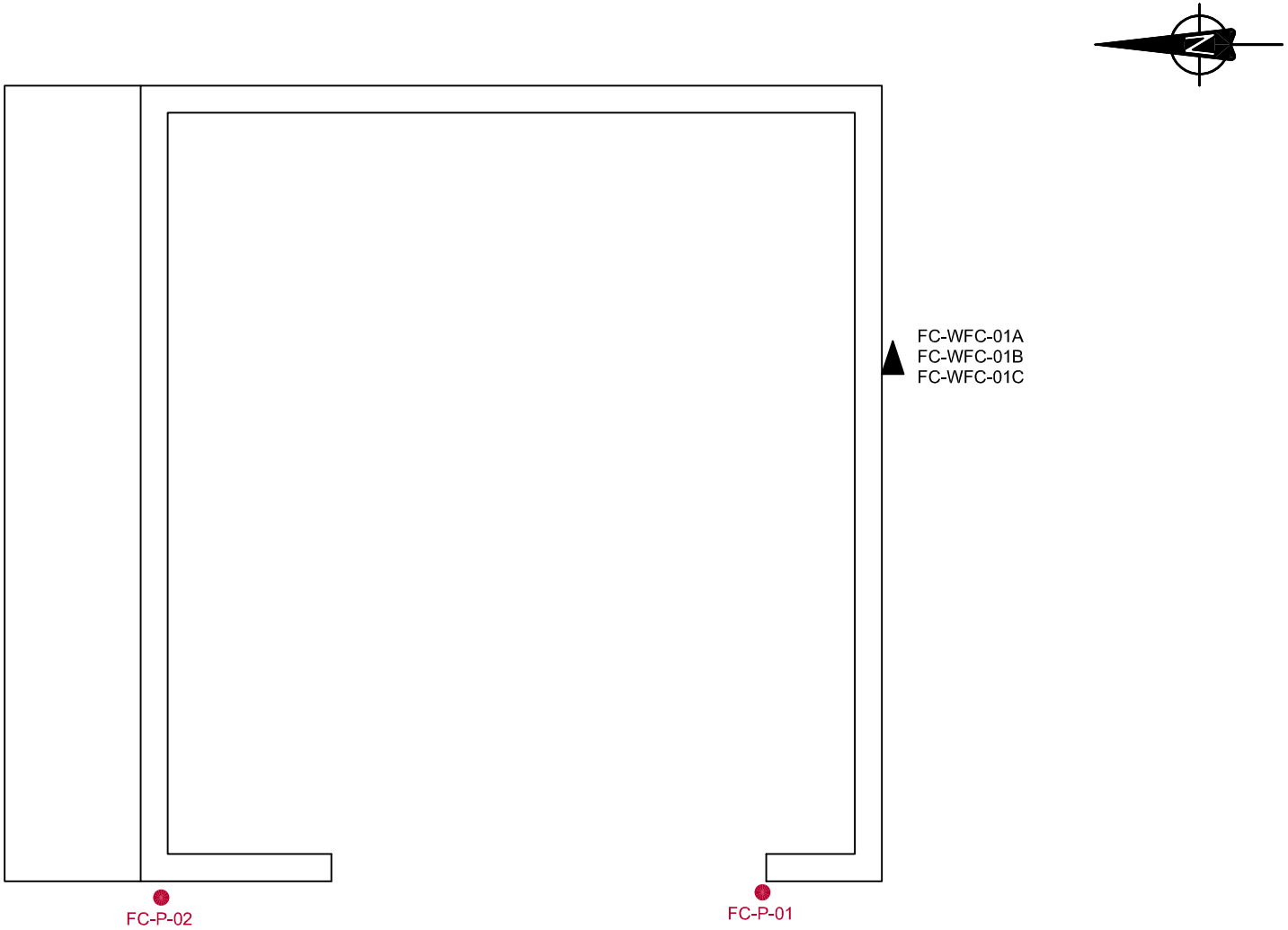
No suspected ODS-containing equipment was observed during the assessment.

H-4.7 Silica

Silica may be present in concrete and cement observed in various locations throughout.

H-5.0 BUILDING-SPECIFIC RECOMMENDATIONS

In general, identified hazardous building materials should be handled in accordance with the recommendations for demolition that are provided in Section 5 of the main body of this report.



FIRE CACHE

LEGEND

BULK SAMPLE

PAINT CHIP SAMPLE

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

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

HAINES JUNCTION, YT

Client: PARKS CANADA

Project No.:	144901924
Scale:	NTS
Date:	14/11/18
Dwn. By:	CD PK/DM SL2014110111
App'd By:	TW

Dwg. No.: H

Stantec

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Project: **144901924.801**

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
FC-WFC-01A *551407481-0256*	WINDOW FRAME CAULKING-GREY - BETWEEN WINDOW FRAME AND BUILDING ON THE EXTERIOR	Brown Non-Fibrous Homogeneous	96.9	None	3.1% Chrysotile
FC-WFC-01B *551407481-0257*	WINDOW FRAME CAULKING-GREY - BETWEEN WINDOW FRAME AND BUILDING ON THE EXTERIOR				
Positive Stop (Not Analyzed)					
FC-WFC-01C *551407481-0258*	WINDOW FRAME CAULKING-GREY - BETWEEN WINDOW FRAME AND BUILDING ON THE EXTERIOR				
Positive Stop (Not Analyzed)					

Analyst(s)

Nicole Yeo (1)

Kevin Pang
or other approved signatory

Initial report from 10/17/2014 22:58:12

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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	551407512
CustomerID:	55JACQ30L
CustomerPO:	144901924.801
ProjectID:	

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

Phone: (604) 412-3004
Fax:
Received: 10/10/14 11:01 AM
Collected:

Project: **144901924.801**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
FC-P-01	*551407512-0039* Site: GREY COLOUR Desc: EXTERIOR TRIM		10/16/2014	20000 ppm
FC-P-02	*551407512-0040* Site: BEIGE COLOUR Desc: EXTERIOR SIDING		10/16/2014	6100 ppm

Kevin Pang
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 established by the AIHA-LAP, unless specifically indicated otherwise.

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

Initial report from 10/16/2014 16:49:59

Appendix I
Findings and Recommendations – Pump House

I-4.0 FINDINGS – PUMP HOUSE

The Pump House was reportedly constructed in 1956.

Stantec understands that demolition of the Pump House has been proposed.

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

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

I-4.1 Asbestos

Stantec identified and sampled various suspected ACMs, including the following:

- Roofing paper
- Exterior seam caulking
- Fiberglass insulation sealant.

9 samples of the above-noted suspected ACMs were collected and submitted to EMSL for analysis of asbestos content and nature.

A summary of the sample types, locations and analytical results is presented in Table I-4.1.1, below. Copies of the certificates of analysis provided by EMSL for the suspected ACM samples submitted are attached at the end of this Appendix.

Table I-4.1.1 Suspected ACM Sample Collection and Analysis Summary Pump House, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
PH-RP-01A	Roof paper – Black	Roof (concealed under wood shingle)	None Detected
PH-RP-01B	Roof paper – Black	Roof (concealed under wood shingle)	None Detected
PH-RP-01C	Roof paper – Black	Roof (concealed under wood shingle)	None Detected
PH-ESC-01A	Exterior seam caulking – White	Seams of exterior siding	None Detected
PH-ESC-01B	Exterior seam caulking – White	Seams of exterior siding	None Detected

Table I-4.1.1 Suspected ACM Sample Collection and Analysis Summary Pump House, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
PH-ESC-01C	Exterior seam caulking – White	Seams of exterior siding	None Detected
PH-FIS-01A	Fiberglass insulation sealant – White	Interior seams of fiberglass insulation	None Detected
PH-FIS-01B	Fiberglass insulation sealant – White	Interior seams of fiberglass insulation	None Detected
PH-FIS-01C	Fiberglass insulation sealant – White	Interior seams of fiberglass insulation	None Detected

Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of suspected ACM sample analytical results, no ACMs were identified.

I-4.2 Lead

Typical potential lead-containing items (solder on wiring, in domestic water pipes and/or in the bell fittings of cast iron drain pipes; lead acid batteries associated with emergency exit signage, etc.) were not observed.

With respect to paint, 2 paint chip samples were obtained, where suspected LCPs were observed. A summary of the sample types, locations and analytical results is presented in Table I-4.2.1, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

Table I-4.2.1 Suspected LCP Sample Collection and Analysis Summary Pump House, Haines Junction, YT

Sample No.	Sample Location	Sample Colour	Lab Result (ppm)	Lead Containing (Yes/No)
PH-P-01	Exterior trim	White colour	<200	No
PH-P-02	Exterior siding	Beige colour	<340	No

Based on our observations and on our interpretations of suspected LCP sample analytical results, no LCPs were identified.

I-4.3 Polychlorinated Biphenyls

No suspected PCB-containing equipment was observed during the assessment.

I-4.4 Mercury

No suspected mercury-containing equipment was observed during the assessment.

I-4.5 Mould

No suspect mould or moisture impacted materials were observed during the assessment.

I-4.6 Ozone-Depleting Substances

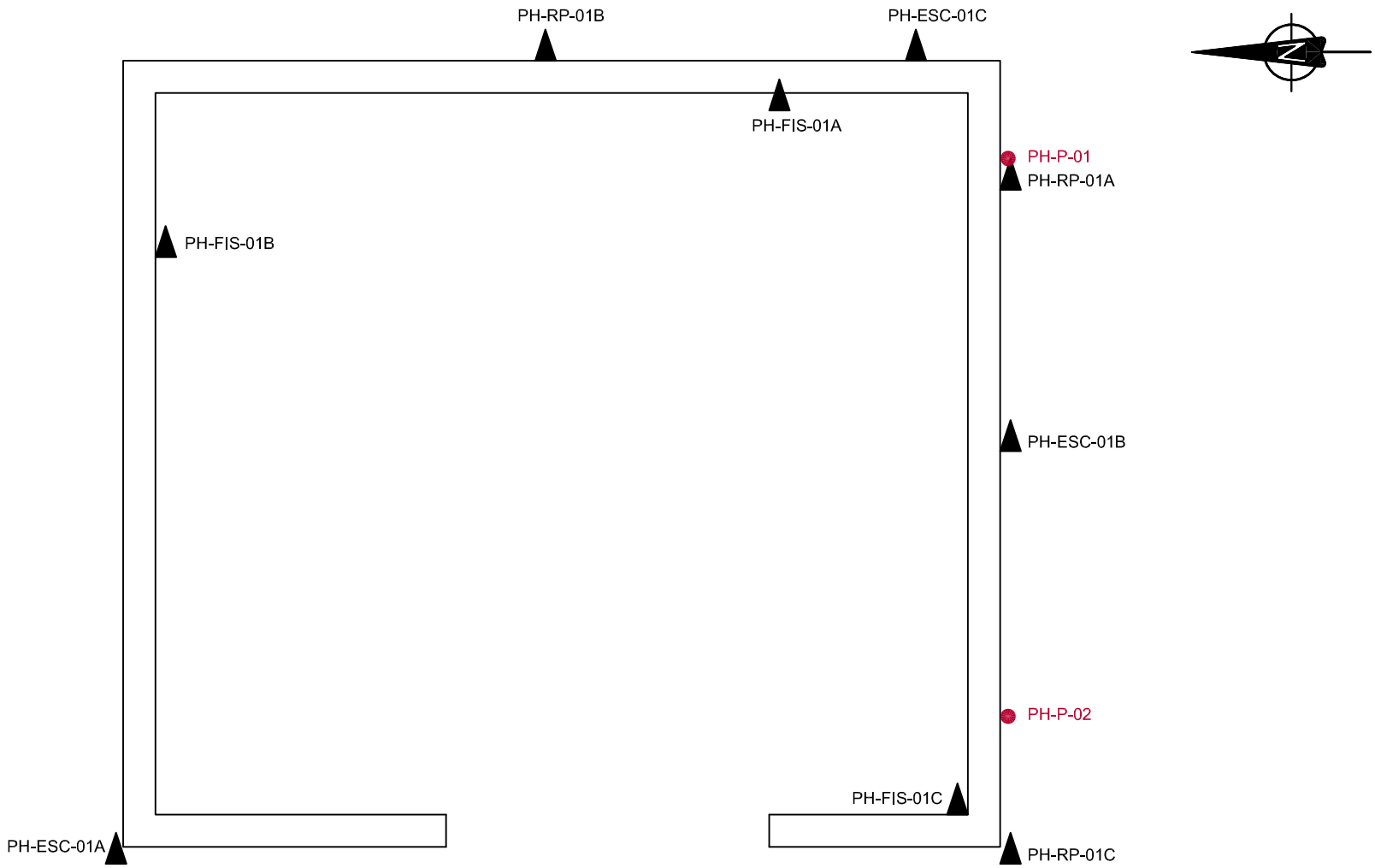
No suspected ODS-containing equipment was observed during the assessment.

I-4.7 Silica

Silica may be present in concrete and cement observed in various locations throughout.

I-5.0 BUILDING-SPECIFIC RECOMMENDATIONS

In general, identified hazardous building materials should be handled in accordance with the recommendations for demolition that are provided in Section 5 of the main body of this report.



PUMP HOUSE 1

LEGEND

- BULK SAMPLE
- PAINT CHIP SAMPLE

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

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

HAINES JUNCTION, YT

Project No.:	144901924	**Dwg. No.:**	1
Scale:	NTS		
Date:	14/11/18		
Dwn. By:	CD PK/DM SL2014110112		
App'd By:	TW		
Client:	PARKS CANADA		

Stantec

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
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Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Project: **144901924.801**

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
PH-RP-01A *551407481-0259*	ROOF PAPER-BLACK - ROOF(CONCEALED UNDER WOOD SHINGLE)	Brown Fibrous Homogeneous	100	None	No Asbestos Detected
PH-RP-01B *551407481-0260*	ROOF PAPER-BLACK - ROOF(CONCEALED UNDER WOOD SHINGLE)	Brown Fibrous Homogeneous	100	None	No Asbestos Detected
PH-RP-01C *551407481-0261*	ROOF PAPER-BLACK - ROOF(CONCEALED UNDER WOOD SHINGLE)	Brown Fibrous Homogeneous	100	None	No Asbestos Detected
PH-ESC-01A *551407481-0262*	EXTERIOR SEAM CAULKING-WHITE - SEAMS OF EXTERIOR SIDING	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
PH-ESC-01B *551407481-0263*	EXTERIOR SEAM CAULKING-WHITE - SEAMS OF EXTERIOR SIDING	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
PH-ESC-01C *551407481-0264*	EXTERIOR SEAM CAULKING-WHITE - SEAMS OF EXTERIOR SIDING	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (2)
Nicole Yeo (4)

Matthew Davis
or other approved signatory

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

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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	551407481
CustomerID:	55JACQ30N
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Stantec Consulting, Ltd.
4370 Dominion Street
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Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Project: **144901924.801**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
PH-FIS-01A *551407481-0265*	FIBERGLASS INSULATION SEALANT-WHITE - INTERIOR SEAMS OF FIBERGLASS INSULATION	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
PH-FIS-01B *551407481-0266*	FIBERGLASS INSULATION SEALANT-WHITE - INTERIOR SEAMS OF FIBERGLASS INSULATION	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
PH-FIS-01C *551407481-0267*	FIBERGLASS INSULATION SEALANT-WHITE - INTERIOR SEAMS OF FIBERGLASS INSULATION	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Arabee Sathiaseelan (2)
Jon Delos Santos (1)

Matthew Davis
or other approved signatory

Initial report from 10/17/2014 22:58:12

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2756 Slough Street, Mississauga, ON L4T 1G3
Phone/Fax: 289-997-4602 / (289) 997-4607
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EMSL Canada Or	551407512
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Attn: **Keith Irwin**
Stantec Consulting, Ltd.
500 - 4730 Kingsway
Burnaby, BC V5H 0C6

Phone: (604) 412-3004
Fax:
Received: 10/10/14 11:01 AM
Collected:

Project: **144901924.801**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
PH-P-01	*551407512-0045*		10/16/2014	<200 ppm
	Site: WHITE COLOUR Desc: EXTERIOR TRIM Insufficient sample to reach reporting limit.			
PH-P-02	*551407512-0046*		10/16/2014	<340 ppm
	Site: BEIGE COLOUR Desc: EXTERIOR SIDING Insufficient sample to reach reporting limit.			

Lisa Podzyhun
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 established by the AIHA-LAP, unless specifically indicated otherwise.

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

Report Amended: 11/19/2014 10:53:18 Replaces the Inital Report 10/16/2014 16:53:12. Reason Code: Client-Change to Sample ID

Appendix J
Findings and Recommendations – Well Shed

J-4.0 FINDINGS – WELL SHED

The Well Shed was reportedly constructed in 1980.

Stantec understands that demolition of the Well Shed has been proposed.

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

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

J-4.1 Asbestos

No suspected ACMs were observed during the site assessment therefore no samples were collected.

J-4.2 Lead

Typical potential lead-containing items (solder on wiring, in domestic water pipes and/or in the bell fittings of cast iron drain pipes; lead acid batteries associated with emergency exit signage, etc.) were not observed.

With respect to paint, 4 paint chip samples were obtained, where suspected LCPs were observed. A summary of the sample types, locations and analytical results is presented in Table J-4.2.1, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

Table J-4.2.1 Suspected LCP Sample Collection and Analysis Summary Well Shed, Haines Junction, YT

Sample No.	Sample Location	Sample Colour	Lab Result (ppm)	Lead Containing (Yes/No)
WS-P-01	Exterior trim	White	<90	No
WS-P-02	Exterior trim	Blue	<210	No
WS-P-03	Interior walls	White	<90	No
WS-P-04	Exterior siding	Blue	<170	No

Based on our observations and on our interpretations of suspected LCP sample analytical results, no LCPs were identified.

J-4.3 Polychlorinated Biphenyls

No suspected PCB-containing equipment was observed during the assessment.

J-4.4 Mercury

No suspected mercury-containing equipment was observed during the assessment.

J-4.5 Mould

No suspect mould or moisture impacted materials were observed during the assessment.

J-4.6 Ozone-Depleting Substances

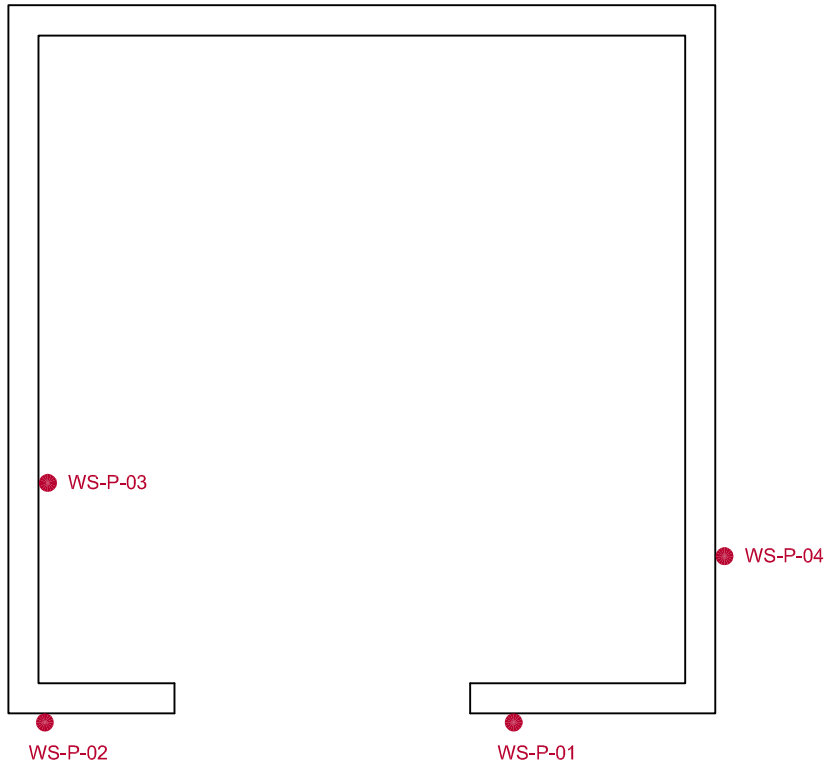
No suspected ODS-containing equipment was observed during the assessment.

J-4.7 Silica

Silica may be present in concrete and cement observed in various locations throughout.

J-5.0 BUILDING-SPECIFIC RECOMMENDATIONS

In general, identified hazardous building materials should be handled in accordance with the recommendations for demolition that are provided in Section 5 of the main body of this report.



LEGEND

● PAINT CHIP SAMPLE

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

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

HAINES JUNCTION, YT

Client: PARKS CANADA

Project No.:	144901924
Scale:	NTS
Date:	14/11/18
Dwn. By:	CD PK/DM SL2014110113
App'd By:	TW

Dwg. No.: J

Stantec

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	551407512
CustomerID:	55JACQ30L
CustomerPO:	144901924.801
ProjectID:	

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

Phone: (604) 412-3004
Fax:
Received: 10/10/14 11:01 AM
Collected:

Project: **144901924.801**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
WS-P-01	*551407512-0041* Site: WHITE COLOR Desc: EXTERIOR TRIM		10/16/2014	<90 ppm
WS-P-02	*551407512-0042* Site: BLUE COLOUR Desc: EXTERIOR TRIM Insufficient sample to reach reporting limit.		10/16/2014	<210 ppm
WS-P-03	*551407512-0043* Site: WHITE COLOUR Desc: INTERIOR WALLS		10/16/2014	<90 ppm
WS-P-04	*551407512-0044* Site: BLUE COLOUR Desc: EXTERIOR SIDING Insufficient sample to reach reporting limit.		10/16/2014	<170 ppm

Lisa Podzyhun
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 established by the AIHA-LAP, unless specifically indicated otherwise.

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

Report Amended: 11/19/2014 10:53:18 Replaces the Inital Report 10/16/2014 16:53:12. Reason Code: Client-Change to Sample ID

Appendix K
Findings and Recommendations – Sewage Treatment Building

K-4.0 FINDINGS – SEWAGE TREATMENT BUILDING

The original construction date of the Sewage Treatment Building is reportedly 1996.

Stantec understands that demolition of the Sewage Treatment Building has been proposed.

The results of the assessment for each of the considered hazardous materials within the Sewage Treatment Building are provided in the following sub-sections.

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

K-4.1 Asbestos

No suspected ACMs were observed during the site assessment therefore no samples were collected.

K-4.2 Lead

Typical potential lead-containing items (solder on wiring, in domestic water pipes and/or in the bell fittings of cast iron drain pipes; lead acid batteries associated with emergency exit signage, etc.) were not observed.

With respect to paint, 3 paint chip samples were obtained, where suspected LCPs were observed. A summary of the sample types, locations and analytical results is presented in Table K-4.2.1, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

Table K-4.2.1 Suspected LCP Sample Collection and Analysis Summary Sewage Treatment Building, Haines Junction, YT

Sample No.	Sample Location	Sample Colour	Lab Result (ppm)	Lead Containing (Yes/No)
ST-P-01	Floor	Grey	<220	No
ST-P-02	Interior walls and ceiling	White	<90	No
ST-P-03	Exterior trim	Blue	<90	No

Based on our observations and on our interpretations of suspected LCP sample analytical results, no LCPs were identified.

K-4.3 Polychlorinated Biphenyls

Based on the construction date of the building, fluorescent light ballasts are not suspected to contain PCBs.

No other suspected PCB-containing equipment was observed during the assessment.

K-4.4 Mercury

No suspected mercury-containing equipment was observed during the assessment.

K-4.5 Mould

No suspect mould or moisture impacted materials were observed during the assessment.

K-4.6 Ozone-Depleting Substances

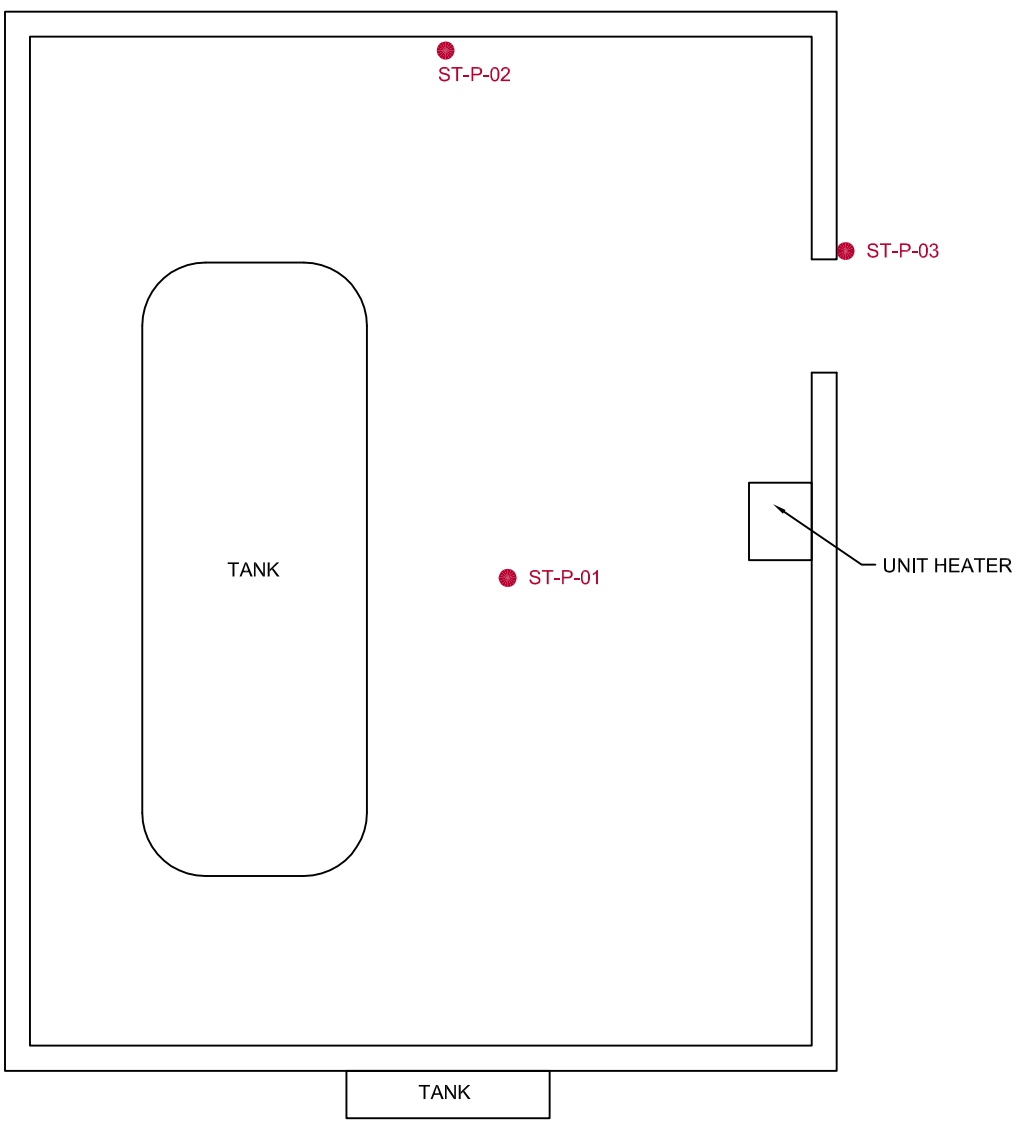
No suspected ODS-containing equipment was observed during the assessment.

K-4.7 Silica

Silica may be present in concrete and cement observed in various locations throughout.

K-5.0 RECOMMENDATIONS TO ADDRESS IDENTIFIED ISSUES – SEWAGE TREATMENT BUILDING

In general, identified hazardous building materials should be handled in accordance with the recommendations for demolition that are provided in Section 5 of the main body of this report.



SEWAGE TREATMENT BUILDING

LEGEND

● PAINT CHIP SAMPLE

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

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

HAINES JUNCTION, YT

Client: PARKS CANADA	**Project No.:** 144901924	**Dwg. No.:** K	Stantec
	Scale: NTS		
	Date: 14/11/18		
	Dwn. By: CD PK/DM SL2014110114		
	App'd By: TW		

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	551407512
CustomerID:	55JACQ30L
CustomerPO:	144901924.801
ProjectID:	

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

Phone: (604) 412-3004
Fax:
Received: 10/10/14 11:01 AM
Collected:

Project: **144901924.801**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
ST-P-01	*551407512-0047*		10/16/2014	<220 ppm
	Site: GREY COLOUR Desc: FLOOR Insufficient sample to reach reporting limit.			
ST-P-02	*551407512-0048*		10/16/2014	<90 ppm
	Site: WHITE COLOUR Desc: INTERIOR WALLS AND CEILING			
ST-P-03	*551407512-0049*		10/16/2014	<90 ppm
	Site: BLUE COLOUR Desc: EXTERIOR TRIM			

Kevin Pang
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 established by the AIHA-LAP, unless specifically indicated otherwise.

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

Initial report from 10/16/2014 16:54:24

Appendix L
Findings and Recommendations – House 1

L-4.0 FINDINGS – HOUSE 1

House 1 was reportedly constructed in 1960.

Stantec understands that demolition of House 1 has been proposed.

The results of the assessment for each of the considered hazardous materials within House 1 are provided in the following sub-sections.

Floor plan drawings for House 1, which include locations of the samples collected during this assessment and locations of identified hazardous building materials (where practical), are attached to this Appendix.

L-4.1 Asbestos

Stantec identified and sampled various suspected ACMs, including the following:

- Heat shields in incandescent lights
- Sheet flooring
- Vinyl floor tile
- Window pane caulking
- Fire stop
- Ceiling texture coat
- Drywall joint compound
- Roofing paper
- Ceiling tiles
- Brick mortar.

46 samples of the above-noted suspected ACMs were collected and submitted to EMSL for analysis of asbestos content and nature.

A summary of the sample types, locations and analytical results is presented in Table L-4.1.1, below. Copies of the certificates of analysis provided by EMSL for the suspected ACM samples submitted are attached at the end of this Appendix.

It should be noted that several bulk samples of vinyl floor tile were further separated into layers during laboratory analysis.

Table L-4.1.1: Suspected ACM Sample Collection and Analysis Summary House 1, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
H1-HS-01A	**Heat shield – Silver**	**Inside round incandescent light fixture on the main level**	**45% Chrysotile**
H1-HS-01B	**Heat shield – Silver**	**Inside round incandescent light fixture on the main level**	**Stop Positive**
H1-HS-01C	**Heat shield – Silver**	**Inside round incandescent light fixture on the main level**	**Stop Positive**
H1-HS-02A	**Heat shield – Silver**	**Inside round incandescent light fixture in basement room 4**	**45% Chrysotile**
H1-HS-02B	**Heat shield – Silver**	**Inside round incandescent light fixture in basement room 4**	**Stop Positive**
H1-HS-02C	**Heat shield – Silver**	**Inside round incandescent light fixture in basement room 4**	**Stop Positive**
H1-SF-01	Vinyl sheet flooring – Red ceramic tile pattern	Kitchen	None Detected
H1-SF-02	Vinyl sheet flooring – Beige ceramic tile pattern	Bathroom 1	None Detected
H1-SF-03	Vinyl sheet flooring – Yellow stone pattern	Bathroom 2	None Detected
H1-SF-04	Vinyl sheet flooring – Beige pebble pattern	Stairwell	None Detected
H1-FT-01	**9”x9” vinyl floor tile – Red**	**Basement room 4**	**1.0% Chrysotile**
H1-FT-01-Mastic	Floor tile mastic – Black	Basement room 4	None Detected
H1-FT-02	**9”x9” vinyl floor tile – Beige**	**Basement room 5**	**1.0% Chrysotile**
H1-FT-02-Mastic	Floor tile mastic – Black	Basement room 5	None Detected
H1-WPC-01A	Window pane caulking – Grey	Between window frame and glass pane in the thruway addition	None Detected
H1-WPC-01B	Window pane caulking – Grey	Between window frame and glass pane in the thruway addition	None Detected
H1-WPC-01C	Window pane caulking – Grey	Between window frame and glass pane in the thruway addition	None Detected
H1-WPC-02A	**Window pane caulking – Grey**	**Between window frame and glass pane in main house windows**	**2.6% Chrysotile**

Table L-4.1.1: Suspected ACM Sample Collection and Analysis Summary House 1, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
H1-WPC-02B	**Window pane caulking – Grey**	**Between window frame and glass pane in main house windows**	**Stop Positive**
H1-WPC-02C	**Window pane caulking – Grey**	**Between window frame and glass pane in main house windows**	**Stop Positive**
H1-EWPC-01A	**Exterior window pane caulking – Grey**	**Between window frame and glass pane on exterior of main house windows**	**1.6% Chrysotile**
H1-EWPC-01B	**Exterior window pane caulking – Grey**	**Between window frame and glass pane on exterior of main house windows**	**Stop Positive**
H1-EWPC-01C	**Exterior window pane caulking – Grey**	**Between window frame and glass pane on exterior of main house windows**	**Stop Positive**
H1-FS-01A	Fire stop – Grey	Around furnace exhaust penetration in the chimney	None Detected
H1-FS-01B	Fire stop – Grey	Around furnace exhaust penetration in the chimney	None Detected
H1-FS-01C	Fire stop – Grey	Around furnace exhaust penetration in the chimney	None Detected
H1-CTC-01A	**Ceiling texture coat – White**	**Living room**	**3% Chrysotile**
H1-CTC-01B	**Ceiling texture coat – White**	**Kitchen**	**None Detected**
H1-CTC-01C	**Ceiling texture coat – White**	**Hallway**	**1% Chrysotile**
H1-CTC-01D	**Ceiling texture coat – White**	**Room 2**	**None Detected**
H1-CTC-01E	**Ceiling texture coat – White**	**Room 3**	**None Detected**
H1-DJC-01A	**Drywall joint compound**	**Dining room**	**None Detected**
H1-DJC-01B	**Drywall joint compound**	**Hallway**	**2% Chrysotile**
H1-DJC-01C	**Drywall joint compound**	**Living room**	**2% Chrysotile**
H1-DJC-01D	**Drywall joint compound**	**Hallway**	**<1% Chrysotile**
H1-DJC-01E	**Drywall joint compound**	**Room 3**	**None Detected**
H1-RP-01A	Roofing paper – Black	Roof (concealed under wood shingles)	None Detected

Table L-4.1.1: Suspected ACM Sample Collection and Analysis Summary House 1, Haines Junction, YT

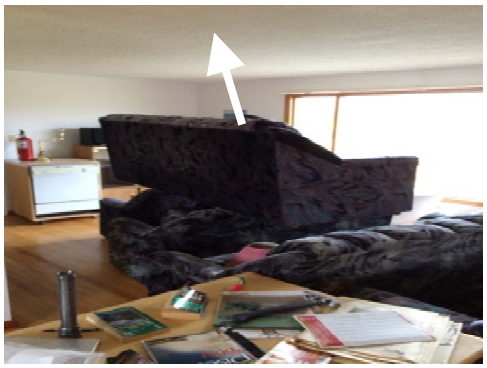
Sample Number	Material Description	Sample Location	Result (%/type asbestos)
H1-RP-01B	Roofing paper – Black	Roof (concealed under wood shingles)	None Detected
H1-RP-01C	Roofing paper – Black	Roof (concealed under wood shingles)	None Detected
H1-CT-01A	White 1'x1' ceiling tile – Brush strokes pattern	Basement room 6	None Detected
H1-CT-01B	White 1'x1' ceiling tile – Brush strokes pattern	Basement room 6	None Detected
H1-CT-01C	White 1'x1' ceiling tile – Brush strokes pattern	Basement room 6	None Detected
H1-CT-02A	White 2'x6' ceiling tile	Basement room 4	None Detected
H1-CT-02B	White 2'x6' ceiling tile	Basement room 4	None Detected
H1-CT-02C	White 2'x6' ceiling tile	Basement room 4	None Detected
H1-BM-01A	Brick mortar	Basement on chimney	None Detected
H1-BM-01B	Brick mortar	Basement on chimney	None Detected
H1-BM-01C	Brick mortar	Basement on chimney	None Detected

Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of suspected ACM sample analytical results, the materials presented in Table L-4.1.2, below were identified as ACMs.

Table L-4.1.2: Summary of Identified ACMs House 1, Haines Junction, YT

Identified ACM Description and Condition Information		Photo
Heat shields (foil covered) inside round incandescent light fixtures on the main floor and in the basement		
Friability	Friable	
Condition	Good	
Content	45% Chrysotile	
9”x9” vinyl floor tile in basement rooms 4 and 5 (both beige and red)		
Friability	Non-friable	
Condition	Good	
Content	1.0% Chrysotile	
Grey window pane caulking between window frame and glass pane in main house windows		
Friability	Non-friable	
Condition	Good	
Content	1.6 - 2.6% Chrysotile	

Table L-4.1.2: Summary of Identified ACMs House 1, Haines Junction, YT

Identified ACM Description and Condition Information		Photo
White ceiling texture coat throughout the main house		
Friability	Non-friable in situ can be made friable during removal	
Condition	Good	
Content	1 - 3% Chrysotile	
Drywall joint compound throughout		
Friability	Non-friable in situ can be made friable during removal	
Condition	Good	
Content	<1 - 2% Chrysotile	

L-4.1.1 Ceiling Texture and Drywall Joint Compound

Chrysotile asbestos was detected in 2 of 5 samples of ceiling texture and 3 of 5 samples of drywall joint compound, which were collected from various application types (interior partition, perimeter, ceilings, etc.) within the building. As visual distinction between asbestos-containing and non-asbestos-containing forms of these materials is not practical (it is likely that over the years there were several renovations where these materials may have been layered; finished walls and ceilings are covered with multiple layers of paint, and finishing is conducted to blend different types of wall/ceiling materials such that the surface is continuous) and as the asbestos content of these materials may be inconsistent (the application of ceiling texture and drywall joint compound was often conducted by hand-mixing the components), the extent of asbestos-containing ceiling texture and drywall joint compound is difficult to determine. As such, ceiling texture and drywall joint compound throughout the building should be considered asbestos-containing.

L-4.2 Lead

Lead is expected to be present in the following materials:

- Solder used on copper domestic pipes
- Caulking on bell fittings for cast iron drainage pipes
- Electrical equipment (i.e. batteries for emergency lighting/signage).

With respect to paint, 6 paint chip samples were obtained, where suspected LCPs were observed. A summary of the sample types, locations and analytical results is presented in Table L-4.2.1, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

Table L-4.2.1: Suspected LCP Sample Collection and Analysis Summary House 1 Haines Junction, YT

Sample No.	Sample Location	Sample Colour	Lab Result (ppm)	Lead Containing (Yes/No)
H1-P-01	Interior walls	White	<90	No
H1-P-02	Basement floors	Grey	880	Yes
H1-P-03	**Exterior walls**	**White**	**22,000**	**Yes**
H1-P-04	**Exterior trim**	**Brown**	**13,000**	**Yes**
H1-P-05	Garage walls	Peach	<90	No
H1-P-06	**Thruway door**	**Green**	**51,000**	**Yes**

Based on our observations and on our interpretations of suspected LCP sample analytical results, the materials presented in Table L-4.2.2, below were identified as LCPs.

Table L-4.2.2 Summary of Identified LCPs House 1, Haines Junction, YT

Identified LCP Description	Photo
White paint on exterior walls. This paint was observed to be in good condition (not bubbling, flaking or peeling).	
Brown paint on exterior trim. This paint was observed to be in good condition (not bubbling, flaking or peeling).	
Green paint on the thruway door. This paint was observed to be in good condition (not bubbling, flaking or peeling).	

L-4.3 Polychlorinated Biphenyls

Approximately 7 fluorescent light fixtures were observed throughout. Based on the age of the building, the ballasts within these fixtures may contain PCBs.

L-4.4 Mercury

Mercury vapour is expected to be present in fluorescent light bulbs/tubes throughout.

L-4.5 Mould

No suspect mould or moisture impacted materials were observed during the assessment.

L-4.6 Ozone-Depleting Substances

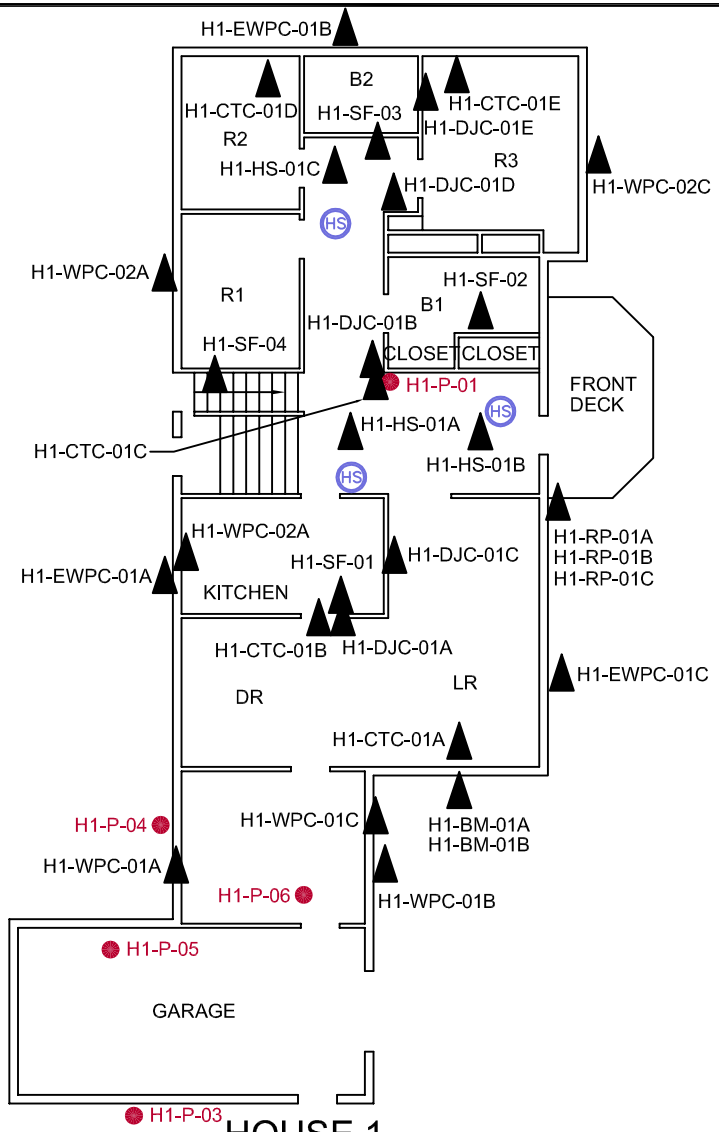
No suspected ODS-containing equipment was observed during the assessment.

L-4.7 Silica

Silica may be present in concrete, cement, and ceramic tiles observed in various locations throughout.

L-5.0 BUILDING-SPECIFIC RECOMMENDATIONS

In general, identified hazardous building materials should be handled in accordance with the recommendations for demolition that are provided in Section 5 of the main body of this report.



HOUSE 1
MAIN FLOOR

LEGEND

- ▲ BULK SAMPLE
- ● PAINT CHIP SAMPLE
- (HS) ASBESTOS-CONTAINING INCANDESCENT LIGHT HEAT SHIELD

NOTES:
1. **GREY WINDOW PANE CAULKING BETWEEN WINDOW FRAMES AND GLASS PANES THROUGHOUT THE MAIN HOUSE IS ACM.**
2. **CEILING TEXTURE COAT THROUGHOUT IS ACM.**
3. **DRYWALL JOINT COMPOUND THROUGHOUT IS ACM.**
4. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

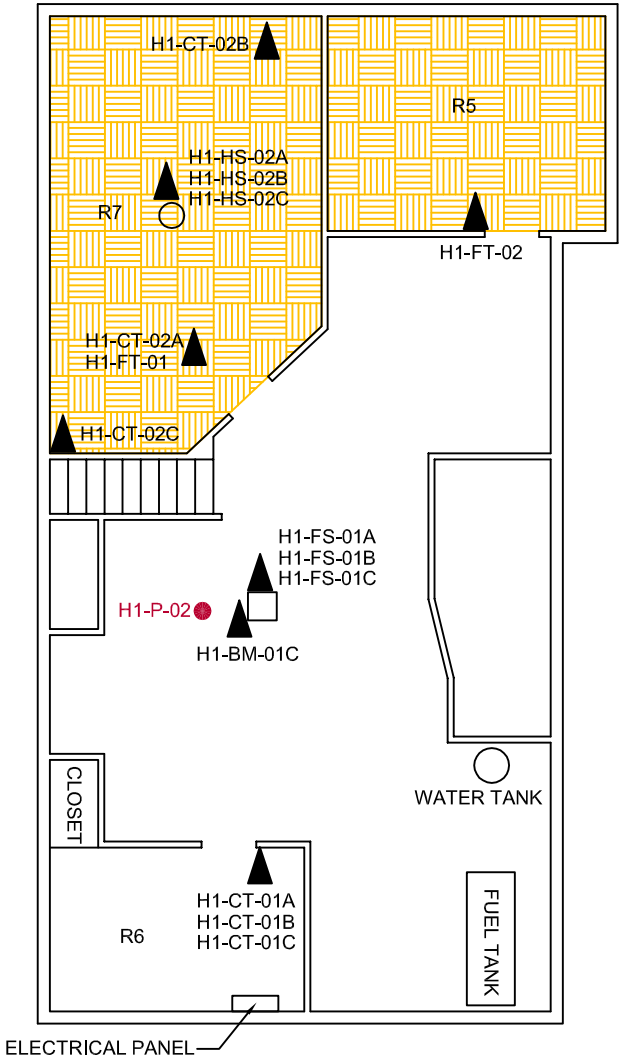
HAINES JUNCTION, YT

Client: PARKS CANADA

Project No.:	144901924
Scale:	NTS
Date:	14/11/18
Dwn. By:	CD VM SL2014110115
App'd By:	TW

Dwg. No.: L1

Stantec



HOUSE 1
BASEMENT

LEGEND

- BULK SAMPLE
- PAINT CHIP SAMPLE
- ASBESTOS-CONTAINING FLOOR TILE

NOTES:
1. **GREY WINDOW PANE CAULKING BETWEEN WINDOW FRAMES AND GLASS PANES THROUGHOUT THE MAIN HOUSE IS ACM.**
2. **CEILING TEXTURE COAT THROUGHOUT IS ACM.**
3. **DRYWALL JOINT COMPOUND THROUGHOUT IS ACM.**
4. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

HAINES JUNCTION, YT

Client: PARKS CANADA

Project No.:	144901924
Scale:	NTS
Date:	14/11/18
Dwn. By:	CD VM SL2014110116
App'd By:	TW

Dwg. No.: L2

Stantec

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H1-SF-01 *551407481-0274*	VINYL SHEET FLOORING-RED CERAMIC TILE PATTERN - KITCHEN	White/Various Non-Fibrous Homogeneous	98.5	1.5 Wollastonite	No Asbestos Detected
H1-SF-02 *551407481-0275*	VINYL SHEET FLOORING-BEIGE CERAMIC TILE PATTERN - BATHROOM 1	White/Various Non-Fibrous Homogeneous	99.4	0.58 Wollastonite	No Asbestos Detected
H1-SF-03 *551407481-0276*	VINYL SHEET FLOORING-YELLOW STONE PATTERN - BATHROOM 2	White/Various Non-Fibrous Homogeneous	99.2	0.77 Wollastonite	No Asbestos Detected
H1-SF-04 *551407481-0277*	VINYL SHEET FLOORING-BEIGE PEBBLE PATTERN - STAIRWELL	Gray/Various Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H1-FT-01 *551407481-0278*	9"X9" VINYL FLOOR TILE-RED - BASEMENT ROOM 4	Pink Non-Fibrous Homogeneous	99.0	None	1.0% Chrysotile
H1-FT-01-Mastic *551407481-0278A*	9"X9" VINYL FLOOR TILE-RED - BASEMENT ROOM 4	Brown/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H1-FT-02 *551407481-0279*	9"X9" VINYL FLOOR TILE-BEIGE - BASEMENT ROOM 5	White Non-Fibrous Homogeneous	99.0	None	1.0% Chrysotile
H1-FT-02-Mastic *551407481-0279A*	9"X9" VINYL FLOOR TILE-BEIGE - BASEMENT ROOM 5	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (2)
Nicole Yeo (14)

Kevin Pang
or other approved signatory

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

Initial report from 10/17/2014 22:58:12

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
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Project: **144901924.801**

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H1-WPC-01A *551407481-0280*	WINDOW PANE CAULKING-GREY - BETWEEN WINDOW FRAME AND GLASS PANE IN THE THRUWAY ADDITION	Gray/White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H1-WPC-01B *551407481-0281*	WINDOW PANE CAULKING-GREY - BETWEEN WINDOW FRAME AND GLASS PANE IN THE THRUWAY ADDITION	Gray/White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H1-WPC-01C *551407481-0282*	WINDOW PANE CAULKING-GREY - BETWEEN WINDOW FRAME AND GLASS PANE IN THE THRUWAY ADDITION	Gray/White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H1-WPC-02A *551407481-0283*	WINDOW PANE CAULKING-GREY - BETWEEN WINDOW FRAME AND GLASS PANE IN MAIN HOUSE WINDOWS	Gray/White Non-Fibrous Homogeneous	97.4	None	2.6% Chrysotile
H1-WPC-02B *551407481-0284*	WINDOW PANE CAULKING-GREY - BETWEEN WINDOW FRAME AND GLASS PANE IN MAIN HOUSE WINDOWS				
Positive Stop (Not Analyzed)					

Analyst(s)

Jon Delos Santos (2)
Nicole Yeo (14)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
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Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

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Fax:	(604) 436-3752
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SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H1-WPC-02C *551407481-0285*	WINDOW PANE CAULKING-GREY - BETWEEN WINDOW FRAME AND GLASS PANE IN MAIN HOUSE WINDOWS				
Positive Stop (Not Analyzed)					
H1-EWPC-01A *551407481-0286*	EXTERIOR WINDOW PANE CAULKING-GREY - BETWEEN WINDOW FRAME AND GLASS PANE ON EXTERIOR OF MAIN HOUSE WINDOWS	Gray Non-Fibrous Homogeneous	98.4	None	1.6% Chrysotile
H1-EWPC-01B *551407481-0287*	EXTERIOR WINDOW PANE CAULKING-GREY - BETWEEN WINDOW FRAME AND GLASS PANE ON EXTERIOR OF MAIN HOUSE WINDOWS				
Positive Stop (Not Analyzed)					
H1-EWPC-01C *551407481-0288*	EXTERIOR WINDOW PANE CAULKING-GREY - BETWEEN WINDOW FRAME AND GLASS PANE ON EXTERIOR OF MAIN HOUSE WINDOWS				
Positive Stop (Not Analyzed)					
H1-RP-01A *551407481-0302*	ROOFING PAPER-BLACK - ROOF(CONCEALED UNDER WOOD SHINGLES)	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (2)
Nicole Yeo (14)

Kevin Pang
or other approved signatory

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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

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Stantec Consulting, Ltd.
4370 Dominion Street
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SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H1-RP-01B *551407481-0303*	ROOFING PAPER-BLACK - ROOF(CONCEALED UNDER WOOD SHINGLES)	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H1-RP-01C *551407481-0304*	ROOFING PAPER-BLACK - ROOF(CONCEALED UNDER WOOD SHINGLES)	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (2)
Nicole Yeo (14)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
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Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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Fax:	(604) 436-3752
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
H1-HS-01A *551407481-0268*	HEAT SHIELD-SILVER - INSIDE ROUND INCANDESCENT LIGHT FIXTURE ON THE MAIN LEVEL	Gray/Silver Fibrous Homogeneous		55% Non-fibrous (other)	**45% Chrysotile**
H1-HS-01B *551407481-0269*	HEAT SHIELD-SILVER - INSIDE ROUND INCANDESCENT LIGHT FIXTURE ON THE MAIN LEVEL				**Stop Positive (Not Analyzed)**
H1-HS-01C *551407481-0270*	HEAT SHIELD-SILVER - INSIDE ROUND INCANDESCENT LIGHT FIXTURE ON THE MAIN LEVEL				**Stop Positive (Not Analyzed)**
H1-HS-02A *551407481-0271*	HEAT SHIELD-SILVER - INSIDE ROUND INCANDESCENT LIGHT FIXTURE IN BASEMENT ROOM 4	Gray/Silver Fibrous Homogeneous		55% Non-fibrous (other)	**45% Chrysotile**

Analyst(s)

Arabee Sathiaseelan (16)
Jon Delos Santos (8)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
H1-HS-02B *551407481-0272*	HEAT SHIELD-SILVER - INSIDE ROUND INCANDESCENT LIGHT FIXTURE IN BASEMENT ROOM 4				**Stop Positive (Not Analyzed)**
H1-HS-02C *551407481-0273*	HEAT SHIELD-SILVER - INSIDE ROUND INCANDESCENT LIGHT FIXTURE IN BASEMENT ROOM 4				**Stop Positive (Not Analyzed)**
H1-FS-01A *551407481-0289*	FIRE STOP-GREY - AROUND FURNACE EXHAUST PENETRATION IN THE CHIMNEY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
H1-FS-01B *551407481-0290*	FIRE STOP-GREY - AROUND FURNACE EXHAUST PENETRATION IN THE CHIMNEY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

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Jon Delos Santos (8)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
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Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

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Fax:	(604) 436-3752
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos	
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**	
H1-FS-01C *551407481-0291*	FIRE STOP-GREY - AROUND FURNACE EXHAUST PENETRATION IN THE CHIMNEY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)		**None Detected**
H1-CTC-01A *551407481-0292*	CEILING TEXTURE COAT-WHITE - LIVING ROOM	White Non-Fibrous Homogeneous		97% Non-fibrous (other)	**3%**	**Chrysotile**
H1-CTC-01B *551407481-0293*	CEILING TEXTURE COAT-WHITE - KITCHEN	White Non-Fibrous Homogeneous		100% Non-fibrous (other)		**None Detected**
H1-CTC-01C *551407481-0294*	CEILING TEXTURE COAT-WHITE - HALLWAY	Tan/White Non-Fibrous Homogeneous		99% Non-fibrous (other)	**1%**	**Chrysotile**
H1-CTC-01D *551407481-0295*	CEILING TEXTURE COAT-WHITE - ROOM 2	White Non-Fibrous Homogeneous		100% Non-fibrous (other)		**None Detected**
H1-CTC-01E *551407481-0296*	CEILING TEXTURE COAT-WHITE - ROOM 3	White Non-Fibrous Homogeneous		100% Non-fibrous (other)		**None Detected**
H1-DJC-01A *551407481-0297*	DRYWALL JOINT COMPOUND - DINING ROOM	White Non-Fibrous Homogeneous		100% Non-fibrous (other)		**None Detected**

Analyst(s)

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Jon Delos Santos (8)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

Phone:	(604) 436-3014
Fax:	(604) 436-3752
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos	
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**%**	**Type**
H1-DJC-01B *551407481-0298*	DRYWALL JOINT COMPOUND - HALLWAY	Tan Non-Fibrous Homogeneous			98%	Non-fibrous (other)	**2%**	**Chrysotile**
H1-DJC-01C *551407481-0299*	DRYWALL JOINT COMPOUND - LIVING ROOM	Tan Non-Fibrous Homogeneous			98%	Non-fibrous (other)	**2%**	**Chrysotile**
H1-DJC-01D *551407481-0300*	DRYWALL JOINT COMPOUND - HALLWAY	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**<1%**	**Chrysotile**
H1-DJC-01E *551407481-0301*	DRYWALL JOINT COMPOUND - ROOM 3	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)		**None Detected**
H1-CT-01A *551407481-0305*	WHITE 1'X1' CEILING TILE-BRUSH STROKES PATTERN - BASEMENT ROOM 6	Brown/White Fibrous Homogeneous	80%	Cellulose	20%	Non-fibrous (other)		**None Detected**
H1-CT-01B *551407481-0306*	WHITE 1'X1' CEILING TILE-BRUSH STROKES PATTERN - BASEMENT ROOM 6	Tan/White Fibrous Homogeneous	80%	Cellulose	20%	Non-fibrous (other)		**None Detected**

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Phone/Fax: 289-997-4602 / (289) 997-4607
http://www.EMSL.com torontolab@emsl.com

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Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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Fax:	(604) 436-3752
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
H1-CT-01C *551407481-0307*	WHITE 1'X1' CEILING TILE-BRUSH STROKES PATTERN - BASEMENT ROOM 6	Brown/White Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**
H1-CT-02A *551407481-0308*	WHITE 2'X6' CEILING TILE - BASEMENT ROOM 4	Tan/White Fibrous Homogeneous	80%	Cellulose	20%	Non-fibrous (other)	**None Detected**
H1-CT-02B *551407481-0309*	WHITE 2'X6' CEILING TILE - BASEMENT ROOM 4	Brown/White Fibrous Homogeneous	80%	Cellulose	20%	Non-fibrous (other)	**None Detected**
H1-CT-02C *551407481-0310*	WHITE 2'X6' CEILING TILE - BASEMENT ROOM 4	Brown/White Non-Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**
H1-BM-01A *551407481-0311*	BRICK MORTAR - BASEMENT ON CHIMNEY	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
H1-BM-01B *551407481-0312*	BRICK MORTAR - BASEMENT ON CHIMNEY	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**

Analyst(s)

Arabee Sathiaseelan (16)
Jon Delos Santos (8)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
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			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**% Type**
H1-BM-01C *551407481-0313*	BRICK MORTAR - BASEMENT ON CHIMNEY	Gray Non-Fibrous Homogeneous			100% Non-fibrous (other)	**None Detected**

Analyst(s)

Arabee Sathiaseelan (16)
Jon Delos Santos (8)

Kevin Pang
or other approved signatory

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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	551407512
CustomerID:	55JACQ30L
CustomerPO:	144901924.801
ProjectID:	

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

Phone: (604) 412-3004
Fax:
Received: 10/10/14 11:01 AM
Collected:

Project: **144901924.801**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
H1-P-01	*551407512-0050* Site: WHITE COLOUR Desc: INTERIOR WALLS		10/16/2014	<90 ppm
H1-P-02	*551407512-0051* Site: GREY COLOUR Desc: BASEMENT FLOORS		10/16/2014	880 ppm
H1-P-03	*551407512-0052* Site: WHITE COLOUR Desc: EXTERIOR WALLS		10/16/2014	22000 ppm
H1-P-04	*551407512-0053* Site: BROWN COLOUR Desc: EXTERIOR TRIM		10/16/2014	13000 ppm
H1-P-05	*551407512-0054* Site: PEACH COLOUR Desc: GARAGE WALLS		10/16/2014	<90 ppm
H1-P-06	*551407512-0055* Site: GREEN COLOUR Desc: THRUWAY DOOR		10/16/2014	51000 ppm

Kevin Pang
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 established by the AIHA-LAP, unless specifically indicated otherwise.

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

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Appendix M
Findings and Recommendations – House 2

M-4.0 FINDINGS – HOUSE 2

House 2 was reportedly constructed in 1959.

Stantec understands that demolition of House 2 has been proposed.

The results of the assessment for each of the considered hazardous materials within House 2 are provided in the following sub-sections.

Floor plan drawings for House 2, which include locations of the samples collected during this assessment and locations of identified hazardous building materials (where practical), are attached to this Appendix.

M-4.1 Asbestos

Stantec identified and sampled various suspected ACMs, including the following:

- Heat shields in incandescent light fixtures
- Sheet flooring
- Vinyl floor tile and associated mastic
- Fire stop
- Drywall joint compound
- Pipe sealant
- Window pane and frame caulking
- Ceiling tiles
- Door caulking
- Roofing paper
- Brick mortar
- Roofing shingle.

43 samples of the above-noted suspected ACMs were collected and submitted to EMSL for analysis of asbestos content and nature.

A summary of the sample types, locations and analytical results is presented in Table M-4.1.1, below. Copies of the certificates of analysis provided by EMSL for the suspected ACM samples submitted are attached at the end of this Appendix.

It should be noted that several bulk samples of vinyl floor tile were further separated into layers during laboratory analysis.

Table M-4.1.1 Suspected ACM Sample Collection and Analysis Summary House 2, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
H2-HS-01A	**Heat shield – Silver**	**Inside round incandescent light fixture**	**45% Chrysotile**
H2-HS-01B	**Heat shield – Silver**	**Inside round incandescent light fixture**	**Stop Positive**
H2-HS-01C	**Heat shield – Silver**	**Inside round incandescent light fixture**	**Stop Positive**
H2-SF-01	Vinyl sheet flooring – Beige	Kitchen	None Detected
H2-SF-02	Vinyl sheet flooring – Pink squares	Bathroom	None Detected
H2-SF-03	**Vinyl sheet flooring – Tan squares**	**Mudroom**	**15.6% Chrysotile**
H2-FT-01	**9”x9” vinyl floor tile – Green**	**Basement room 3**	**0.57% Chrysotile**
H2-FT-01-Mastic	Floor tile mastic	Basement room 3	Insufficient Material
H2-FT-02	**9”x9” vinyl floor tile – White**	**Basement room 3**	**0.71% Chrysotile**
H2-FT-02-Mastic	Floor tile mastic	Basement room 3	Insufficient Material
H2-FS-01A	Fire stop – Grey	Around furnace exhaust penetration in the chimney	None Detected
H2-FS-01B	Fire stop – Grey	Around furnace exhaust penetration in the chimney	None Detected
H2-FS-01C	Fire stop – Grey	Around furnace exhaust penetration in the chimney	None Detected
H2-DJC-01A	**Drywall joint compound**	**Living room**	**2% Chrysotile**
H2-DJC-01B	**Drywall joint compound**	**Main floor room 2**	**2% Chrysotile**
H2-DJC-01C	**Drywall joint compound**	**Hallway**	**3% Chrysotile**
H2-DJC-01D	**Drywall joint compound**	**Hallway**	**<1% Chrysotile**
H2-DJC-01E	**Drywall joint compound**	**Front entrance hallway**	**<1% Chrysotile**
H2-PS-01A	**Pipe sealant – Grey**	**Inside pipe fittings in the basement**	**1.1% Chrysotile**
H2-PS-01B	**Pipe sealant – Grey**	**Inside pipe fittings in the basement**	**Stop Positive**
H2-PS-01C	**Pipe sealant – Grey**	**Inside pipe fittings in the basement**	**Stop Positive**
H2-WPC-01A	**Window pane caulking – Grey**	**Between window frame and glass pane on inside of windows**	**2.3% Chrysotile**

Table M-4.1.1 Suspected ACM Sample Collection and Analysis Summary House 2, Haines Junction, YT

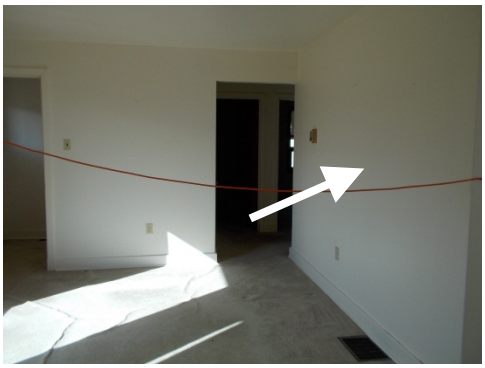
Sample Number	Material Description	Sample Location	Result (%/type asbestos)
H2-WPC-01B	**Window pane caulking – Grey**	**Between window frame and glass pane on inside of windows**	**Stop Positive**
H2-WPC-01C	**Window pane caulking – Grey**	**Between window frame and glass pane on inside of windows**	**Stop Positive**
H2-WPC-02A	**Window pane caulking – Grey**	**Between window frame and glass pane on outside of windows**	**1.0% Chrysotile**
H2-WPC-02B	**Window pane caulking – Grey**	**Between window frame and glass pane on outside of windows**	**Stop Positive**
H2-WPC-02C	**Window pane caulking – Grey**	**Between window frame and glass pane on outside of windows**	**Stop Positive**
H2-CT-01A	White 1'x1' ceiling tile	Mudroom	None Detected
H2-CT-01B	White 1'x1' ceiling tile	Mudroom	None Detected
H2-CT-01C	White 1'x1' ceiling tile	Mudroom	None Detected
H2-WFC-01A	Window frame caulking - White	Between window frame and building on the exterior	None Detected
H2-WFC-01B	Window frame caulking - White	Between window frame and building on the exterior	None Detected
H2-WFC-01C	Window frame caulking - White	Between window frame and building on the exterior	None Detected
H2-DC-01A	Door caulking – White	Around doors on the exterior	None Detected
H2-DC-01B	Door caulking – White	Around doors on the exterior	None Detected
H2-DC-01C	Door caulking – White	Around doors on the exterior	None Detected
H2-RP-01A	Roofing paper – Black	Roof (concealed under wood shingles)	None Detected
H2-RP-01B	Roofing paper – Black	Roof (concealed under wood shingles)	None Detected
H2-RP-01C	Roofing paper – Black	Roof (concealed under wood shingles)	None Detected
H2-BM-01A	Brick mortar	Basement chimney	None Detected
H2-BM-01B	Brick mortar	Basement chimney	None Detected
H2-BM-01C	Brick mortar	Basement chimney	None Detected
H2-RS-01A	Roof shingle – Tar and gravel	Roof (concealed under wood shingles and roofing paper)	None Detected
H2-RS-01B	Roof shingle – Tar and gravel	Roof (concealed under wood shingles and roofing paper)	None Detected
H2-RS-01C	Roof shingle – Tar and gravel	Roof (concealed under wood shingles and roofing paper)	None Detected

Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of suspected ACM sample analytical results, the materials presented in Table M-4.1.2, below were identified as ACMs.

Table M-4.1.2 Summary of Identified ACMs House 2, Haines Junction, YT

Identified ACM Description and Condition Information		Photo
Heat shields (foil covered) inside round incandescent light fixtures throughout		
Friability	Friable	
Condition	Good	
Content	45% Chrysotile	
Tan squares vinyl sheet flooring in the mudroom		
Friability	Friable during removal	
Condition	Good	
Content	15.6% Chrysotile	
9”x9” vinyl floor tile, both green and white, in basement room 3		
Friability	Non-friable	
Condition	Good	
Content	0.57 – 0.71% Chrysotile	

Table M-4.1.2 Summary of Identified ACMs House 2, Haines Junction, YT

Identified ACM Description and Condition Information		Photo
Drywall joint compound throughout		
Friability	Non-friable in situ can be made friable during removal	
Condition	Good	
Content	<1 - 3% Chrysotile	
Grey pipe sealant inside cast iron bell fittings in the basement		No photo
Friability	Non-friable	
Condition	Good	
Content	1.1% Chrysotile	
Grey window pane caulking between window frame and glass panes throughout		
Friability	Non-friable	
Condition	Good	
Content	1.0 – 2.3% Chrysotile	

M-4.2 Lead

Lead is expected to be present in the following materials:

- Solder used on copper domestic pipes
- Caulking on bell fittings for cast iron drainage pipes
- Electrical equipment (i.e. batteries for emergency lighting/signage).

With respect to paint, 6 paint chip samples were obtained, where suspected LCPs were observed. A summary of the sample types, locations and analytical results is presented in Table M-4.2.1, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

Table M-4.2.1 Suspected LCP Sample Collection and Analysis Summary House 2, Haines Junction, YT

Sample No.	Sample Location	Sample Colour	Lab Result (ppm)	Lead Containing (Yes/No)
H2-P-01	**Basement floors**	**Grey**	**1,500**	**Yes**
H2-P-02	Basement furnace	Green	<160	No
H2-P-03	Interior walls	White	190	No
H2-P-04	Exterior trim	Brown	<90	No
H2-P-05	Exterior walls	White	<180	No
H2-P-06	Front porch	Grey	<90	No

Based on our observations and on our interpretations of suspected LCP sample analytical results, the paint application presented in Table M-4.2.2, below was identified as an LCP.

Table M-4.2.2 Summary of Identified LCPs House 2, Haines Junction, YT

Identified LCP Description	Photo
Grey paint on the basement floor. This paint was observed to be in fair condition (minimal bubbling, flaking or peeling).	

M-4.3 Polychlorinated Biphenyls

Two fluorescent light fixtures were observed. The label from one fluorescent light ballast was inspected and based on the label information it is suspected to contain PCBs. Both fluorescent light fixtures are expected to have PCB-containing ballasts.

M-4.4 Mercury

One (1) mercury-containing thermostat was observed in the living room, as indicated on the attached floor plan drawings.

Mercury vapour is expected to be present in fluorescent light bulbs/tubes throughout.

M-4.5 Mould

Moisture damage and mould were observed as summarized in Table M-4.5, below.

Table M-4.5: Summary of Identified Mould and/or Moisture-Impacted Materials House 2, Haines Junction, YT

Identified Mould and/or Moisture Impacted Materials Description	Photo
Suspect mould growth was observed on the walls of basement room 3.	
Mould growth was identified on drywall in the stairwell corner (sample M-01).	
Mould growth was identified on the wood cove base in the basement (sample M-02).	

Two (2) bulk samples were collected from building materials exhibiting suspect mould growth, and submitted to Sporometrics for analysis of the mould forms present. The analytical results for the samples collected are summarized below. A copy of the certificate of analysis provided by Sporometrics for the suspected mould bulk samples (surface) submitted is attached to this Appendix**.**

- Bulk sample no. M-01 was collected from drywall in the stairwell corner. The analytical results for the sample collected indicated that Aspergillus/Penicillium spores and Cladosporium mycelia and spores were detected on the sample. These results are indicative of mould growth on the material tested.
- Bulk sample no. M-02 was collected from wood cove base in the basement. The analytical results for the sample collected indicated that Fusarium spores as well as Aspergillus and Cladosporium mycelia and spores were detected on the sample. These results are indicative of mould growth on the material tested.

M-4.6 Ozone-Depleting Substances

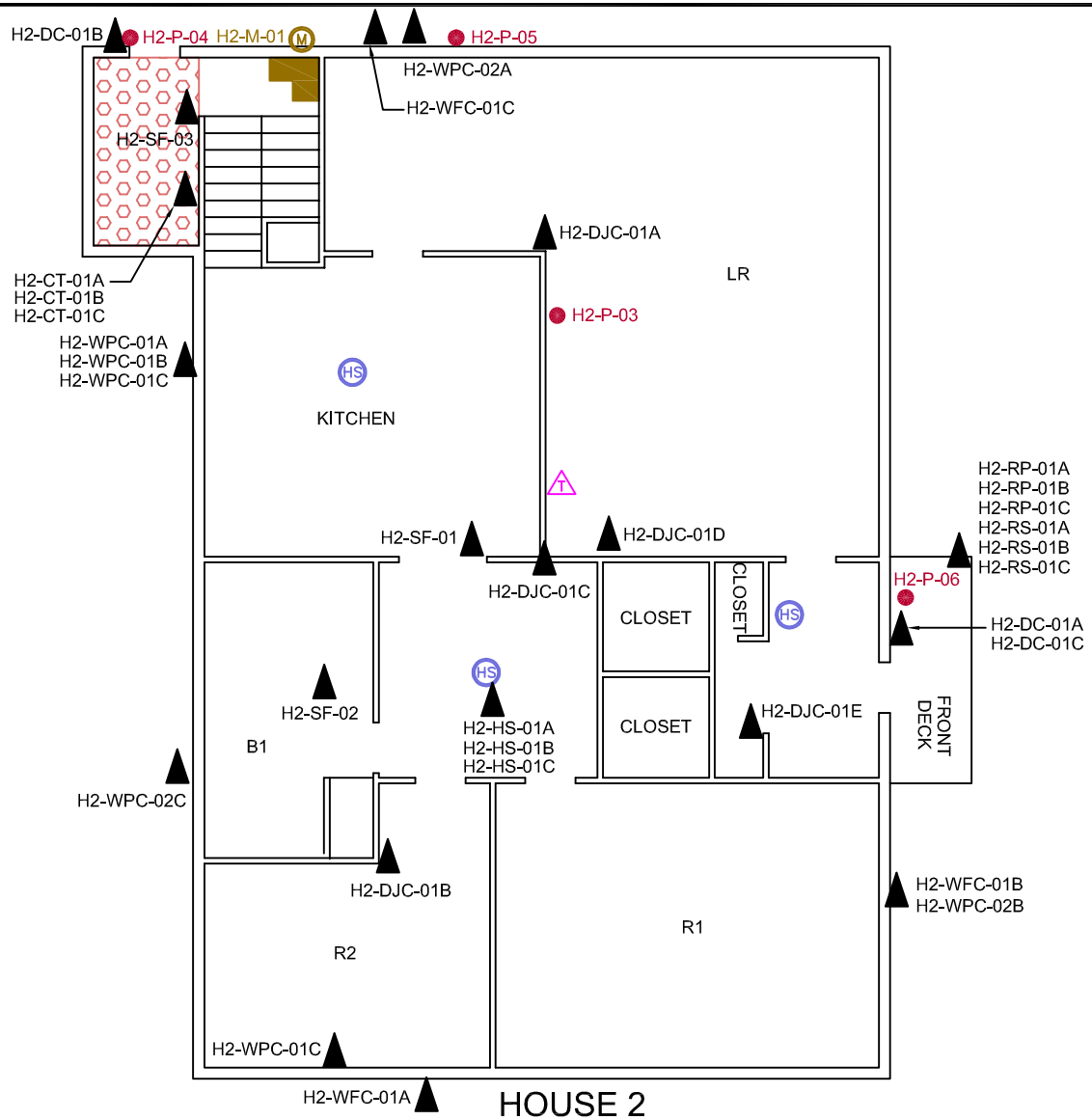
No suspected ODS-containing equipment was observed during the assessment.

M-4.7 Silica

Silica may be present in concrete, cement, and ceramic tiles observed in various locations throughout.

M-5.0 BUILDING-SPECIFIC RECOMMENDATIONS

In general, identified hazardous building materials should be handled in accordance with the recommendations for demolition that are provided in Section 5 of the main body of this report.



HOUSE 2
MAIN FLOOR

LEGEND

- BULK SAMPLE
- PAINT CHIP SAMPLE
- BULK MOULD SAMPLES
- ASBESTOS-CONTAINING SHEET FLOORING
- MOULD IMPACTED MATERIALS
- ASBESTOS-CONTAINING INCANDESCENT LIGHT HEAT SHIELD
- MERCURY-CONTAINING THERMOSTAT

NOTES:
1. **GREY WINDOW PANE CAULKING BETWEEN WINDOW FRAMES AND GLASS PANES THROUGHOUT IS ACM.**
2. **PIPE SEALANT IN CAST IRON BELL FITTINGS THROUGHOUT IS ACM.**
3. **DRYWALL JOINT COMPOUND THROUGHOUT IS ACM.**
4. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

HAINES JUNCTION, YT

Client: PARKS CANADA

Project No.:	144901924
Scale:	NTS
Date:	14/11/18
Dwn. By:	CD VM SL2014110117
App'd By:	TW

Dwg. No.: M1

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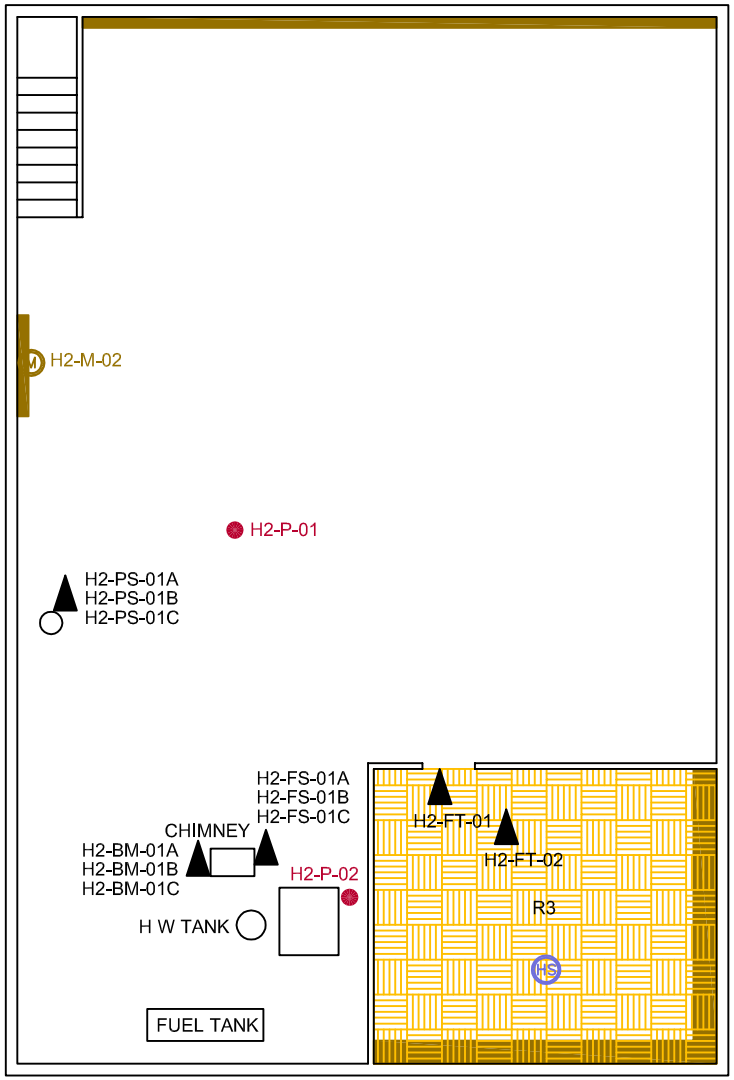

HOUSE 2
BASEMENT

LEGEND

- BULK SAMPLE
- PAINT CHIP SAMPLE
- BULK MOULD SAMPLES
- ASBESTOS-CONTAINING FLOOR TILE
- MOULD IMPACTED MATERIALS
- ASBESTOS-CONTAINING INCANDESCENT LIGHT HEAT SHIELD

NOTES:
1. **GREY WINDOW PANE CAULKING BETWEEN WINDOW FRAMES AND GLASS PANES THROUGHOUT IS ACM.**
2. **PIPE SEALANT IN CAST IRON BELL FITTINGS THROUGHOUT IS ACM.**
3. **DRYWALL JOINT COMPOUND THROUGHOUT IS ACM.**
4. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

HAINES JUNCTION, YT

Client: PARKS CANADA

Project No.:	144901924
Scale:	NTS
Date:	14/11/18
Dwn. By:	CD VM SL2014110118
App'd By:	TW

Dwg. No.: M2

Stantec

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H2-SF-01 *551407481-0317*	VINYL SHEET FLOORING-BEIGE - KITCHEN	Yellow/Beige Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H2-SF-02 *551407481-0318*	VINYL SHEET FLOORING-PINK SQUARES - BATHROOM	Yellow/Beige Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H2-SF-03 *551407481-0319*	VINYL SHEET FLOORING-TAN SQUARES - MUDROOM	White/Yellow Non-Fibrous Homogeneous	84.4	None	15.6% Chrysotile
H2-FT-01 *551407481-0320*	9"X9" VINYL FLOOR TILE-GREEN - BASEMENT ROOM 3	Blue Non-Fibrous Homogeneous	99.4	None	0.57% Chrysotile
H2-FT-01-Mastic *551407481-0320A*	9"X9" VINYL FLOOR TILE-GREEN - BASEMENT ROOM 3 Insufficient Material				
H2-FT-02 *551407481-0321*	9"X9" VINYL FLOOR TILE-WHITE - BASEMENT ROOM 3	Gray Non-Fibrous Homogeneous	99.3	None	0.71% Chrysotile
H2-FT-02-Mastic *551407481-0321A*	9"X9" VINYL FLOOR TILE-WHITE - BASEMENT ROOM 3 Insufficient Material				
H2-PS-01A *551407481-0330*	PIPE SEALANT-GREY - INSIDE PIPE FITTINGS IN THE BASEMENT	Gray/Black Non-Fibrous Homogeneous	98.9	None	1.1% Chrysotile

Analyst(s)

Jon Delos Santos (4)
Nicole Yeo (16)

Kevin Pang
or other approved signatory

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

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H2-PS-01B *551407481-0331*	PIPE SEALANT-GREY - INSIDE PIPE FITTINGS IN THE BASEMENT				
Positive Stop (Not Analyzed)					
H2-PS-01C *551407481-0332*	PIPE SEALANT-GREY - INSIDE PIPE FITTINGS IN THE BASEMENT				
Positive Stop (Not Analyzed)					
H2-WPC-01A *551407481-0333*	WINDOW PANE CAULKING-GREY - BETWEEN WINDOW FRAME AND GLASS PANE ON INSIDE OF WINDOWS	Brown/Gray Non-Fibrous Homogeneous	97.7	None	2.3% Chrysotile
H2-WPC-01B *551407481-0334*	WINDOW PANE CAULKING-GREY - BETWEEN WINDOW FRAME AND GLASS PANE ON INSIDE OF WINDOWS				
Positive Stop (Not Analyzed)					
H2-WPC-01C *551407481-0335*	WINDOW PANE CAULKING-GREY - BETWEEN WINDOW FRAME AND GLASS PANE ON INSIDE OF WINDOWS				
Positive Stop (Not Analyzed)					

Analyst(s)

Jon Delos Santos (4)
Nicole Yeo (16)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H2-WPC-02A *551407481-0336*	WINDOW PANE CAULKING-GREY - BETWEEN WINDOW FRAME AND GLASS PANE ON OUTSIDE OF WINDOWS	Black Non-Fibrous Homogeneous	99.0	None	1.0% Chrysotile
H2-WPC-02B *551407481-0337*	WINDOW PANE CAULKING-GREY - BETWEEN WINDOW FRAME AND GLASS PANE ON OUTSIDE OF WINDOWS				
Positive Stop (Not Analyzed)					
H2-WPC-02C *551407481-0338*	WINDOW PANE CAULKING-GREY - BETWEEN WINDOW FRAME AND GLASS PANE ON OUTSIDE OF WINDOWS				
Positive Stop (Not Analyzed)					
H2-WFC-01A *551407481-0342*	WINDOW FRAME CAULKING-WHITE - BETWEEN WINDOW FRAME AND BUILDING ON THE EXTERIOR	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H2-WFC-01B *551407481-0343*	WINDOW FRAME CAULKING-WHITE - BETWEEN WINDOW FRAME AND BUILDING ON THE EXTERIOR	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (4)
Nicole Yeo (16)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
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Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

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SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H2-WFC-01C *551407481-0344*	WINDOW FRAME CAULKING-WHITE - BETWEEN WINDOW FRAME AND BUILDING ON THE EXTERIOR	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H2-DC-01A *551407481-0345*	DOOR CAULKING-WHITE - AROUND DOORS ON THE EXTEROR	Brown/White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H2-DC-01B *551407481-0346*	DOOR CAULKING-WHITE - AROUND DOORS ON THE EXTEROR	Brown/White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H2-DC-01C *551407481-0347*	DOOR CAULKING-WHITE - AROUND DOORS ON THE EXTEROR	Brown/White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H2-RP-01A *551407481-0348*	ROFING PAPER-BLACK - ROOF(CONCEALED UNDER WOOD SHINGLES)	Brown Fibrous Homogeneous	100	None	No Asbestos Detected
H2-RP-01B *551407481-0349*	ROFING PAPER-BLACK - ROOF(CONCEALED UNDER WOOD SHINGLES)	Brown Fibrous Homogeneous	100	None	No Asbestos Detected
H2-RP-01C *551407481-0350*	ROFING PAPER-BLACK - ROOF(CONCEALED UNDER WOOD SHINGLES)	Brown Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (4)
Nicole Yeo (16)

Kevin Pang
or other approved signatory

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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	551407481
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Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
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Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H2-RS-01A *551407481-0354*	ROOF SHINGLE-TAR AND GRAVEL - ROOOF(CONCEALED UNDER WOOD SHINGLES AND ROOFING PAPER)	Brown/White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H2-RS-01B *551407481-0355*	ROOF SHINGLE-TAR AND GRAVEL - ROOOF(CONCEALED UNDER WOOD SHINGLES AND ROOFING PAPER)	Brown/Various Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H2-RS-01C *551407481-0356*	ROOF SHINGLE-TAR AND GRAVEL - ROOOF(CONCEALED UNDER WOOD SHINGLES AND ROOFING PAPER)	Various/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (4)
Nicole Yeo (16)

Kevin Pang
or other approved signatory

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

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
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Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
H2-HS-01A *551407481-0314*	HEAT SHIELD-SILVER - INSIDE ROUND INCANDESCENT LIGHT FIXTURE	Gray Fibrous Homogeneous		55% Non-fibrous (other)	**45% Chrysotile**
H2-HS-01B *551407481-0315*	HEAT SHIELD-SILVER - INSIDE ROUND INCANDESCENT LIGHT FIXTURE				**Stop Positive (Not Analyzed)**
H2-HS-01C *551407481-0316*	HEAT SHIELD-SILVER - INSIDE ROUND INCANDESCENT LIGHT FIXTURE				**Stop Positive (Not Analyzed)**
H2-FS-01A *551407481-0322*	FIRE STOP-GREY - AROUND FURNACE EXHAUST PENETRATION IN THE CHIMNEY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
H2-FS-01B *551407481-0323*	FIRE STOP-GREY - AROUND FURNACE EXHAUST PENETRATION IN THE CHIMNEY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Arabee Sathiaseelan (10)
Jon Delos Santos (5)

Kevin Pang
or other approved signatory

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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
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Collected:	

Project: **144901924.801**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos	
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**%**	**Type**
H2-FS-01C *551407481-0324*	FIRE STOP-GREY - AROUND FURNACE EXHAUST PENETRATION IN THE CHIMNEY	Gray Non-Fibrous Heterogeneous			100%	Non-fibrous (other)		**None Detected**
H2-DJC-01A *551407481-0325*	DRYWALL JOINT COMPOUND - LIVING ROOM	Gray Non-Fibrous Homogeneous			98%	Non-fibrous (other)	**2%**	**Chrysotile**
H2-DJC-01B *551407481-0326*	DRYWALL JOINT COMPOUND - MAIN FLOOR ROOM 2	Gray Non-Fibrous Homogeneous			98%	Non-fibrous (other)	**2%**	**Chrysotile**
H2-DJC-01C *551407481-0327*	DRYWALL JOINT COMPOUND - HALLWAY	Gray Non-Fibrous Homogeneous			97%	Non-fibrous (other)	**3%**	**Chrysotile**
H2-DJC-01D *551407481-0328*	DRYWALL JOINT COMPOUND - HALLWAY	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**<1%**	**Chrysotile**
H2-DJC-01E *551407481-0329*	DRYWALL JOINT COMPOUND - FRONT ENTRANCE HALLWAY	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**<1%**	**Chrysotile**
H2-CT-01A *551407481-0339*	WHITE 1'X1' CEILING TILE - MUDROOM	Tan/White Fibrous Homogeneous	85%	Cellulose	15%	Non-fibrous (other)		**None Detected**

Analyst(s)

Arabee Sathiaseelan (10)
Jon Delos Santos (5)

Kevin Pang
or other approved signatory

Initial report from 10/17/2014 22:58:12

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Project: **144901924.801**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
H2-CT-01B *551407481-0340*	WHITE 1'X1' CEILING TILE - MUDROOM	Tan/White Fibrous Homogeneous	85%	Cellulose	15%	Non-fibrous (other)	**None Detected**
H2-CT-01C *551407481-0341*	WHITE 1'X1' CEILING TILE - MUDROOM	Brown/White Non-Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**
H2-BM-01A *551407481-0351*	BRICK MORTAR - BASEMENT CHIMNEY	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
H2-BM-01B *551407481-0352*	BRICK MORTAR - BASEMENT CHIMNEY	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
H2-BM-01C *551407481-0353*	BRICK MORTAR - BASEMENT CHIMNEY	Gray Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**

Analyst(s)

Arabee Sathiaseelan (10)
Jon Delos Santos (5)

Kevin Pang
or other approved signatory

Initial report from 10/17/2014 22:58:12

THIS IS THE LAST PAGE OF THE REPORT.

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	551407512
CustomerID:	55JACQ30L
CustomerPO:	144901924.801
ProjectID:	

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

Phone: (604) 412-3004
Fax:
Received: 10/10/14 11:01 AM
Collected:

Project: **144901924.801**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
H2-P-01	*551407512-0056*		10/16/2014	1500 ppm
	Site: GREY COLOUR Desc: BASEMENT FLOORS			
H2-P-02	*551407512-0057*		10/16/2014	<160 ppm
	Site: GREEN COLOUR Desc: BASEMENT FURNACE Insufficient sample to reach reporting limit.			
H2-P-03	*551407512-0058*		10/16/2014	190 ppm
	Site: WHITE COLOUR Desc: INTERIOR WALLS			
H2-P-04	*551407512-0059*		10/16/2014	<90 ppm
	Site: BROWN COLOUR Desc: EXTERIOR TRIM			
H2-P-05	*551407512-0060*		10/16/2014	<180 ppm
	Site: WHITE COLOUR Desc: EXTERIOR WALLS Insufficient sample to reach reporting limit.			
H2-P-06	*551407512-0061*		10/16/2014	<90 ppm
	Site: GREY COLOUR Desc: FRONT PORCH			

Kevin Pang
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 established by the AIHA-LAP, unless specifically indicated otherwise.

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

Initial report from 10/16/2014 16:57:57

Sporometrics Inc.
219 Dufferin Street, Suite 20C, Toronto, ON M6K 1Y9 - t.416-516-1660 - f.416-516-1670 - www.sporometrics.com

RESULTS OF LABORATORY ANALYSES: JOB NO. 23847.00

To:	Keith Irwin	**Date of report:**	2014/10/27
Company:	Stantec Consulting Ltd. - Burnaby, BC	**Date of sampling:**	2014/09/24
Client Project:	144901924.803	**Analyst:**	Yaima Arocha-Rosete
Client Address:	500-4730 Kingsway, Burnaby, BC V5H 0C6	**Date Received:**	2014/10/22

BULK / TAPELIFT / BIOTAPE SAMPLE NO.:		**M-01**	**M-02**	**-**	**-**	**-**	**-**
	Location:	House 2 Stairwell - Drywall	House 2 Basement - Wood Cove Base				
	Serial #:	N/A	N/A				
	Expiry date:	N/A	N/A				
FUNGAL IDENTIFICATION:[a]	**ELEMENTS:**	**MICROSCOPIC OBSERVATIONS**[b] **(RATING**[c]**):**					
Aspergillus / Penicillium NOS	mycelia	-	-				
	spores	2+	-				
Aspergillus NOS	mycelia	-	1+				
	spores	-	2+				
Cladosporium NOS	mycelia	2+	1+				
	spores	3+	2+				
Fusarium NOS	mycelia	-	-				
	spores	-	3+				
OTHER OBSERVATIONS:							
background rating		3+	3+				
bacteria NOS		-	3+				
FUNGAL GROWTH INDICATED?[d]**:**		**Y**	**Y**				

AIHA LAP, LLC LAB NO: 171117

Samples were received in satisfactory condition and tested in accordance with SOP 2.1.2.2. These results relate only to the samples tested.

[a] **NOS** = not otherwise specified.

[b] Mounted in lactofuchsin / lactic acid, or other medium as required, with 50-100 fields examined in bright field microscopy at 400x magnification.

[c] **-** = not detected; **tr** = 10^0 - 10^1 elements in total; **1+** = 10^0 - 10^1 elements in each of ~25% fields; **2+** = 10^1 - 10^2 elements in each of ~50% fields; **3+** = 10^2 - 10^3 elements in each of ~75 fields; **4+** => 75% fields obscured.

[d] Possibility of fungal growth *in situ* based on microscopic observations; **Y** = yes; **N** = no; **?** = ambiguous. For explanation please refer to the final page of this report.

Sporometrics Inc.
219 Dufferin Street, Suite 20C, Toronto, ON M6K 1Y9 - t.416-516-1660 - f.416-516-1670 - www.sporometrics.com

RESULTS OF LABORATORY ANALYSES: JOB NO. 23847.00

To:	Keith Irwin	**Date of report:**	2014/10/27
Company:	Stantec Consulting Ltd. - Burnaby, BC	**Date of sampling:**	2014/09/24
Client Project:	144901924.803	**Analyst:**	Yaima Arocha-Rosete
Client Address:	500-4730 Kingsway, Burnaby, BC V5H 0C6	**Date Received:**	2014/10/22

END OF REPORT

Examined By

Pan American Aerobiology Spore Analyst Yaima Arocha-Rosete 01110149 Certification Board

Yaima Arocha-Rosete, PhD

Analyst

Released By

Pan American Aerobiology Spore Analyst Level 1 Mike Saleh 01080130 Certification Board

Mike Saleh, MHSc

Analyst

Pan American Aerobiology Certification Board PAACB Certified Analysts on Staff

ilac-MRA

AIHA LAP, LLC ACCREDITED LABORATORY ENVIRONMENTAL MICROBIOLOGY ISO/IEC 17025:2005 www.aihaaccreditedlabs.org LAB #171117

Sporometrics Inc.
219 Dufferin Street, Suite 20C, Toronto, ON M6K 1Y9 - t.416-516-1660 - f.416-516-1670 - www.sporometrics.com

RESULTS OF LABORATORY ANALYSES: JOB NO. 23847.00

To:	Keith Irwin	**Date of report:**	2014/10/27
Company:	Stantec Consulting Ltd. - Burnaby, BC	**Date of sampling:**	2014/09/24
Client Project:	144901924.803	**Analyst:**	Yaima Arocha-Rosete
Client Address:	500-4730 Kingsway, Burnaby, BC V5H 0C6	**Date Received:**	2014/10/22

Guidance on the interpretation of microscopic findings Samples of bulk materials as well as tape lift samples from potentially contaminated surfaces may be examined microscopically to assess the potential of these materials to be supporting fungal growth and serving as indoor fungal amplification sites. Guidelines on indoor microbial contamination proposed by Health Canada (HC. 1995. Indoor air quality in office buildings: A technical guide. Federal-Provincial Advisory Committee on Environmental and Occupational Health. Ottawa: Environmental Health Directorate 93-EHD-166 rev.) state unambiguously that indoor, active fungal growth sites are unacceptable regardless of the extent to which these amplifiers impact on the indoor airborne spore-load. Fungal spores are commonly borne on air currents and settle on flat surfaces as a matter of course. Thus, the observation of fungal spores alone is insufficient to characterize a specimen as a growth site. This judgment primarily requires the microscopic visualization of fungal filaments ("hyphae", or *en masse*, "mycelia"). Additionally, the identification of different kinds of fungi usually requires the observation of spores (e.g. conidia, ascospores, etc.) along with the organs responsible for their production (e.g. conidiophores, ascomata, etc.). However, the latter rarely persist long after the spores have been produced, making definitive identification difficult or impossible in aged specimens. The rating system used by Sporometrics to score the frequency of structures observed microscopically is based on a 5-point assessment of 50-100 microscopic fields, usually taken at 400 x magnification. This system uses the following rating criteria:

Descriptor	Criteria (based on 50-100 fields)	Interpretation of growth *in situ* according to observations:	
		Spores alone	Spores and spore-bearing structures or mycelia
tr	10^0-10^1 elements in total	growth **not** indicated	growth **not** indicated
1+	10^0-10^1 elements per ~25% fields	unclear	growth indicated
2+	10^1-10^2 elements per ~50% fields	growth indicated	growth indicated
3+	10^2-10^3 elements per ~75% fields	growth indicated	growth indicated
4+	> 75% fields obscured by elements	growth indicated	growth indicated

Appendix N
Findings and Recommendations – House 2 Garage

N-4.0 FINDINGS – HOUSE 2 GARAGE

The House 2 Garage was reportedly constructed in 1980.

Stantec understands that demolition of the House 2 Garage has been proposed.

The results of the assessment for each of the considered hazardous materials within the House 2 Garage are provided in the following sub-sections.

Floor plan drawings for the House 2 Garage, which include locations of the samples collected during this assessment and locations of identified hazardous building materials (where practical), are attached to this Appendix.

N-4.1 Asbestos

Stantec identified and sampled various suspected ACMs, including the following:

- Wall mastic
- Window pane caulking
- Building paper.

9 samples of the above-noted suspected ACMs were collected and submitted to EMSL for analysis of asbestos content and nature.

A summary of the sample types, locations and analytical results is presented in Table N-4.1.1, below. Copies of the certificates of analysis provided by EMSL for the suspected ACM samples submitted are attached at the end of this Appendix.

Table N-4.1.1: Suspected ACM Sample Collection and Analysis Summary House 2 Garage, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
H2G-WM-01A	Wall mastic – Cream	SW exterior	None Detected
H2G-WM-01B	Wall mastic – Cream	SW exterior	None Detected
H2G-WM-01C	Wall mastic – Cream	SW exterior	None Detected
H2G-WPC-01A	Window pane caulking – Yellow	Between window frame and glass pane	None Detected
H2G-WPC-01B	Window pane caulking – Yellow	Between window frame and glass pane	None Detected
H2G-WPC-01C	Window pane caulking – Yellow	Between window frame and glass pane	None Detected
H2G-BP-01A	Building paper – Black	Under siding	None Detected
H2G-BP-01B	Building paper – Black	Under siding	None Detected
H2G-BP-01C	Building paper – Black	Under siding	None Detected

Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of suspected ACM sample analytical results, no ACMs were identified.

N-4.2 Lead

Typical potential lead-containing items (solder on wiring, in domestic water pipes and/or in the bell fittings of cast iron drain pipes; lead acid batteries associated with emergency exit signage, etc.) were not observed.

With respect to paint, 2 paint chip samples were obtained, where suspected LCPs were observed. A summary of the sample types, locations and analytical results is presented in Table N-4.2.1, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

Table N-4.2.1 Suspected LCP Sample Collection and Analysis Summary House 2 Garage, Haines Junction, YT

Sample No.	Sample Location	Sample Colour	Lab Result (ppm)	Lead Containing (Yes/No)
H2G-P-01	Floor	Grey colour	990	No
H2G-P-02	Interior walls	White colour	<90	No

Based on our observations and on our interpretations of suspected LCP sample analytical results, no LCPs were identified.

N-4.3 Polychlorinated Biphenyls

No suspected PCB-containing equipment was observed during the assessment.

N-4.4 Mercury

No suspected mercury-containing equipment was observed during the assessment.

N-4.5 Mould

No suspect mould or moisture impacted materials were observed during the assessment.

N-4.6 Ozone-Depleting Substances

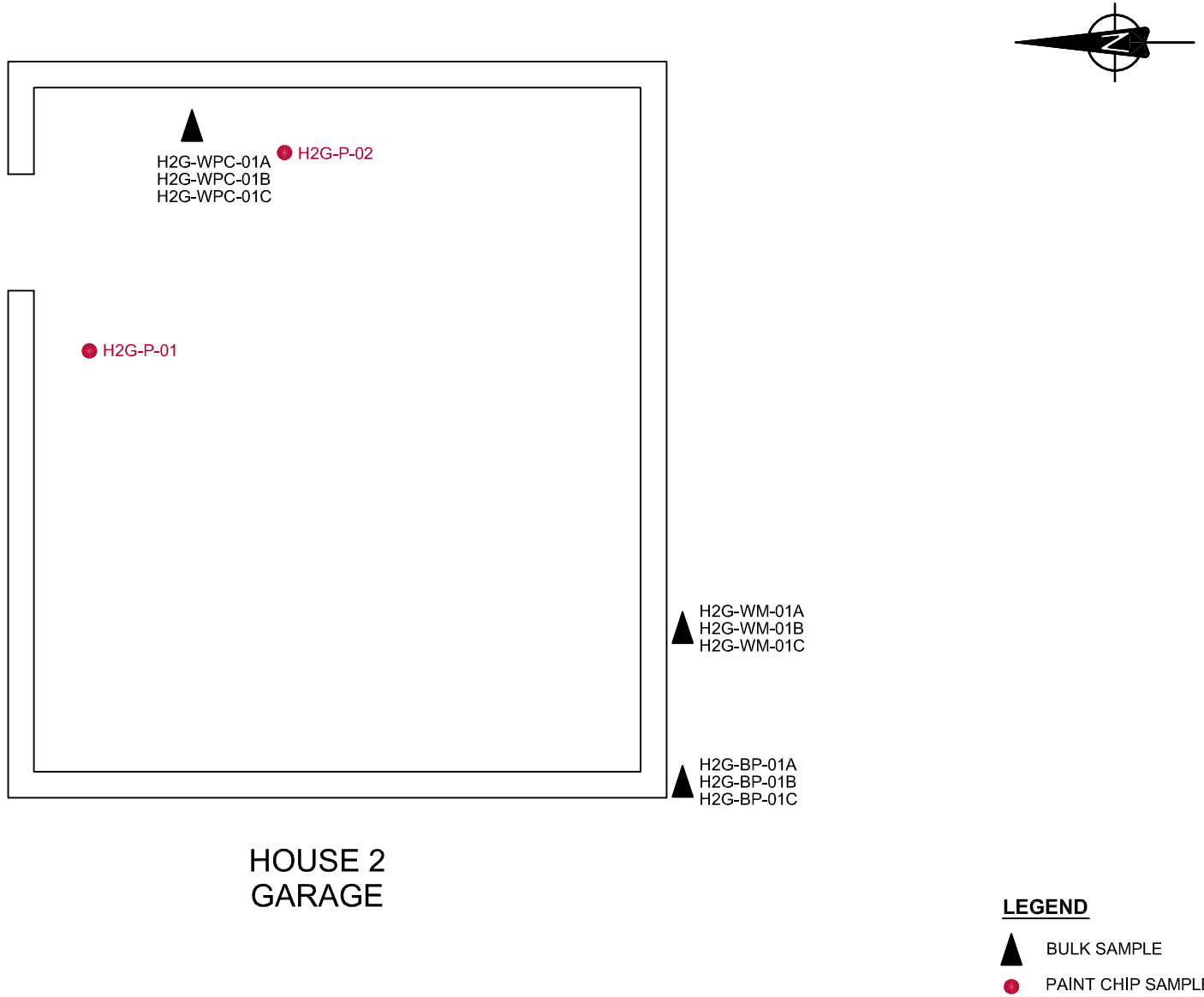
No suspected ODS-containing equipment was observed during the assessment.

N-4.7 Silica

Silica may be present in concrete and cement observed in various locations throughout.

N-5.0 BUILDING-SPECIFIC RECOMMENDATIONS

In general, identified hazardous building materials should be handled in accordance with the recommendations for demolition that are provided in Section 5 of the main body of this report.



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

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

HAINES JUNCTION, YT

Client:	PARKS CANADA	Project No.:	144901924
		Scale:	NTS
		Date:	14/11/18
		Dwn. By:	CD VM SL2014110119
		App'd By:	TW

Dwg. No.: N

Stantec

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H2G-WM-01A *551407481-0357*	WALL MASTIC-CREAM - SW EXTERIOR	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H2G-WM-01B *551407481-0358*	WALL MASTIC-CREAM - SW EXTERIOR	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H2G-WM-01C *551407481-0359*	WALL MASTIC-CREAM - SW EXTERIOR	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H2G-WPC-01A *551407481-0360*	WINDOW PANE CAULKING-YELLOW - BETWEEN WINDOW FRAME AND GLASS PANE	Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H2G-WPC-01B *551407481-0361*	WINDOW PANE CAULKING-YELLOW - BETWEEN WINDOW FRAME AND GLASS PANE	Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H2G-WPC-01C *551407481-0362*	WINDOW PANE CAULKING-YELLOW - BETWEEN WINDOW FRAME AND GLASS PANE	Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H2G-BP-01A *551407481-0363*	BUILDING PAPER-BLACK - UNDER SIDING	Brown Fibrous Homogeneous	100	None	No Asbestos Detected
H2G-BP-01B *551407481-0364*	BUILDING PAPER-BLACK - UNDER SIDING	Brown Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (3)
Nicole Yeo (6)

Kevin Pang
or other approved signatory

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

Initial report from 10/17/2014 22:58:12

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Project: **144901924.801**

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H2G-BP-01C *551407481-0365*	BUILDING PAPER-BLACK - UNDER SIDING	Brown Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (3)
Nicole Yeo (6)

Kevin Pang
or other approved signatory

Initial report from 10/17/2014 22:58:12

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	551407512
CustomerID:	55JACQ30L
CustomerPO:	144901924.801
ProjectID:	

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

Phone: (604) 412-3004
Fax:
Received: 10/10/14 11:01 AM
Collected:

Project: **144901924.801**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
H2G-P-01	*551407512-0062* Site: GREY COLOUR Desc: FLOOR		10/16/2014	990 ppm
H2G-P-02	*551407512-0063* Site: WHITE COLOUR Desc: INTERIOR WALLS		10/16/2014	<90 ppm

Kevin Pang
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 established by the AIHA-LAP, unless specifically indicated otherwise.

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

Initial report from 10/16/2014 16:59:19

Appendix O
Findings and Recommendations – House 3

O-4.0 FINDINGS – HOUSE 3

House 3 was reportedly constructed in 1959.

Stantec understands that demolition of House 3 has been proposed.

The results of the assessment for each of the considered hazardous materials within House 3 are provided in the following sub-sections.

Floor plan drawings for House 3, which include locations of the samples collected during this assessment and locations of identified hazardous building materials (where practical), are attached to this Appendix.

O-4.1 Asbestos

Stantec identified and sampled various suspected ACMs, including the following:

- Heat shield in incandescent light fixtures
- Sheet flooring
- Vinyl floor tile and associated mastic
- Drywall joint compound
- Window pane and frame caulking
- Fire stop
- Brick mortar.

26 samples of the above-noted suspected ACMs were collected and submitted to EMSL for analysis of asbestos content and nature.

A summary of the sample types, locations and analytical results is presented in Table O-4.1.1, below. Copies of the certificates of analysis provided by EMSL for the suspected ACM samples submitted are attached at the end of this Appendix.

It should be noted that several bulk samples of vinyl floor tile were further separated into layers during laboratory analysis.

Table O-4.1.1 Suspected ACM Sample Collection and Analysis Summary House 3, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
H3-HS-01A	Heat shield – Silver	Inside round incandescent light fixture	None Detected
H3-HS-01B	Heat shield – Silver	Inside round incandescent light fixture	None Detected
H3-HS-01C	Heat shield – Silver	Inside round incandescent light fixture	None Detected
H3-SF-01	Vinyl sheet flooring – White with pink and green specs	Dining room	None Detected
H3-SF-02	Vinyl sheet flooring – Irregular stone pattern	Kitchen	None Detected
H3-SF-03	Vinyl sheet flooring – Tan	Kitchen (concealed under SF-03)	None Detected
H3-SF-04	Vinyl sheet flooring – Beige pebble pattern	Bathroom	None Detected
H3-FT-01	**9"x9" vinyl floor tile – Red**	**Basement room 3**	**1.3% Chrysotile**
H3-FT-01-Mastic	Floor tile mastic	Basement room 3	Insufficient Material
H3-FT-02	**9"x9" vinyl floor tile – Beige**	**Basement room 3**	**1.1% Chrysotile**
H3-FT-02-Mastic	9"x9" vinyl floor tile – Beige	Basement room 3	Insufficient Material
H3-DJC-01A	**Drywall joint compound**	**Front entrance hallway**	**2% Chrysotile**
H3-DJC-01B	**Drywall joint compound**	**Main floor room 2**	**2% Chrysotile**
H3-DJC-01C	**Drywall joint compound**	**Living room**	**2% Chrysotile**
H3-DJC-01D	**Drywall joint compound**	**Living room**	**<1% Chrysotile**
H3-DJC-01E	**Drywall joint compound**	**Hallway**	**2% Chrysotile**
H3-IWPC-01A	**Interior window pane caulking – Grey**	**Between window frame and glass pane in dining room**	**2.0% Chrysotile**
H3-IWPC-01B	**Interior window pane caulking – Grey**	**Between window frame and glass pane in main floor room 1**	**Stop Positive**
H3-IWPC-01C	**Interior window pane caulking – Grey**	**Between window frame and glass pane in main floor room 2**	**Stop Positive**
H3-EWFC-01A	Exterior window frame caulking – Cream	Between window frame and building on exterior	None Detected
H3-EWFC-01B	Exterior window frame caulking – Cream	Between window frame and building on exterior	None Detected
H3-EWFC-01C	Exterior window frame caulking – Cream	Between window frame and building on exterior	None Detected

Table O-4.1.1 Suspected ACM Sample Collection and Analysis Summary House 3, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
H3-FS-01A	Fire stop – Grey	Around furnace exhaust penetration in the chimney	None Detected
H3-FS-01B	Fire stop – Grey	Around furnace exhaust penetration in the chimney	None Detected
H3-FS-01C	Fire stop – Grey	Around furnace exhaust penetration in the chimney	None Detected
H3-BM-01A	Brick mortar	Basement chimney	None Detected
H3-BM-01B	Brick mortar	Basement chimney	None Detected
H3-BM-01C	Brick mortar	Basement chimney	None Detected

Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of suspected ACM sample analytical results, the materials presented in Table O-4.1.2, below were identified as ACMs.

Table O-4.1.2 Summary of Identified ACMs House 3, Haines Junction, YT

Identified ACM Description and Condition Information		Photo
9”x9” vinyl floor tile, both red and beige, in basement room 3		
Friability	Non-friable	
Condition	Good	
Content	1.1 – 1.3% Chrysotile	
Drywall joint compound throughout		
Friability	Non-friable in situ; can be made friable during removal	
Condition	Good	
Content	<1 - 2% Chrysotile	
Grey window pane caulking between window frame and glass panes throughout		
Friability	Non-friable	
Condition	Good	
Content	2.0% Chrysotile	

O-4.2 Lead

Lead is expected to be present in the following materials:

- Solder used on copper domestic pipes
- Caulking on bell fittings for cast iron drainage pipes
- Electrical equipment (i.e. batteries for emergency lighting/signage).

With respect to paint, 4 paint chip samples were obtained, where suspected LCPs were observed. A summary of the sample types, locations and analytical results is presented in Table O-4.2.1, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

Table O-4.2.1 Suspected LCP Sample Collection and Analysis Summary House 3, Haines Junction, YT

Sample No.	Sample Location	Sample Colour	Lab Result (ppm)	Lead Containing (Yes/No)
H3-P-01	**Basement floors**	**Grey**	**1,900**	**Yes**
H3-P-02	**Interior walls**	**White**	**1,100**	**Yes**
H3-P-03	Furnace	Green	<510	No
H3-P-04	Exterior	White	<110	No

Based on our observations and on our interpretations of suspected LCP sample analytical results, the materials presented in Table O-4.2.2, below were identified as LCPs.

Table O-4.2.2 Summary of Identified LCPs House 3, Haines Junction, YT

Identified LCP Description	Photo
Grey paint on the basement floor. This paint was observed to be in fair condition (minimal bubbling, flaking or peeling).	
White paint on interior walls. This paint was observed to be in good condition (no bubbling, flaking or peeling).	

O-4.3 Polychlorinated Biphenyls

Two fluorescent light fixtures were observed. Based on the age of the building, fluorescent light ballasts may contain PCBs.

O-4.4 Mercury

Mercury vapour is expected to be present in fluorescent light bulbs/tubes throughout.

O-4.5 Mould

Moisture damage and mould were observed as summarized in Table O-4.5, below.

Table O-4.5 Summary of Identified Mould and/or Moisture-Impacted Materials House 3, Haines Junction, YT

Identified Mould and/or Moisture Impacted Materials Description	Photo
Suspect mould growth was observed on the walls of basement room 3.	

O-4.6 Ozone-Depleting Substances

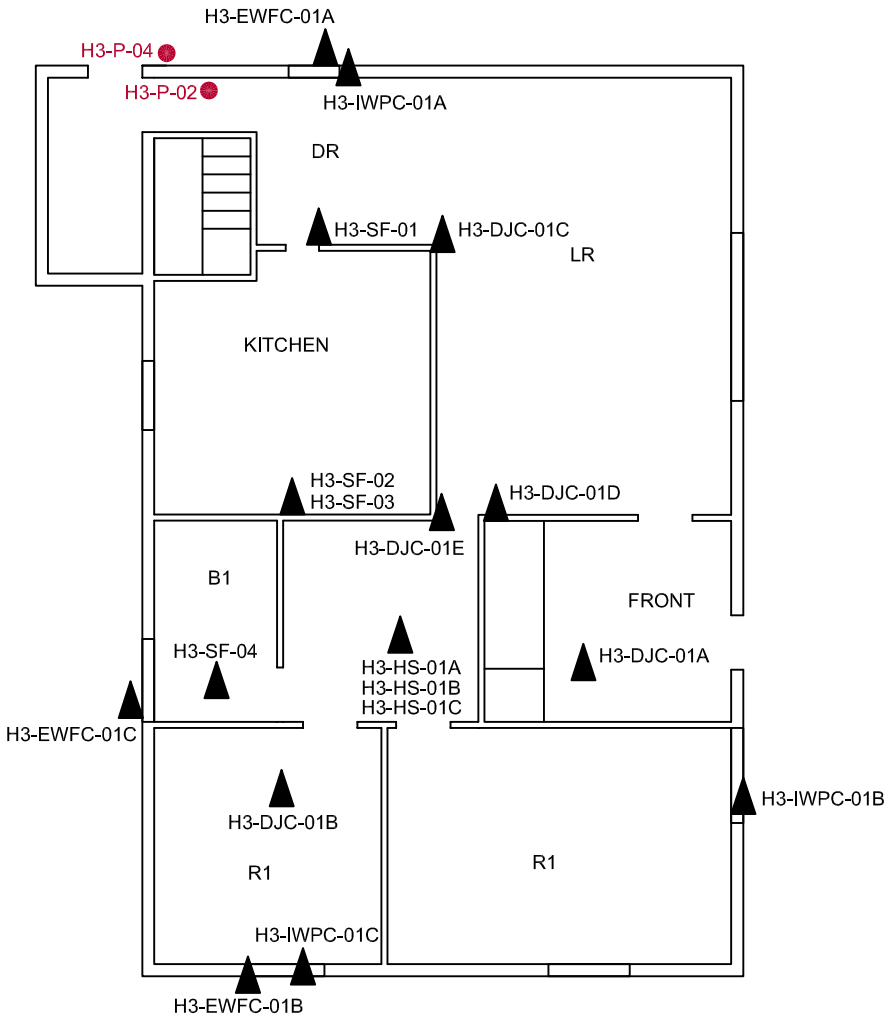
No suspected ODS-containing equipment was observed during the assessment.

O-4.7 Silica

Silica may be present in concrete, cement, and ceramic tiles observed in various locations throughout.

O-5.0 BUILDING-SPECIFIC RECOMMENDATIONS

In general, identified hazardous building materials should be handled in accordance with the recommendations for demolition that are provided in Section 5 of the main body of this report.



HOUSE 3
MAIN FLOOR

LEGEND

- BULK SAMPLE
- PAINT CHIP SAMPLE

NOTES: **1. DRYWALL JOINT COMPOUND THROUGHOUT IS ACM.**
2. GREY WINDOW PANE CAULKING BETWEEN WINDOW FRAMES AND GLASS PANES THROUGHOUT IS ACM.
3. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

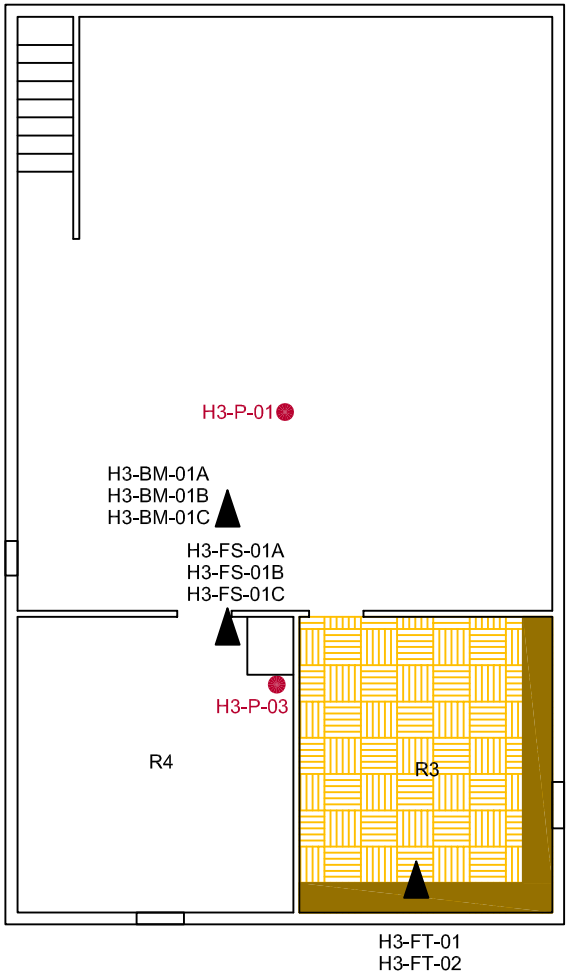
HAINES JUNCTION, YT

Client: PARKS CANADA

Project No.:	144901924
Scale:	NTS
Date:	14/11/18
Dwn. By:	CD SL2014110120 DM/VM
App'd By:	TW

Dwg. No.: 01

Stantec



HOUSE 3
BASEMENT

LEGEND

- BULK SAMPLE
- PAINT CHIP SAMPLE
- ASBESTOS-CONTAINING FLOOR TILE
- MOULD IMPACTED MATERIALS

NOTES: **1. DRYWALL JOINT COMPOUND THROUGHOUT IS ACM.**
2. GREY WINDOW CAULKING PANE BETWEEN WINDOW FRAMES AND GLASS PANES THROUGHOUT IS ACM.
3. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

HAINES JUNCTION, YT

Client: PARKS CANADA

Project No.:	144901924
Scale:	NTS
Date:	14/11/18
Dwn. By:	CD SL2014110121 DM/VM
App'd By:	TW

Dwg. No.: O2

Stantec

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H3-SF-01 *551407481-0369*	VINYL SHEET FLOORING-WHITE WITH PINK AND GREEN - SPECS/ DINING ROOM	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H3-SF-02 *551407481-0370*	VINYL SHEET FLOORING-IRREGULAR STONE PATTERN - KITCHEN	Beige Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H3-SF-03 *551407481-0371*	VINYL SHEET FLOORING-TAN - KITCHEN(CONCEALED UNDER SF-03)	Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H3-SF-04 *551407481-0372*	VINYL SHEET FLOORING-BEIGE PEBBLE PATTERN - BATHROOM	Gray/Various Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H3-FT-01 *551407481-0373*	9"X9" VINYL FLOOR TILE-RED - BASEMENT ROOM 3	Pink Non-Fibrous Homogeneous	98.7	None	1.3% Chrysotile
H3-FT-01-Mastic *551407481-0373A*	9"X9" VINYL FLOOR TILE-RED - BASEMENT ROOM 3				
Insufficient Material					
H3-FT-02 *551407481-0374*	9"X9" VINYL FLOOR TILE-BEIGE - BASEMENT ROOM 3	Gray Non-Fibrous Homogeneous	98.9	None	1.1% Chrysotile
H3-FT-02-Mastic *551407481-0374A*	9"X9" VINYL FLOOR TILE-BEIGE - BASEMENT ROOM 3				
Insufficient Material					

Analyst(s)

Jon Delos Santos (1)
Nicole Yeo (9)

Kevin Pang
or other approved signatory

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

Initial report from 10/17/2014 22:58:12

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Project: **144901924.801**

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H3-IWPC-01A *551407481-0380*	INTEIROR WINDOW PANE CAULKING-GREY - BETWEEN WINDOW FRAME AND GLASS PANE IN DINING ROOM	Gray Non-Fibrous Homogeneous	98.0	None	2.0% Chrysotile
H3-IWPC-01B *551407481-0381*	INTEIROR WINDOW PANE CAULKING-GREY - BETWEEN WINDOW FRAME AND GLASS PANE IN MAIN FLOOR ROOM 1				
Positive Stop (Not Analyzed)					
H3-IWPC-01C *551407481-0382*	INTEIROR WINDOW PANE CAULKING-GREY - BETWEEN WINDOW FRAME AND GLASS PANE IN MAIN FLOOR ROOM 2				
Positive Stop (Not Analyzed)					
H3-EWFC-01A *551407481-0383*	EXTERIOR WINDOW FRAME CAULKING-CREAM - BETWEEN WINDOW FRAME AND BUILDING ON EXTERIOR	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H3-EWFC-01B *551407481-0384*	EXTERIOR WINDOW FRAME CAULKING-CREAM - BETWEEN WINDOW FRAME AND BUILDING ON EXTERIOR	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (1)
Nicole Yeo (9)

Kevin Pang
or other approved signatory

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

Initial report from 10/17/2014 22:58:12

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Project: **144901924.801**

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H3-EWFC-01C *551407481-0385*	EXTERIOR WINDOW FRAME CAULKING-CREAM - BETWEEN WINDOW FRAME AND BUILDING ON EXTERIOR	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (1)
Nicole Yeo (9)

Kevin Pang
or other approved signatory

Initial report from 10/17/2014 22:58:12

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos	
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**%**	**Type**
H3-HS-01A *551407481-0366*	HEAT SHIELD-SILVER - INSIDE ROUND INCANDESCENT LIGHT FIXTURE	Silver/Beige Non-Fibrous Homogeneous	60% 5%	Cellulose Glass	35%	Non-fibrous (other)		**None Detected**
H3-HS-01B *551407481-0367*	HEAT SHIELD-SILVER - INSIDE ROUND INCANDESCENT LIGHT FIXTURE	Silver/Beige Fibrous Homogeneous	60% 5%	Cellulose Glass	35%	Non-fibrous (other)		**None Detected**
H3-HS-01C *551407481-0368*	HEAT SHIELD-SILVER - INSIDE ROUND INCANDESCENT LIGHT FIXTURE	Tan/Silver Fibrous Homogeneous	60% 5%	Cellulose Glass	35%	Non-fibrous (other)		**None Detected**
H3-DJC-01A *551407481-0375*	DRYWALL JOINT COMPOUND - FRONT ENTRANCE HALLWAY	Gray Non-Fibrous Homogeneous			98%	Non-fibrous (other)	**2%**	**Chrysotile**
H3-DJC-01B *551407481-0376*	DRYWALL JOINT COMPOUND - MAIN FLOOR ROOM 2	Gray Non-Fibrous Homogeneous			98%	Non-fibrous (other)	**2%**	**Chrysotile**
H3-DJC-01C *551407481-0377*	DRYWALL JOINT COMPOUND - LIVING ROOM	Gray Non-Fibrous Homogeneous			98%	Non-fibrous (other)	**2%**	**Chrysotile**

Analyst(s)

Arabee Sathiaseelan (9)
Jon Delos Santos (5)

Kevin Pang
or other approved signatory

Initial report from 10/17/2014 22:58:12

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
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Analysis Date:	10/17/2014
Collected:	

Project: **144901924.801**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos	
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**%**	**Type**
H3-DJC-01D *551407481-0378*	DRYWALL JOINT COMPOUND - LIVING ROOM	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**<1%**	**Chrysotile**
H3-DJC-01E *551407481-0379*	DRYWALL JOINT COMPOUND - HALLWAY	Gray Non-Fibrous Homogeneous		98% Non-fibrous (other)	**2%**	**Chrysotile**
H3-FS-01A *551407481-0386*	FIRE STOP-GREY - AROUND FURNACE EXHAUST PENETRATION IN THE CHIMNEY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)		**None Detected**
H3-FS-01B *551407481-0387*	FIRE STOP-GREY - AROUND FURNACE EXHAUST PENETRATION IN THE CHIMNEY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)		**None Detected**
H3-FS-01C *551407481-0388*	FIRE STOP-GREY - AROUND FURNACE EXHAUST PENETRATION IN THE CHIMNEY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)		**None Detected**
H3-BM-01A *551407481-0389*	BRICK MORTAR - BASEMENT CHIMNEY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)		**None Detected**

Analyst(s)

Arabee Sathiaseelan (9)
Jon Delos Santos (5)

Kevin Pang
or other approved signatory

Initial report from 10/17/2014 22:58:12

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Project: **144901924.801**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
H3-BM-01B *551407481-0390*	BRICK MORTAR - BASEMENT CHIMNEY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
H3-BM-01C *551407481-0391*	BRICK MORTAR - BASEMENT CHIMNEY	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Arabee Sathiaseelan (9)
Jon Delos Santos (5)

Kevin Pang
or other approved signatory

Initial report from 10/17/2014 22:58:12

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	551407512
CustomerID:	55JACQ30L
CustomerPO:	144901924.801
ProjectID:	

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

Phone: (604) 412-3004
Fax:
Received: 10/10/14 11:01 AM
Collected:

Project: **144901924.801**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
H3-P-01	*551407512-0064*		10/16/2014	1900 ppm
	Site: GREY COLOUR Desc: BASEMENT FLOORS			
H3-P-02	*551407512-0065*		10/16/2014	1100 ppm
	Site: WHITE COLOUR Desc: INTERIOR WALLS			
H3-P-03	*551407512-0066*		10/16/2014	<510 ppm
	Site: GREEN COLOUR Desc: FURNACE Insufficient sample to reach reporting limit.			
H3-P-04	*551407512-0067*		10/16/2014	<110 ppm
	Site: WHITE COLOUR Desc: EXTERIOR Insufficient sample to reach reporting limit.			

Kevin Pang
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 established by the AIHA-LAP, unless specifically indicated otherwise.

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

Initial report from 10/16/2014 17:00:20

Appendix P
Findings and Recommendations – House 3 Garage

P-4.0 FINDINGS – HOUSE 3 GARAGE

The House 3 Garage was reportedly constructed in 1980.

Stantec understands that demolition of the House 3 Garage has been proposed.

The results of the assessment for each of the considered hazardous materials within the House 3 Garage are provided in the following sub-sections.

Floor plan drawings for the House 3 Garage, which include locations of the samples collected during this assessment and locations of identified hazardous building materials (where practical), are attached to this Appendix.

P-4.1 Asbestos

Stantec identified and sampled various suspected ACMs, including the following:

- Roofing paper
- Building paper
- Roofing shingle.

9 samples of the above-noted suspected ACMs were collected and submitted to EMSL for analysis of asbestos content and nature.

A summary of the sample types, locations and analytical results is presented in Table P-4.1.1, below. Copies of the certificates of analysis provided by EMSL for the suspected ACM samples submitted are attached at the end of this Appendix.

Table P-4.1.1 Suspected ACM Sample Collection and Analysis Summary House 3 Garage, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
H3G-RP-01A	Roofing paper – Black	Roof (concealed under wood shingles)	None Detected
H3G-RP-01B	Roofing paper – Black	Roof (concealed under wood shingles)	None Detected
H3G-RP-01C	Roofing paper – Black	Roof (concealed under wood shingles)	None Detected
H3G-BP-01A	Building paper – Black	Under siding	Insufficient Material
H3G-BP-01B	Building paper – Black	Under siding	None Detected

Table P-4.1.1 Suspected ACM Sample Collection and Analysis Summary House 3 Garage, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
H3G-BP-01C	Building paper – Black	Under siding	Insufficient Material
H3G-RS-01A	Roof shingle – Tar and gravel	Roof (concealed under wood shingles and roofing paper)	None Detected
H3G-RS-01B	Roof shingle – Tar and gravel	Roof (concealed under wood shingles and roofing paper)	None Detected
H3G-RS-01C	Roof shingle – Tar and gravel	Roof (concealed under wood shingles and roofing paper)	None Detected

Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of suspected ACM sample analytical results, no ACMs were identified.

P-4.2 Lead

Typical potential lead-containing items (solder on wiring, in domestic water pipes and/or in the bell fittings of cast iron drain pipes; lead acid batteries associated with emergency exit signage, etc.) were not observed.

With respect to paint, 2 paint chip samples were obtained, where suspected LCPs were observed. A summary of the sample types, locations and analytical results is presented in Table P-4.2.1, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

Table P-4.2.1 Suspected LCP Sample Collection and Analysis Summary House 3 Garage Haines Junction, YT

Sample No.	Sample Location	Sample Colour	Lab Result (ppm)	Lead Containing (Yes/No)
H3G-P-01	Floor	Grey	820	No
H3G-P-02	Interior walls	Cream	<90	No

Based on our observations and on our interpretations of suspected LCP sample analytical results, no LCPs were identified.

P-4.3 Polychlorinated Biphenyls

No suspected PCB-containing equipment was observed during the assessment.

P-4.4 Mercury

No suspected mercury-containing equipment was observed during the assessment.

P-4.5 Mould

No suspect mould or moisture impacted materials were observed during the assessment.

P-4.6 Ozone-Depleting Substances

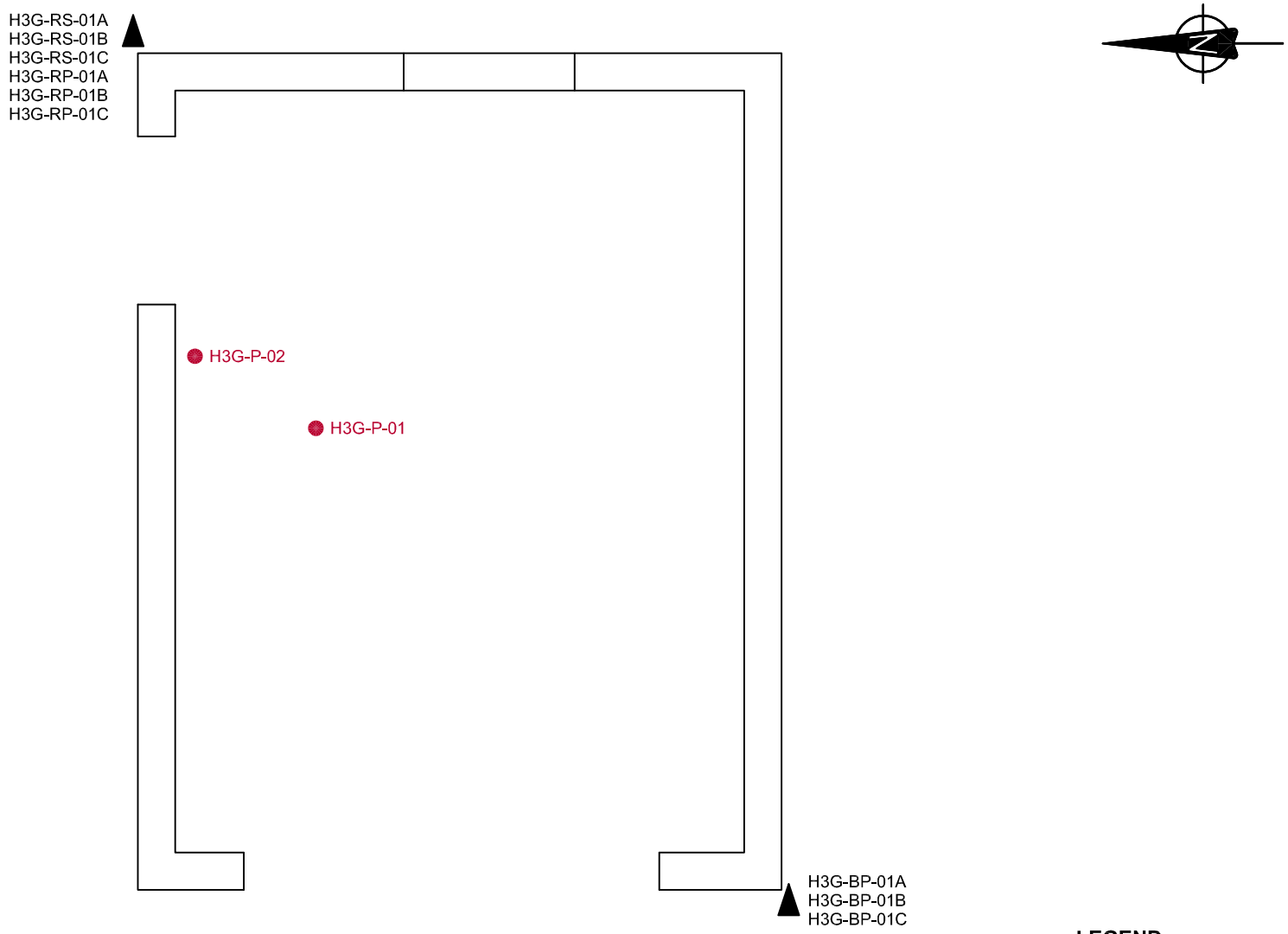
No suspected ODS-containing equipment was observed during the assessment

P-4.7 Silica

Silica may be present in concrete and cement observed in various locations throughout.

P-5.0 RECOMMENDATIONS TO ADDRESS IDENTIFIED ISSUES – HOUSE 3 GARAGE

In general, identified hazardous building materials should be handled in accordance with the recommendations for demolition that are provided in Section 5 of the main body of this report.



HOUSE 3 GARAGE

LEGEND

BULK SAMPLE

PAINT CHIP SAMPLE

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

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

HAINES JUNCTION, YT

Client: PARKS CANADA

Project No.:	144901924
Scale:	NTS
Date:	14/11/18
Dwn. By:	CD DM/VM SL2014110122
App'd By:	TW

Dwg. No.: P

Stantec

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Project: **144901924.801**

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H3G-RP-01A *551407481-0392*	ROOFING PAPER-BLACK - ROOF(CONCEALED UNDER WOOD SHINGLES)	Brown Fibrous Homogeneous	100	None	No Asbestos Detected
H3G-RP-01B *551407481-0393*	ROOFING PAPER-BLACK - ROOF(CONCEALED UNDER WOOD SHINGLES)	Brown Fibrous Homogeneous	100	None	No Asbestos Detected
H3G-RP-01C *551407481-0394*	ROOFING PAPER-BLACK - ROOF(CONCEALED UNDER WOOD SHINGLES)	Brown Fibrous Homogeneous	100	None	No Asbestos Detected
H3G-BP-01A *551407481-0395*	BUILDING PAPER-BLACK - UNDER SIDING				
Insufficient Material					
H3G-BP-01B *551407481-0396*	BUILDING PAPER-BLACK - UNDER SIDING	Brown Fibrous Homogeneous	100	None	No Asbestos Detected
H3G-BP-01C *551407481-0397*	BUILDING PAPER-BLACK - UNDER SIDING				
Insufficient Material					
H3G-RS-01A *551407481-0398*	ROOF SHINGLE-TAR AND GRAVEL - ROOF(CONCEALED UNDER WOOD SHINGLES AND ROOFING PAPER)	Various/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (2)
Nicole Yeo (5)

Kevin Pang
or other approved signatory

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

Initial report from 10/17/2014 22:58:12

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Project: **144901924.801**

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H3G-RS-01B *551407481-0399*	ROOF SHINGLE-TAR AND GRAVEL - ROOF(CONCEALED UNDER WOOD SHINGLES AND ROOFING PAPER)	Various/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H3G-RS-01C *551407481-0400*	ROOF SHINGLE-TAR AND GRAVEL - ROOF(CONCEALED UNDER WOOD SHINGLES AND ROOFING PAPER)	Various/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (2)
Nicole Yeo (5)

Kevin Pang
or other approved signatory

Initial report from 10/17/2014 22:58:12

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	551407512
CustomerID:	55JACQ30L
CustomerPO:	144901924.801
ProjectID:	

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

Phone: (604) 412-3004
Fax:
Received: 10/10/14 11:01 AM
Collected:

Project: **144901924.801**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
H3G-P-01	*551407512-0068* Site: GREY COLOUR Desc: FLOOR		10/16/2014	820 ppm
H3G-P-02	*551407512-0069* Site: CREAM COLOUR Desc: INTERIOR WALLS		10/16/2014	<90 ppm

Kevin Pang
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 established by the AIHA-LAP, unless specifically indicated otherwise.

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

Initial report from 10/16/2014 17:01:19

Appendix Q
Findings and Recommendations – House 4

Q-4.0 FINDINGS – HOUSE 4

House 4 was reportedly constructed in 1961.

Stantec understands that demolition of House 4 has been proposed.

The results of the assessment for each of the considered hazardous materials within House 4 are provided in the following sub-sections.

Floor plan drawings for House 4, which include locations of the samples collected during this assessment and locations of identified hazardous building materials (where practical), are attached to this Appendix.

Q-4.1 Asbestos

Stantec identified and sampled various suspected ACMs, including the following:

- Duct tape
- Duct shield
- Sheet flooring
- Vinyl floor tile and associated mastic
- Window pane and frame caulking
- Pipe Sealant
- Roofing paper
- Building paper
- Ceiling tiles
- Drywall joint compound
- Roofing shingle
- Brick mortar.

41 samples of the above-noted suspected ACMs were collected and submitted to EMSL for analysis of asbestos content and nature.

A summary of the sample types, locations and analytical results is presented in Table O-4.1.1, below. Copies of the certificates of analysis provided by EMSL for the suspected ACM samples submitted are attached at the end of this Appendix.

It should be noted that several bulk samples of vinyl floor tile were further separated into layers during laboratory analysis.

Table O-4.1.1 Suspected ACM Sample Collection and Analysis Summary House 3, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
H4-DT-01A	**Duct tape – White woven**	**Seams of furnace ducting in the basement**	**55% Chrysotile**
H4-DT-01B	**Duct tape – White woven**	**Seams of furnace ducting in the basement**	**Stop Positive**
H4-DT-01C	**Duct tape – White woven**	**Seams of furnace ducting in the basement**	**Stop Positive**
H4-DS-01A	**Duct shield – White**	**On wooden joists in basement above furnace ducting**	**45% Chrysotile**
H4-DS-01B	**Duct shield – White**	**On wooden joists in basement above furnace ducting**	**Stop Positive**
H4-DS-01C	**Duct shield – White**	**On wooden joists in basement above furnace ducting**	**Stop Positive**
H4-SF-01	**Vinyl sheet flooring – Brown square pattern**	**Kitchen**	**22.4% Chrysotile**
H4-SF-02	Vinyl sheet flooring – Tan with beige spots	Bathroom	None Detected
H4-SF-03	Vinyl sheet flooring – Pink square pattern	Stairwell	None Detected
H4-SF-04	**Vinyl sheet flooring – Yellow with tan spots**	**Mudroom**	**5.2% Chrysotile**
H4-FT-01	**Vinyl floor tile – Cream**	**Concealed under SF-01 in the kitchen**	**1.4% Chrysotile**
H4-FT-01-Mastic	Floor tile mastic	Concealed under SF-01 in the kitchen	Insufficient Material
H4-FT-02	**Vinyl floor tile – Cream**	**Concealed under carpet in room 2**	**1.7% Chrysotile**
H4-FT-02-Mastic	Floor tile mastic	Concealed under carpet in room 2	None Detected
H4-IWPC-01A	Interior window pane caulking – White	Between window frame and glass pane on the interior	None Detected
H4-IWPC-01B	Interior window pane caulking – White	Between window frame and glass pane on the interior	None Detected
H4-IWPC-01C	Interior window pane caulking – White	Between window frame and glass pane on the interior	None Detected
H4-EWFC-01A	**Exterior window frame caulking – Brown**	**Between window frame and building on the exterior**	**0.66% Chrysotile**
H4-EWFC-01B	**Exterior window frame caulking – Brown**	**Between window frame and building on the exterior**	**None Detected**

Table O-4.1.1 Suspected ACM Sample Collection and Analysis Summary House 3, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
H4-EWFC-01C	**Exterior window frame caulking – Brown**	**Between window frame and building on the exterior**	**None Detected**
H4-PS-01A	Pipe sealant – Grey	Inside pipe fittings in the basement	None Detected
H4-PS-01B	Pipe sealant – Grey	Inside pipe fittings in the basement	None Detected
H4-PS-01C	Pipe sealant – Grey	Inside pipe fittings in the basement	None Detected
H4-RP-01A	Roofing paper – Black	Roof (concealed under wood shingles)	None Detected
H4-RP-01B	Roofing paper – Black	Roof (concealed under wood shingles)	None Detected
H4-RP-01C	Roofing paper – Black	Roof (concealed under wood shingles)	None Detected
H4-BP-01A	Building paper – Black	Under siding	None Detected
H4-BP-01B	Building paper – Black	Under siding	None Detected
H4-BP-01C	Building paper – Black	Under siding	None Detected
H4-CT-01A	White 1'x1' ceiling tile	Basement room 1	None Detected
H4-CT-01B	White 1'x1' ceiling tile	Mudroom	None Detected
H4-CT-01C	White 1'x1' ceiling tile	Basement room 1	None Detected
H4-DJC-01A	**Drywall joint compound**	**Main floor room 2**	**2% Chrysotile**
H4-DJC-01B	**Drywall joint compound**	**Living room**	**2% Chrysotile**
H4-DJC-01C	**Drywall joint compound**	**Stairwell**	**2% Chrysotile**
H4-DJC-01D	**Drywall joint compound**	**Front entrance hallway**	**2% Chrysotile**
H4-DJC-01E	**Drywall joint compound**	**Stairwell**	**2% Chrysotile**
H4-RS-01A	Roof shingle – Tar and gravel	Roof (concealed under wood shingles and roofing paper)	None Detected
H4-RS-01B	Roof shingle – Tar and gravel	Roof (concealed under wood shingles and roofing paper)	None Detected
H4-RS-01C	Roof shingle – Tar and gravel	Roof (concealed under wood shingles and roofing paper)	None Detected
H4-BM-01A	Brick mortar	Basement chimney	None Detected
H4-BM-01B	Brick mortar	Basement chimney	None Detected
H4-BM-01C	Brick mortar	Basement chimney	None Detected

Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of suspected ACM sample analytical results, the materials presented in Table Q-4.1.2, below were identified as ACMs.

Table Q-4.1.2 Summary of Identified ACMs House 4, Haines Junction, YT

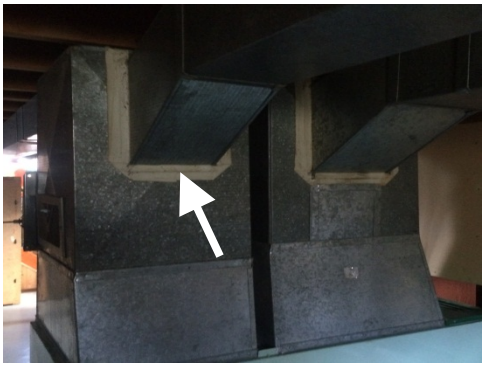
Identified ACM Description and Condition Information		Photo
White woven duct tape on seams of furnace ducting in the basement		
Friability	Friable	
Condition	Good	
Content	55% Chrysotile	
White duct shields on wooden joists in the basement above furnace ducting		
Friability	Friable	
Condition	Good	
Content	45% Chrysotile	
Brown square pattern sheet flooring in the kitchen		
Friability	Friable during removal	
Condition	Good	
Content	22.4% Chrysotile	

Table Q-4.1.2 Summary of Identified ACMs House 4, Haines Junction, YT

Identified ACM Description and Condition Information		Photo
Tan spots pattern sheet flooring in the mudroom		No photo
Friability	Friable during removal	
Condition	Good	
Content	5.2% Chrysotile	
Cream vinyl floor tile concealed under carpet and other flooring throughout the majority of the main level		
Friability	Non-friable	
Condition	Good	
Content	1.4 – 1.7% Chrysotile	
Brown exterior window frame caulking between window frames and the building on the exterior of windows		
Friability	Non-friable	
Condition	Good	
Content	0.66% Chrysotile	

Table Q-4.1.2 Summary of Identified ACMs House 4, Haines Junction, YT

Identified ACM Description and Condition Information		Photo
Drywall joint compound throughout		
Friability	Non-friable in situ; can be made friable during removal	
Condition	Good	
Content	2% Chrysotile	

Q-4.2 Lead

Lead is expected to be present in the following materials:

- Solder used on copper domestic pipes
- Caulking on bell fittings for cast iron drainage pipes
- Electrical equipment (i.e. batteries for emergency lighting/signage).

With respect to paint, 5 paint chip samples were obtained, where suspected LCPs were observed. A summary of the sample types, locations and analytical results is presented in Table Q-4.2.1, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

Table Q-4.2.1 Suspected LCP Sample Collection and Analysis Summary House 4, Haines Junction, YT

Sample No.	Sample Location	Sample Colour	Lab Result (ppm)	Lead Containing (Yes/No)
H4-P-01	Kitchen walls	Green	<90	No
H4-P-02	Interior walls	White	<90	No
H4-P-03	**Basement floors**	**Grey**	**1,800**	**Yes**
H4-P-04	Front porch	Grey	<90	No
H4-P-05	**Exterior trim**	**Brown**	**21,000**	**Yes**

Based on our observations and on our interpretations of suspected LCP sample analytical results, the materials presented in Table Q-4.2.2, below were identified as LCPs.

Table Q-4.2.2 Summary of Identified LCPs House 4, Haines Junction, YT

Identified LCP Description	Photo
Grey paint on the basement floor. This paint was observed to be in good condition (no bubbling, flaking or peeling).	
Brown paint on exterior trim. This paint was observed to be in good condition (no bubbling, flaking or peeling).	

Q-4.3 Polychlorinated Biphenyls

Two fluorescent light fixtures were observed. The label from one light fixture ballast was inspected for comparison to the PCB Guide. Although that ballast was confirmed to be non-PCB, the ballast within the other fixture may contain PCBs, based on the age of the building.

Q-4.4 Mercury

One (1) mercury-containing thermostat was observed in the living room, as indicated on the attached floor plan drawings.

Mercury vapour is expected to be present in fluorescent light tubes/bulbs throughout.

Q-4.5 Mould

No suspect mould or moisture impacted materials were observed during the assessment.

Q-4.6 Ozone-Depleting Substances

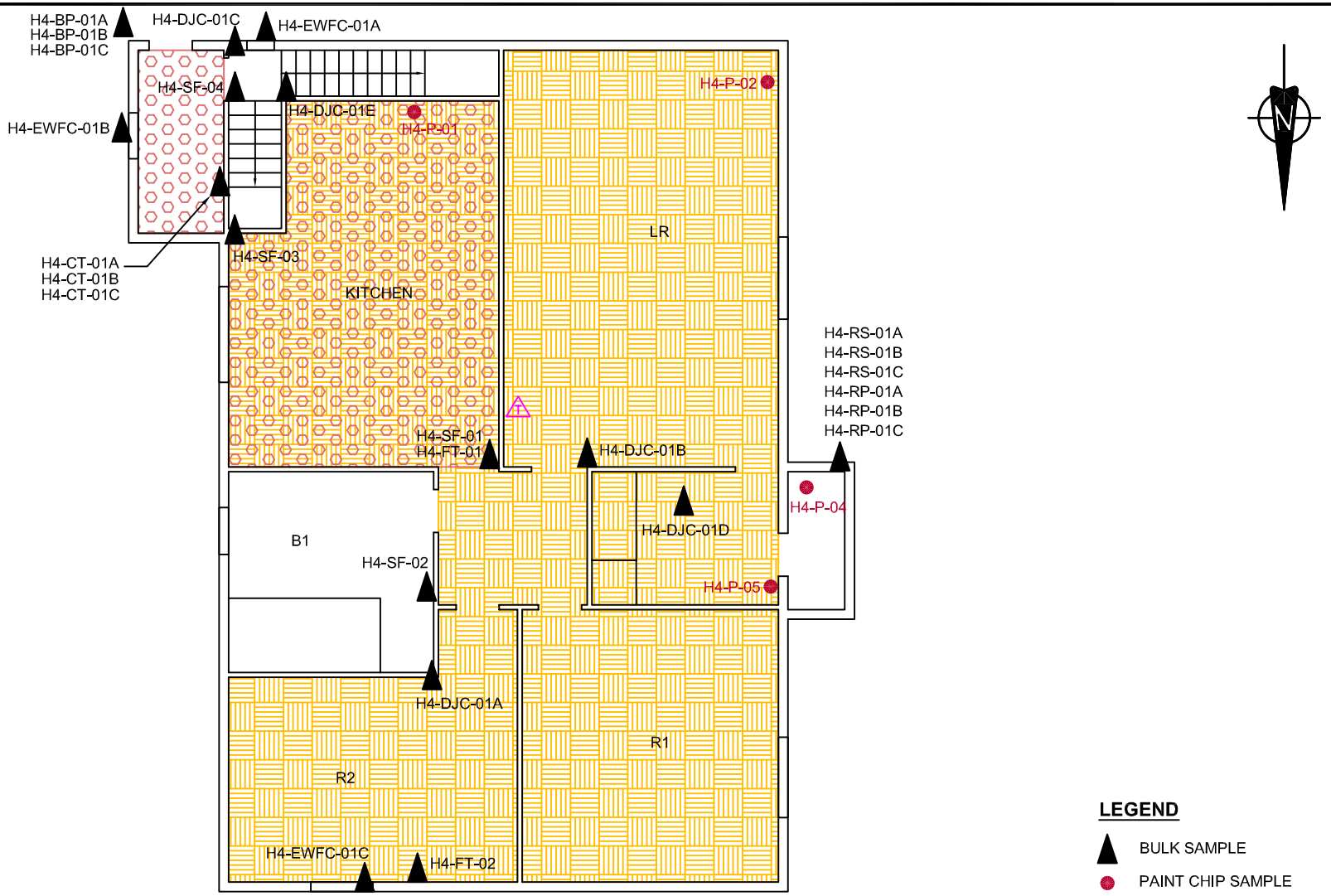
No suspected ODS-containing equipment was observed during the assessment.

Q-4.7 Silica

Silica may be present in concrete, cement, and ceramic tiles observed in various locations throughout.

Q-5.0 BUILDING-SPECIFIC RECOMMENDATIONS

In general, identified hazardous building materials should be handled in accordance with the recommendations for demolition that are provided in Section 5 of the main body of this report.



HOUSE 4
MAIN FLOOR

LEGEND

- BULK SAMPLE
- PAINT CHIP SAMPLE
- ASBESTOS-CONTAINING FLOOR TILE
- ASBESTOS-CONTAINING SHEET FLOORING
- MERCURY-CONTAINING THERMOSTAT

NOTES:

1. **WHITE WOVEN TAPE ON SEAMS OF FURNACE DUCTING THROUGHOUT IS ACM.**
2. **WHITE DUCT SHIELDS ON WOODEN JOISTS ABOVE FURNACE DUCTING IS ACM.**
3. **BROWN WINDOW FRAME CAULKING BETWEEN WINDOW FRAMES AND EXTERIOR OF THE BUILDING IS ACM.**
4. **DRYWALL JOINT COMPOUND THROUGHOUT IS ACM.**
5. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

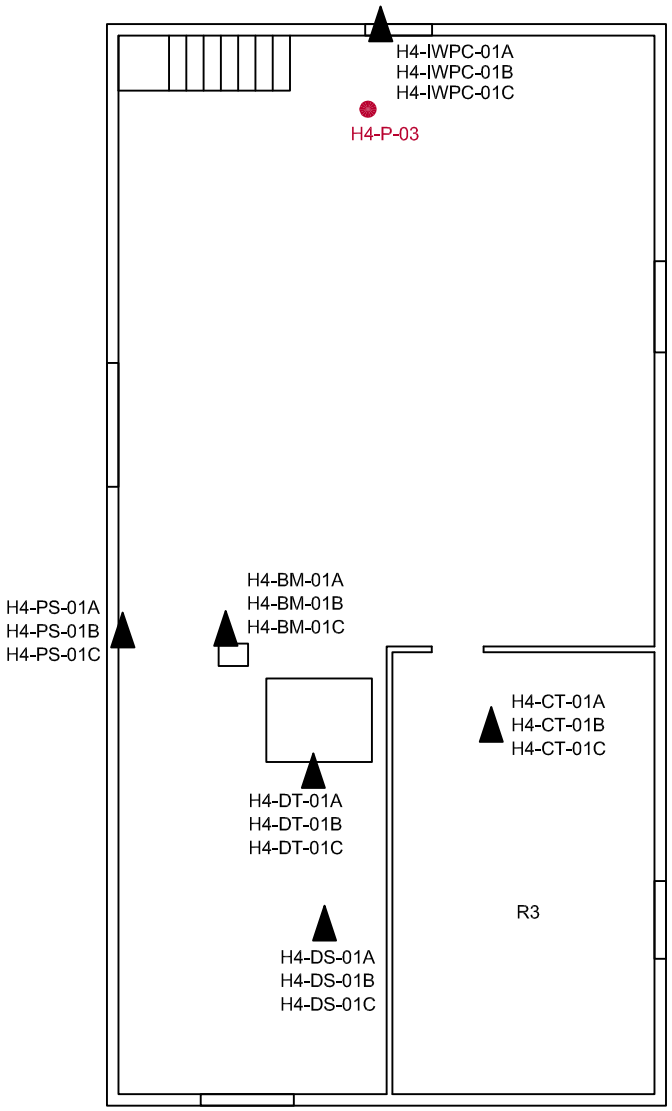
HAINES JUNCTION, YT

Client: PARKS CANADA

Project No.:	144901924
Scale:	NTS
Date:	14/11/18
Dwn. By:	CD SL2014110123 DM/VM
App'd By:	TW

Dwg. No.: Q1

Stantec



HOUSE 4
BASEMENT

NOTES:
1. **WHITE WOVEN TAPE ON SEAMS OF FURNACE DUCTING THROUGHOUT IS ACM.**
2. **WHITE DUCT SHIELDS ON WOODEN JOISTS ABOVE FURNACE DUCTING IS ACM.**
3. **BROWN WINDOW FRAME CAULKING BETWEEN WINDOW FRAMES AND EXTERIOR OF THE BUILDING IS ACM.**
4. **DRYWALL JOINT COMPOUND THROUGHOUT IS ACM.**
5. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

LEGEND

- BULK SAMPLE
- PAINT CHIP SAMPLE

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

HAINES JUNCTION, YT

Client: PARKS CANADA

Project No.:	144901924
Scale:	NTS
Date:	14/11/18
Dwn. By:	CD SL2014110124 DM/VM
App'd By:	TW
Dwg. No.:	Q2

Stantec

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

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SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H4-SF-01 *551407481-0407*	VINYL SHEET FLOORING-BROWN SQUARE PATTERN - KITCHEN	Various/Yellow Non-Fibrous Homogeneous	77.6	None	22.4% Chrysotile
H4-SF-02 *551407481-0408*	VINYL SHEET FLOORING-TAN WITH BEIGE SPOTS - BATHROOM	White/Red Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H4-SF-03 *551407481-0409*	VINYL SHEET FLOORING-PINK SQUARE PATTERN - STAIRWELL	Gray/Pink Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H4-SF-04 *551407481-0410*	VINYL SHEET FLOORING-YELLOW WITH TAN SPOTS - MUDROOM	White/Yellow Fibrous Homogeneous	94.8	None	5.2% Chrysotile
H4-FT-01 *551407481-0411*	VINYL FLOOR TILE-CREAM - CONCEALED UNDER SF-01 IN THE KITCHEN	Gray Non-Fibrous Homogeneous	98.6	None	1.4% Chrysotile
H4-FT-01-Mastic *551407481-0411A*	VINYL FLOOR TILE-CREAM - CONCEALED UNDER SF-01 IN THE KITCHEN Insufficient Material				
H4-FT-02 *551407481-0412*	VINYL FLOOR TILE-CREAM - CONCEALED UNDER CARPET IN ROOM 2	White Non-Fibrous Homogeneous	98.3	None	1.7% Chrysotile
H4-FT-02-Mastic *551407481-0412A*	VINYL FLOOR TILE-CREAM - CONCEALED UNDER CARPET IN ROOM 2	Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (6)
Nicole Yeo (19)

Kevin Pang
or other approved signatory

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

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2756 Slough Street, Mississauga, ON L4T 1G3
Phone/Fax: 289-997-4602 / (289) 997-4607
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SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H4-IWPC-01A *551407481-0413*	INTERIOR WINDOW PANE CAULKING-WHITE - BETWEEN WINDOW FRAME AND GLASS PANE ON THE INTERIOR	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H4-IWPC-01B *551407481-0414*	INTERIOR WINDOW PANE CAULKING-WHITE - BETWEEN WINDOW FRAME AND GLASS PANE ON THE INTERIOR	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H4-IWPC-01C *551407481-0415*	INTERIOR WINDOW PANE CAULKING-WHITE - BETWEEN WINDOW FRAME AND GLASS PANE ON THE INTERIOR	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H4-EWFC-01A *551407481-0416*	EXTERIOR WINDOW FRAME CAULKING-BROWN - BETWEEN WINDOW FRAME AND BUILDING ON THE EXTERIOR	Brown/Gray Non-Fibrous Homogeneous	99.3	None	0.66% Chrysotile
H4-EWFC-01B *551407481-0417*	EXTERIOR WINDOW FRAME CAULKING-BROWN - BETWEEN WINDOW FRAME AND BUILDING ON THE EXTERIOR	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (6)
Nicole Yeo (19)

Kevin Pang
or other approved signatory

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

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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	551407481
CustomerID:	55JACQ30N
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ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Project: **144901924.801**

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
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Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H4-EWFC-01C *551407481-0418*	EXTERIOR WINDOW FRAME CAULKING-BROWN - BETWEEN WINDOW FRAME AND BUILDING ON THE EXTERIOR	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H4-PS-01A *551407481-0419*	PIPE SEALANT-GREY - INSIDE PIPE FITTINGS IN THE BASEMENT	Brown/Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H4-PS-01B *551407481-0420*	PIPE SEALANT-GREY - INSIDE PIPE FITTINGS IN THE BASEMENT	Brown/Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H4-PS-01C *551407481-0421*	PIPE SEALANT-GREY - INSIDE PIPE FITTINGS IN THE BASEMENT	Brown/Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H4-RP-01A *551407481-0422*	ROOFING PAPER-BLACK - ROOF(CONCEALED UNDER WOOD SHINGLES)	Brown Fibrous Homogeneous	100	None	No Asbestos Detected
H4-RP-01B *551407481-0423*	ROOFING PAPER-BLACK - ROOF(CONCEALED UNDER WOOD SHINGLES)	Brown Fibrous Homogeneous	100	None	No Asbestos Detected
H4-RP-01C *551407481-0424*	ROOFING PAPER-BLACK - ROOF(CONCEALED UNDER WOOD SHINGLES)	Brown Fibrous Homogeneous	100	None	No Asbestos Detected
H4-BP-01A *551407481-0425*	BUILDING PAPER-BLACK - UNDER SIDING	Brown Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (6)
Nicole Yeo (19)

Kevin Pang
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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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
Received:	10/10/14 11:01 AM
Analysis Date:	10/17/2014
Collected:	

Project: **144901924.801**

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H4-BP-01B *551407481-0426*	BUILDING PAPER-BLACK - UNDER SIDING	Brown Fibrous Homogeneous	100	None	No Asbestos Detected
H4-BP-01C *551407481-0427*	BUILDING PAPER-BLACK - UNDER SIDING	Brown Fibrous Homogeneous	100	None	No Asbestos Detected
H4-RS-01A *551407481-0436*	ROOF SHINGLE-TAR AND GRAVEL - ROOF(CONCEALED UNDER WOOD SHINGLES AND ROOFING PAPER)	Various/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H4-RS-01B *551407481-0437*	ROOF SHINGLE-TAR AND GRAVEL - ROOF(CONCEALED UNDER WOOD SHINGLES AND ROOFING PAPER)	Various/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H4-RS-01C *551407481-0438*	ROOF SHINGLE-TAR AND GRAVEL - ROOF(CONCEALED UNDER WOOD SHINGLES AND ROOFING PAPER)	Various/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (6)
Nicole Yeo (19)

Kevin Pang
or other approved signatory

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

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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

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Analysis Date:	10/17/2014
Collected:	

Project: **144901924.801**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
H4-DT-01A *551407481-0401*	DUCT TAPE-WHITE WOVEN - SEAMS OF FURNACE DUCTING IN THE BASEMENT	White Fibrous Homogeneous		45% Non-fibrous (other)	**55% Chrysotile**
H4-DT-01B *551407481-0402*	DUCT TAPE-WHITE WOVEN - SEAMS OF FURNACE DUCTING IN THE BASEMENT				**Stop Positive (Not Analyzed)**
H4-DT-01C *551407481-0403*	DUCT TAPE-WHITE WOVEN - SEAMS OF FURNACE DUCTING IN THE BASEMENT				**Stop Positive (Not Analyzed)**
H4-DS-01A *551407481-0404*	DUCT SHIELD-WHITE - ON WOODEN JOISTS IN BASEMENT ABOVE FURNACE DUCTING	White Fibrous Homogeneous		55% Non-fibrous (other)	**45% Chrysotile**

Analyst(s)

Arabee Sathiaseelan (9)
Jon Delos Santos (4)

Kevin Pang
or other approved signatory

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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

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Project: **144901924.801**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos % Type
H4-DS-01B *551407481-0405*	DUCT SHIELD-WHITE - ON WOODEN JOISTS IN BASEMENT ABOVE FURNACE DUCTING						**Stop Positive (Not Analyzed)**
H4-DS-01C *551407481-0406*	DUCT SHIELD-WHITE - ON WOODEN JOISTS IN BASEMENT ABOVE FURNACE DUCTING						**Stop Positive (Not Analyzed)**
H4-CT-01A *551407481-0428*	WHITE 1'X1' CEILING TILE - BASEMENT ROOM 1	Brown/White Fibrous Homogeneous	85%	Cellulose	15%	Non-fibrous (other)	**None Detected**
H4-CT-01B *551407481-0429*	WHITE 1'X1' CEILING TILE - MUDROOM	Brown/White Fibrous Homogeneous	85%	Cellulose	15%	Non-fibrous (other)	**None Detected**
H4-CT-01C *551407481-0430*	WHITE 1'X1' CEILING TILE - BASEMENT ROOM 1	Brown/White Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**

Analyst(s)

Arabee Sathiaseelan (9)
Jon Delos Santos (4)

Kevin Pang
or other approved signatory

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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

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Project: **144901924.801**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
H4-DJC-01A *551407481-0431*	DRYWALL JOINT COMPOUND - MAIN FLOOR ROOM 2	Gray Non-Fibrous Homogeneous		98% Non-fibrous (other)	**2% Chrysotile**
H4-DJC-01B *551407481-0432*	DRYWALL JOINT COMPOUND - LIVING ROOM	Gray Non-Fibrous Homogeneous		98% Non-fibrous (other)	**2% Chrysotile**
H4-DJC-01C *551407481-0433*	DRYWALL JOINT COMPOUND - STAIRWELL	Gray Non-Fibrous Homogeneous		98% Non-fibrous (other)	**2% Chrysotile**
H4-DJC-01D *551407481-0434*	DRYWALL JOINT COMPOUND - FRONT ENTRANCE HALLWAY	Gray/White Non-Fibrous Homogeneous		98% Non-fibrous (other)	**2% Chrysotile**
H4-DJC-01E *551407481-0435*	DRYWALL JOINT COMPOUND - STAIRWELL	Gray/White Non-Fibrous Homogeneous		98% Non-fibrous (other)	**2% Chrysotile**
H4-BM-01A *551407481-0439*	BRICK MORTAR - BASEMENT CHIMNEY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
H4-BM-01B *551407481-0440*	BRICK MORTAR - BASEMENT CHIMNEY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Arabee Sathiaseelan (9)
Jon Delos Santos (4)

Kevin Pang
or other approved signatory

Initial report from 10/17/2014 22:58:12

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	551407481
CustomerID:	55JACQ30N
CustomerPO:	144901924.801
ProjectID:	

Attn: **Keith Irwin**
Stantec Consulting, Ltd.
4370 Dominion Street
5th Floor
Burnaby, BC V5G 4L7

Phone:	(604) 436-3014
Fax:	(604) 436-3752
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Project: **144901924.801**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
H4-BM-01C *551407481-0441*	BRICK MORTAR - BASEMENT CHIMNEY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Arabee Sathiaseelan (9)
Jon Delos Santos (4)

Kevin Pang
or other approved signatory

Initial report from 10/17/2014 22:58:12

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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	551407512
CustomerID:	55JACQ30L
CustomerPO:	144901924.801
ProjectID:	

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

Phone: (604) 412-3004
Fax:
Received: 10/10/14 11:01 AM
Collected:

Project: **144901924.801**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
H4-P-01	*551407512-0070* Site: GREEN COLOUR Desc: KITCHEN WALLS		10/16/2014	<90 ppm
H4-P-02	*551407512-0071* Site: WHITE COLOUR Desc: INTERIOR WALLS		10/16/2014	<90 ppm
H4-P-03	*551407512-0072* Site: GREY COLOUR Desc: BASEMENT FLOORS		10/16/2014	1800 ppm
H4-P-04	*551407512-0073* Site: GREY COLOUR Desc: FRONT PORCH		10/16/2014	<90 ppm
H4-P-05	*551407512-0074* Site: BROWN COLOUR Desc: EXTERIOR TRIM		10/16/2014	21000 ppm

Kevin Pang
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 established by the AIHA-LAP, unless specifically indicated otherwise.

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

Initial report from 10/16/2014 17:02:27

Appendix R
Findings and Recommendations – House 4 Garage

R-4.0 FINDINGS – HOUSE 4 GARAGE

The House 4 Garage was reportedly constructed in 1980.

Stantec understands that demolition of the House 4 Garage has been proposed.

The results of the assessment for each of the considered hazardous materials within the House 4 Garage are provided in the following sub-sections.

Floor plan drawings for the House 4 Garage, which include locations of the samples collected during this assessment and locations of identified hazardous building materials (where practical), are attached to this Appendix.

R-4.1 Asbestos

Stantec identified and sampled various suspected ACMs, including the following:

- Door caulking
- Window pane caulking.

6 samples of the above-noted suspected ACMs were collected and submitted to EMSL for analysis of asbestos content and nature.

A summary of the sample types, locations and analytical results is presented in Table R-4.1.1, below. Copies of the certificates of analysis provided by EMSL for the suspected ACM samples submitted are attached at the end of this Appendix.

Table R-4.1.1 Suspected ACM Sample Collection and Analysis Summary House 4 Garage, Haines Junction, YT

Sample Number	Material Description	Sample Location	Result (%/type asbestos)
H4G-DC-01A	Door caulking – White	Around doors on the exterior	None Detected
H4G-DC-01B	Door caulking – White	Around doors on the exterior	None Detected
H4G-DC-01C	Door caulking – White	Around doors on the exterior	None Detected
H4G-IWPC-01A	Interior window pane caulking – Yellow	Between window frame and glass pane on the interior	None Detected
H4G-IWPC-01B	Interior window pane caulking – Yellow	Between window frame and glass pane on the interior	None Detected
H4G-IWPC-01C	Interior window pane caulking – Yellow	Between window frame and glass pane on the interior	None Detected

Based on our observations of building construction (estimated vintage of interior finishes and uniformity of building material use) and on our interpretations of suspected ACM sample analytical results, no ACMs were identified.

R-4.2 Lead

Typical potential lead-containing items (solder on wiring, in domestic water pipes and/or in the bell fittings of cast iron drain pipes; lead acid batteries associated with emergency exit signage, etc.) were not observed.

With respect to paint, 3 paint chip samples were obtained, where suspected LCPs were observed. A summary of the sample types, locations and analytical results is presented in Table R-4.2.1, below. A copy of the certificate of analysis provided by EMSL for the suspected LCP samples submitted is attached to this Appendix.

Table R-4.2.1 Suspected LCP Sample Collection and Analysis Summary House 4 Garage, Haines Junction, YT

Sample No.	Sample Location	Sample Colour	Lab Result (ppm)	Lead Containing (Yes/No)
H4G-P-01	Exterior siding	White	<90	No
H4G-P-02	Interior walls	Beige	<90	No
H4G-P-03	**Floor**	**Grey**	**1,800**	**Yes**

Based on our observations and on our interpretations of suspected LCP sample analytical results, the paint application presented in Table R-4.2.2, below was identified as an LCP.

Table R-4.2.2 Summary of Identified LCPs House 4 Garage, Haines Junction, YT

Identified LCP Description	Photo
Grey paint on the floor. This paint was observed to be in good condition (not bubbling, flaking or peeling).	No photo

R-4.3 Polychlorinated Biphenyls

No suspected PCB-containing equipment was observed during the assessment.

R-4.4 Mercury

No suspected mercury-containing equipment was observed during the assessment.

R-4.5 Mould

No suspect mould or moisture impacted materials were observed during the assessment.

R-4.6 Ozone-Depleting Substances

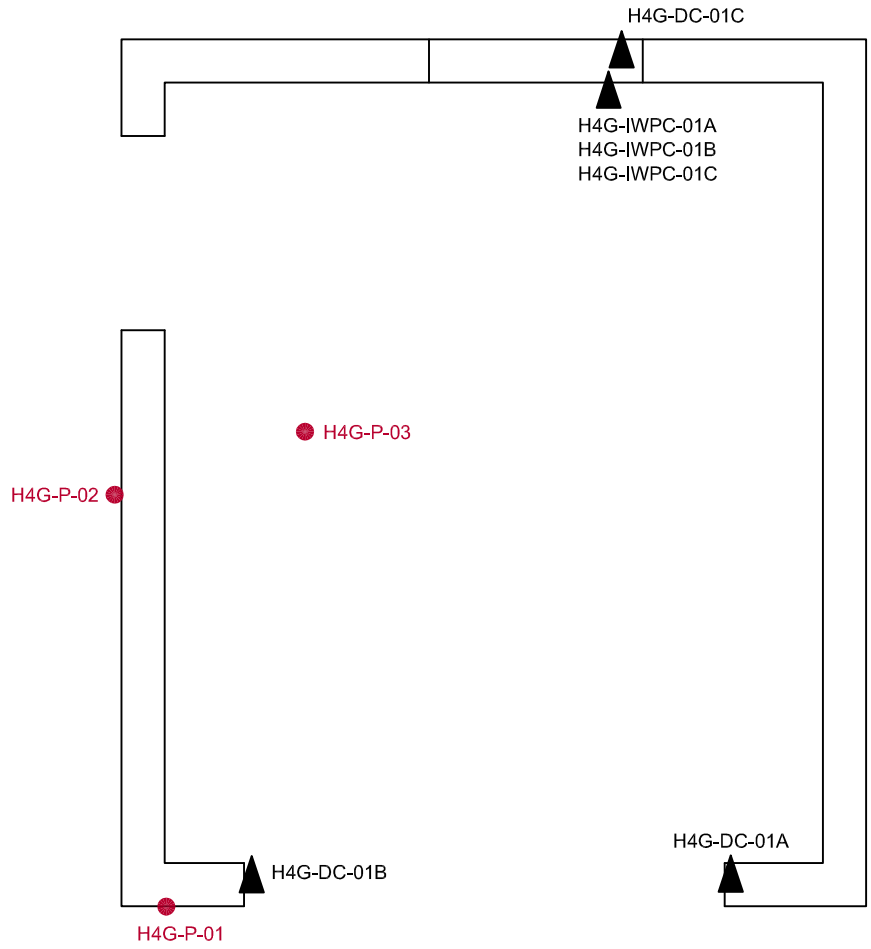
No suspected ODS-containing equipment was observed during the assessment.

R-4.7 Silica

Silica may be present in concrete and cement observed in various locations throughout.

R-5.0 RECOMMENDATIONS TO ADDRESS IDENTIFIED ISSUES – HOUSE 4 GARAGE

In general, identified hazardous building materials should be handled in accordance with the recommendations for demolition that are provided in Section 5 of the main body of this report.



HOUSE 4 GARAGE

LEGEND

- BULK SAMPLE
- PAINT CHIP SAMPLE

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

FLOOR PLAN SHOWING HAZARDOUS BUILDING MATERIALS AND BULK SAMPLE LOCATIONS

HAINES JUNCTION, YT

Client:	PARKS CANADA	**Project No.:**	144901924
		Scale:	NTS
		Date:	14/11/18
		Dwn. By:	CD DM/VM SL2014110125
		App'd By:	TW
		Dwg. No.:	R

Stantec

EMSL Canada Inc.
2756 Slough Street, Mississauga, ON L4T 1G3
Phone/Fax: 289-997-4602 / (289) 997-4607
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Analysis Date:	10/17/2014
Collected:	

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
H4G-DC-01A *551407481-0442*	DOOR CAULKING-WHITE - AROUND DOORS ON THE EXTERIOR	Brown/White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H4G-DC-01B *551407481-0443*	DOOR CAULKING-WHITE - AROUND DOORS ON THE EXTERIOR	Brown/White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H4G-DC-01C *551407481-0444*	DOOR CAULKING-WHITE - AROUND DOORS ON THE EXTERIOR	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H4G-IWPC-01A *551407481-0445*	INTERIOR WINDOW PANE CAULKING-YELLOW - BETWEEN WINDOW FRAME AND GLASS PANE ON THE INTERIOR	Brown/Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H4G-IWPC-01B *551407481-0446*	INTERIOR WINDOW PANE CAULKING-YELLOW - BETWEEN WINDOW FRAME AND GLASS PANE ON THE INTERIOR	Brown/Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
H4G-IWPC-01C *551407481-0447*	INTERIOR WINDOW PANE CAULKING-YELLOW - BETWEEN WINDOW FRAME AND GLASS PANE ON THE INTERIOR	White/Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Jon Delos Santos (2)
Nicole Yeo (4)

Kevin Pang
or other approved signatory

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

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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

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Stantec Consulting, Ltd.
500 - 4730 Kingsway
Burnaby, BC V5H 0C6

Phone: (604) 412-3004
Fax:
Received: 10/10/14 11:01 AM
Collected:

Project: **144901924.801**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
H4G-P-01	*551407512-0075* Site: WHITE COLOUR Desc: EXTERIOR SIDING		10/16/2014	<90 ppm
H4G-P-02	*551407512-0076* Site: BEIGE COLOUR Desc: INTERIOR WALLS		10/16/2014	<90 ppm
H4G-P-03	*551407512-0077* Site: GREY COLOUR Desc: FLOOR		10/16/2014	1800 ppm

Kevin Pang
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 established by the AIHA-LAP, unless specifically indicated otherwise.

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