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Pre-Demolition Hazardous Materials Survey Report

Xaxli'p First Nations

160 Main Reserve, Xaxli'p First Nations – Main Building



April 13, 2023

Apex File Number: HOM23-102.01

EXECUTIVE SUMMARY

Apex EHS Services (Apex) were retained by Xaxli'p First Nations to undertake a Pre-Demolition Hazardous Materials survey at the commercial building located at 160 Main Reserve, Xaxli'p First Nations. This survey was conducted for due diligence and regulatory compliance purposes as required by Section 20.112 of the BC Occupational Health and Safety (WorkSafeBC) Regulation.

As per the client, we understand the building was constructed prior to 1990, a period where hazardous materials were incorporated into building finishes and structures.

WorkSafeBC defines Hazardous Materials as:

- asbestos-containing material,
- lead or any other heavy metal, or
- toxic, flammable or explosive material

Other hazardous materials included in this assessment comprised ozone depleting substances (ODS), crystalline silica, mould growth and radioactive materials.

FINDINGS

Hazardous Material	Type / Location
Asbestos-containing Building Materials (ACMs)	<p>Asbestos was identified within the following materials:</p> <ul style="list-style-type: none"> • Brown Gravel Pattern Vinyl Sheet Flooring (S18) within the Main Floor: Office Bathroom (Loc. 8); • Sink Mastic (S21) applied to the Underside of the Sink within the Main Floor: North Kitchen (Loc. 6); and • Duct Tape (S23) applied to HVAC Ducting Systems within the Basement: South Area (Loc. 15) and Furnace Room (Loc. 17).
Lead in Paints	<p>Lead was identified within the following paints:</p> <ul style="list-style-type: none"> • Mustard Paint (L02) applied to Drywall within the Main Floor Main Room (Loc. 1); • White Paint (L06) applied to Wood Pillars within the Basement: Room 9 (Loc. 12), North Room (Loc. 13), South Area (Loc. 15), Room 5 (Loc. 16); • Light Blue Paint (L09) applied to Cinderblock within the Basement South Area (Loc. 15); • Blue Paint (L11) applied to Wood Stairs within the Basement Stairwell (Loc. 11); • White Paint (L12) applied to Compressed Cellulose Board within the Basement Stairwell (Loc. 11); • White Paint (L13) applied to Wood on the Exterior of the building; and • Blue Paint (L14) applied to Wood on the Exterior of the building.
Lead Products	<p>Emergency light batteries throughout the Building are assumed to contain lead.</p>
Mercury	<p>Liquid mercury is present in thermostats in Main Room (Loc. 1) and North Kitchen (Loc. 6) and mercury vapour is present in light tubes located throughout the building.</p>
Polychlorinated Biphenyls (PCBs)	<p>Light ballasts throughout the building are assumed to contain PCBs based on the date of construction.</p>
Crystalline Silica	<p>Drywall, asphalt roofing material, concrete, brick, and mortar throughout the building are assumed to contain crystalline silica.</p>

Hazardous Material	Type / Location
Ozone Depleting Substances	The wall mounted air conditioner within the North Kitchen (Loc. 6) is assumed to contain ozone depleting substances.
Radioactive Materials	Smoke detectors throughout the building are assumed to contain low levels of radioactive materials.
Mould	Approximately 10 square feet of suspect visible mould were identified on drywall within the Main Room Bathroom 2.
Flammable and Explosive Materials	Two large tanks of flammable liquid were identified on the Exterior of the building.
Biological Hazards	A significant amount of rodent droppings were identified throughout the building.

RECOMMENDATIONS

- Mould safe work procedures should be followed when entering the Main Floor Main Room Bathroom 2 (Loc. 4) and when disturbing mould impacted materials.
- All asbestos-containing material must be removed using safe work procedures and practices prior to demolition activities.
- An asbestos risk assessment must be performed by a qualified professional prior to demolition work occurring to determine the exposure risk to workers and other persons.
- Emergency light batteries should be removed and recycled prior to demolition.
- Proper procedures and documentation such as safe work practices, an exposure control plan, risk assessments and/or other controls must be developed if paints containing lead are to be removed or disturbed.
- Non-recyclable materials coated with paints containing lead should be submitted for lead leachate analysis to determine method of disposal subject to the requirements of the landfill selected for disposal.
- Light ballasts containing PCBs, and light tubes and thermostats containing mercury should be removed following safe work procedures and disposed of following federal and provincial regulations.

- Air conditioners containing ozone depleting substances should be removed or degassed by a qualified professional prior to demolition activities.
- Smoke detectors within the building should be removed and recycled prior to demolition.
- Flammable and explosive materials should be removed following safe work procedures and disposed of following federal and provincial regulations prior to demolition activities.
- Proper procedures and documentation such as safe work practices, an exposure control plan, and/or other controls must be developed prior to disturbing materials that contain crystalline silica.
- Safe work procedures should be followed when entering the building or when disturbing and removing rodent droppings. Where it is reasonable to expect that workers could be exposed to rodents (or their saliva, urine or droppings) as part of their normal job duties, employers must comply with the sections on biohazardous materials in Part 6 of Occupational Health and Safety Regulations. Under these requirements, employers will typically have to develop and implement exposure control plans that eliminate or minimize the specific risks and hazards of hantavirus in their workplace.
- If a suspect hazardous material not identified in this report is discovered during the course of demolition work this material must not be disturbed until a qualified person has collected a sample (if required) and determined whether the material is hazardous.
- A copy of this report must be posted on site.
- A visual assessment must be conducted by a qualified person and a written report must be prepared confirming the removal or safe containment of all hazardous materials identified in this report prior to commencement of demolition work.

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1.0 INTRODUCTION

Apex EHS Services (Apex) were retained by Xaxli'p First Nations to undertake a Pre-Demolition Hazardous Materials survey (HMS) at 160 Main Reserve, Xaxli'p First Nations. This survey was conducted for due diligence and regulatory compliance purposes as required by Section 20.112 of the BC Occupational Health and Safety (WorkSafeBC) Regulation.

As per the client, we understand the building was constructed prior to 1990, a period where hazardous materials were incorporated into building finishes and structures.

WorkSafeBC defines Hazardous Materials as:

- asbestos-containing material,
- lead or any other heavy metal, or
- toxic, flammable or explosive material

Other hazardous materials included in this assessment comprised ozone depleting substances (ODS), crystalline silica, mould growth and radioactive materials.

The HMS was conducted by Tye Brandt and Becky Mizzi of Apex on March 30, 2023. The objective of the HMS was to identify specified hazardous building materials in preparation for building demolition, which were determined by systematic visual assessment, selective sampling and laboratory analysis. Specific methodology employed during the HMS is included in Appendix 1. The regulatory framework pertaining to hazardous materials is included in Appendix 2. The terms of reference for this report are included in Appendix 7.

2.0 LIMITATIONS

This HMS was limited to construction materials and components. The analytical results of visually homogenous materials were extrapolated throughout the structure dependant on visual indications or other available information on estimated phases of construction. Some materials such as painted drywall surfaces and plaster finishes cannot be extrapolated with certainty. No below-grade water drainage or plumbing systems or sub-surface investigation of materials was included in the scope of this HMS.

Limited destructive testing was completed to the extent practicable. It's not possible to comprehensively evaluate all hidden spaces such as behind wall surfaces, within pipe chases and chimneys during a survey with removing all finishes that cover such areas. As such, if during the course of demolition work hidden suspect asbestos materials are identified these should not be disturbed until further evaluation can be made.

Materials assumed not to contain asbestos during this HMS included wood and wood composite materials, fiberglass, carpet, synthetic plastics, metals and concrete.

3.0 FINDINGS

Sample location drawings are included in Appendix 3. Photographs of hazardous materials are included in Appendix 4.

Hazardous material sample results and visually identified hazardous materials are shown in tables 1 to 3. Laboratory analytical results are included in Appendix 5. Asbestos health effects and WorkSafeBC asbestos risk assessment requirements are included in Appendix 6.

Table 1 - Asbestos					
Sample #	Material	Description	Location	Asbestos Content / Type	Approximate Quantity (Square Feet)*
S01 (a-g)	Drywall Joint Compound	Applied to Drywall Wall and Ceiling Boards	Throughout Main Floor (Loc. 1-10)	Not Detected	-
S02 (a-e)	Texture Coat	Applied to Drywall Ceiling Boards	Main Floor: Main Room (Loc. 1)	Not Detected	-
S03	Vinyl Floor Tile	Light Pink, Present as the 1 st Layer, Applied to Plywood	Main Floor: Main Room (Loc. 1)	Not Detected	-
S04	Vinyl Floor Tile	Medium Pink, Present as 2 nd Layer, Applied to Plywood	Main Floor: Main Room (Loc. 1 – Present as 1 st Layer), Main Room Kitchen (Loc. 2), Main Room Bathroom 1 (Loc. 3), Main Room Bathroom 2 (Loc. 4)	Not Detected	-
S05	Vinyl Floor Tile	White & Grey, Present as the 1 st Layer	Main Floor: Main Room Kitchen (Loc. 2)	Not Detected	-
S06	Vinyl Floor Tile	Beige & Brown, Present as the 1 st Layer	Main Floor: Main Room Kitchen (Loc. 2), Main Room Bathroom 1 (Loc. 3)	Not Detected	-
S07	Vinyl Floor Tile	Grey, Present as the 1 st Layer	Main Floor: Main Room Kitchen (Loc. 2), Main Room Bathroom 1 (Loc. 3)	Not Detected	-

Table 1 - Asbestos

Sample #	Material	Description	Location	Asbestos Content / Type	Approximate Quantity (Square Feet)*
S08 (a-c)	Leveling Compound	Grey, Applied Beneath Vinyl Floor Tiles	Main Floor: Main Room Kitchen (Loc. 2)	Not Detected	-
S09	Vinyl Floor Tile	White & Pink, Present as the 1 st Layer	Main Floor: Main Room Kitchen (Loc. 2), Main Room Bathroom 1 (Loc. 3)	Not Detected	-
S10	Vinyl Floor Tile	White, Pink & Blue, Present as the 1 st Layer	Main Floor: Main Room Kitchen (Loc. 2), Main Room Bathroom 2 (Loc. 4)	Not Detected	-
S11 (a-c)	Leveling Compound	Light Grey, Applied to Plywood	Main Floor: Main Room Bathroom 2 (Loc. 4)	Not Detected	-
S12	Vinyl Floor Tile	Blue, Present as the 1 st Layer	Main Floor: Main Room Bathroom 1 (Loc. 3), Main Room Bathroom 2 (Loc. 4)	Not Detected	-
S13 (a-c)	Puck Mastic	Brown, Applied Backside of Compressed Paper Board Ceiling Tiles	Main Floor: Hallway (Loc. 10)	Not Detected	-
S14	Vinyl Sheet Flooring	Beige & Pink Squares, Applied to Plywood	Main Floor: North Kitchen (Loc. 6)	Not Detected	-
S15 (a-c)	Leveling Compound	Medium Grey, Applied to Plywood	Main Floor: North Kitchen (Loc. 6)	Not Detected	-
S16	Vinyl Floor Tile	White, Applied to Plywood	Main Floor: Office 1 (Loc. 7)	Not Detected	-
S17	Vinyl Floor Tile	Black, Applied to Plywood	Main Floor: Office 1 (Loc. 7)	Not Detected	-
S18	Vinyl Sheet Flooring	Brown Gravel Pattern, Present as 1st Layer	Main Floor: Office Bathroom (Loc. 8)	60-70% / Chrysotile	16

Table 1 - Asbestos					
Sample #	Material	Description	Location	Asbestos Content / Type	Approximate Quantity (Square Feet)*
S19	Vinyl Sheet Flooring	Beige Tiles, Applied to Plywood	Main Floor: Office Bathroom (Loc. 8)	Not Detected	-
S20	Vinyl Floor Tile	Light Blue, Applied to Plywood	Main Floor: Office 2 (Loc. 9)	Not Detected	-
S21 (a-c)	Sink Mastic	Applied to Underside of Sink	Main Floor: North Kitchen (Loc. 6)	0.5-5% / Chrysotile	7
S22 (a-g)	Drywall Joint Compound	Applied to Drywall Wall and Ceiling Boards	Throughout Basement	Not Detected	-
S23 (a-c)	Duct Tape	Applied to HVAC Ducting	Basement: South Area (Loc. 15), Furnace Room (Loc. 17)	70-80% / Chrysotile	10
S24 (a-c)	Brick Mortar	Applied to Brick Chimney	Basement: Furnace Room (Loc. 17), West Area (Loc. 21)	Not Detected	-
S25	Residual Paper Backing	White, Applied to Concrete	Basement: Bathroom 1 (Loc. 14)	Not Detected	-
S26 (a-c)	Sink Mastic	White, Applied to Underside of Sink	Basement: North Room (Loc. 13)	Not Detected	-
S27	Roof Core	Applied to Plywood Roofing	Exterior	Not Detected	-
S28	Vinyl Sheet Flooring	Beige, Present as 2 nd Layer	Main Floor: Office Bathroom (Loc. 8)	Not Detected	-

Asbestos-containing materials are bolded.

*Quantities are an estimate and should not be used as an exact measurement.

Attic & wall insulation was observed to be fiberglass batts and therefore may be treated as a non-asbestos-containing material.

Table 2 - Lead Paint				
Sample #	Substrate / Colour	Location	Lead Content (%)	Approximate Quantity (Square Feet)*
L01	Drywall / White	Throughout Main Floor	<0.0085	-
L02	Drywall / Mustard	Main Floor: Main Room (Loc. 1)	0.01	900
L03	Drywall / Light Blue	Main Floor: Office 1 (Loc. 7)	<0.0085	-
L04	Drywall / Beige	Main Floor: Office Bathroom (Loc. 8)	<0.0085	-
L05	Metal Doors / White	Exterior	<0.0085	-
L06	Wood Pillars / White	Basement: Room 9 (Loc. 12), North Room (Loc. 13), South Area (Loc. 15), Room 5 (Loc. 16)	0.03	75
L07	Cinderblock / White	Basement: Room 9 (Loc. 12), North Room (Loc. 13), Room 5 (Loc. 16), Hot Water Tank Room (Loc. 19), Storage Room (Loc. 20), West Area (Loc. 21), Room 3 (Loc. 22)	<0.0085	-
L08	Drywall / White	Throughout Basement	<0.0085	-
L09	Cinderblock / Light Blue	Basement: South Area (Loc. 15)	0.04	75
L10	Concrete Floor / Blue	Throughout Basement	<0.0085	-
L11	Wood Stairs / Blue	Basement: Stairwell (Loc. 11)	0.02	40
L12	Compressed Cellulose Board / White	Basement: Stairwell (Loc. 11)	0.06	145

Table 2 - Lead Paint				
Sample #	Substrate / Colour	Location	Lead Content (%)	Approximate Quantity (Square Feet)*
L13	Wood / White	Exterior	2.28	3200
L14	Wood / Blue	Exterior	2.04	700

Lead-containing paints are bolded.

*Quantities are an estimate and should not be used as an exact measurement.

Table 3 – Other Hazardous Materials	
Material	Locations
Lead Products	Emergency light batteries throughout the Building are assumed to contain lead.
Mercury	Liquid mercury is present in thermostats in Main Room (Loc. 1) and North Kitchen (Loc. 6) and mercury vapour is present in light tubes located throughout the building.
Polychlorinated Biphenyls (PCBs)	Light ballasts throughout the building are assumed to contain PCBs based on the date of construction.
Crystalline Silica	Drywall, asphalt roofing material, concrete, brick, and mortar throughout the building are assumed to contain crystalline silica.
Ozone Depleting Substances	The wall mounted air conditioner within the North Kitchen (Loc. 6) is assumed to contain ozone depleting substances.
Radioactive Materials	Smoke detectors throughout the building are assumed to contain low levels of radioactive materials.
Mould	Approximately 10 square feet of suspect visible mould were identified on drywall within the Main Room Bathroom 2.
Flammable and Explosive Materials	Two large tanks of flammable liquid were identified on the Exterior of the building.
Biological Hazards	A significant amount of rodent droppings were identified throughout the building.

4.0 RECOMMENDATIONS

- Mould safe work procedures should be followed when entering the Main Floor Main Room Bathroom 2 (Loc. 4) and when disturbing mould impacted materials.
- All asbestos-containing material must be removed using safe work procedures and practices prior to demolition activities.
- An asbestos risk assessment must be performed by a qualified professional prior to demolition work occurring to determine the exposure risk to workers and other persons.
- Emergency light batteries should be removed and recycled prior to demolition.
- Proper procedures and documentation such as safe work practices, an exposure control plan, risk assessments and/or other controls must be developed if paints containing lead are to be removed or disturbed.
- Non-recyclable materials coated with paints containing lead should be submitted for lead leachate analysis to determine method of disposal subject to the requirements of the landfill selected for disposal.
- Light ballasts containing PCBs, and light tubes and thermostats containing mercury should be removed following safe work procedures and disposed of following federal and provincial regulations.
- Air conditioners containing ozone depleting substances should be removed or degassed by a qualified professional prior to demolition activities.
- Smoke detectors within the building should be removed and recycled prior to demolition.
- Flammable and explosive materials should be removed following safe work procedures and disposed of following federal and provincial regulations prior to demolition activities.
- Proper procedures and documentation such as safe work practices, an exposure control plan, and/or other controls must be developed prior to disturbing materials that contain crystalline silica.
- Safe work procedures should be followed when entering the building or when disturbing and removing rodent droppings. Where it is reasonable to expect that workers could be exposed to rodents (or their saliva, urine or droppings) as part of their normal job duties, employers must comply with the sections on biohazardous materials in Part 6 of Occupational Health and Safety Regulations. Under these requirements, employers will typically have to develop and implement exposure control plans that eliminate or minimize the specific risks and hazards of hantavirus in their workplace.
- If a suspect hazardous material not identified in this report is discovered during the course of demolition work this material must not be disturbed until a qualified person has collected a sample (if required) and determined whether the material is hazardous.
- A copy of this report must be posted on site.

- A visual assessment must be conducted by a qualified person and a written report must be prepared confirming the removal or safe containment of all hazardous materials identified in this report prior to commencement of demolition work.

5.0 CLOSURE

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Appendix 1 – Methodology

ASBESTOS-CONTAINING MATERIALS (ACMs)

An initial walk-through inspection was conducted throughout the structure and observations were made of the wall, ceiling, floor, and other materials including any machinery or equipment to make a preliminary determination if asbestos could be present.

To confirm or discount the presence of asbestos, representative bulk samples were collected. The sample location in the building was identified with a unique sample number. The number of representative bulk samples collected was consistent with recognized industry standards and principles of good occupational hygiene practice. The approximate quantity, location and sample locations of suspect ACMs were recorded.

Surveys are conducted and samples are collected in accordance with the WorkSafeBC Guideline to Section 20.112 of the BC Occupational Health and Safety Regulation and outlined in Safe Work Practices for Asbestos. Flooring mastic/adhesive and leveling compounds are only sampled and analyzed if present on the underside of flooring samples (vinyl floor tile and vinyl sheet flooring).

Bulk samples were submitted for analysis in accordance with PLM: Bulk Asbestos Building Materials EPA 600 R 93 / 116. 1993. The asbestos analysis was completed using a stop positive approach. Stop positive means samples in a homogenous material sample set were analyzed consecutively and when a sample was identified as asbestos-containing, further sample analysis within that sample set was not completed.

A homogenous material is defined by the US EPA as material that is uniform in texture and appearance, was installed at one time, and is unlikely to consist of more than one type or formulation of material. The homogenous materials are determined by visual examination and available information on the phases of construction and prior renovations.

Samples containing >0.5% asbestos were identified as being asbestos containing. Vermiculite insulation was identified as being asbestos containing if any trace of asbestos was found.

LEAD PAINTED MATERIALS

During the walk-through inspection a visual review of the painted surfaces was conducted for paints and coatings. Apex personnel collected representative bulk samples from the building structure. The number of representative bulk samples collected was consistent with recognized industry standards and principles of good occupational hygiene practice.

Bulk samples were submitted for lead analyses in accordance with ASTM D3335-85A "Standard Method to Test for Low Concentrations of Lead in Paint by Atomic Absorption Spectrophotometry". Chain-of-custody protocol was observed during handling and transportation of the bulk samples.

Samples containing any detectable amounts of lead were identified as lead paints.

OTHER HAZARDOUS MATERIALS

Lead products, mercury-containing thermostats, mercury-containing fluorescent tube/lamps, potentially flammable materials and potentially explosive materials were confirmed or discounted by visual inspection only, no samples were collected.

If the building was constructed prior to 1980, all fluorescent light ballasts were assumed to potentially contain PCBs unless additional information was provided. All smoke detectors were assumed to contain small quantities of radioactive materials unless additional information was provided. If present, Drywall, asphalt roofing material, concrete, cement, ceramic tile, brick, masonry and mortar were assumed to contain crystalline silica.

The potential presence of ODS in refrigeration equipment and fire suppression systems was determined by visual inspection of manufactures labels and maintenance records only.

This survey included a visual inspection of surface materials for larger areas of suspect visible mould (>10 square feet) only. Samples were not collected to confirm the presence of mould growth nor was an intrusive inspection performed for mould growth.

Appendix 2 – Regulatory Framework

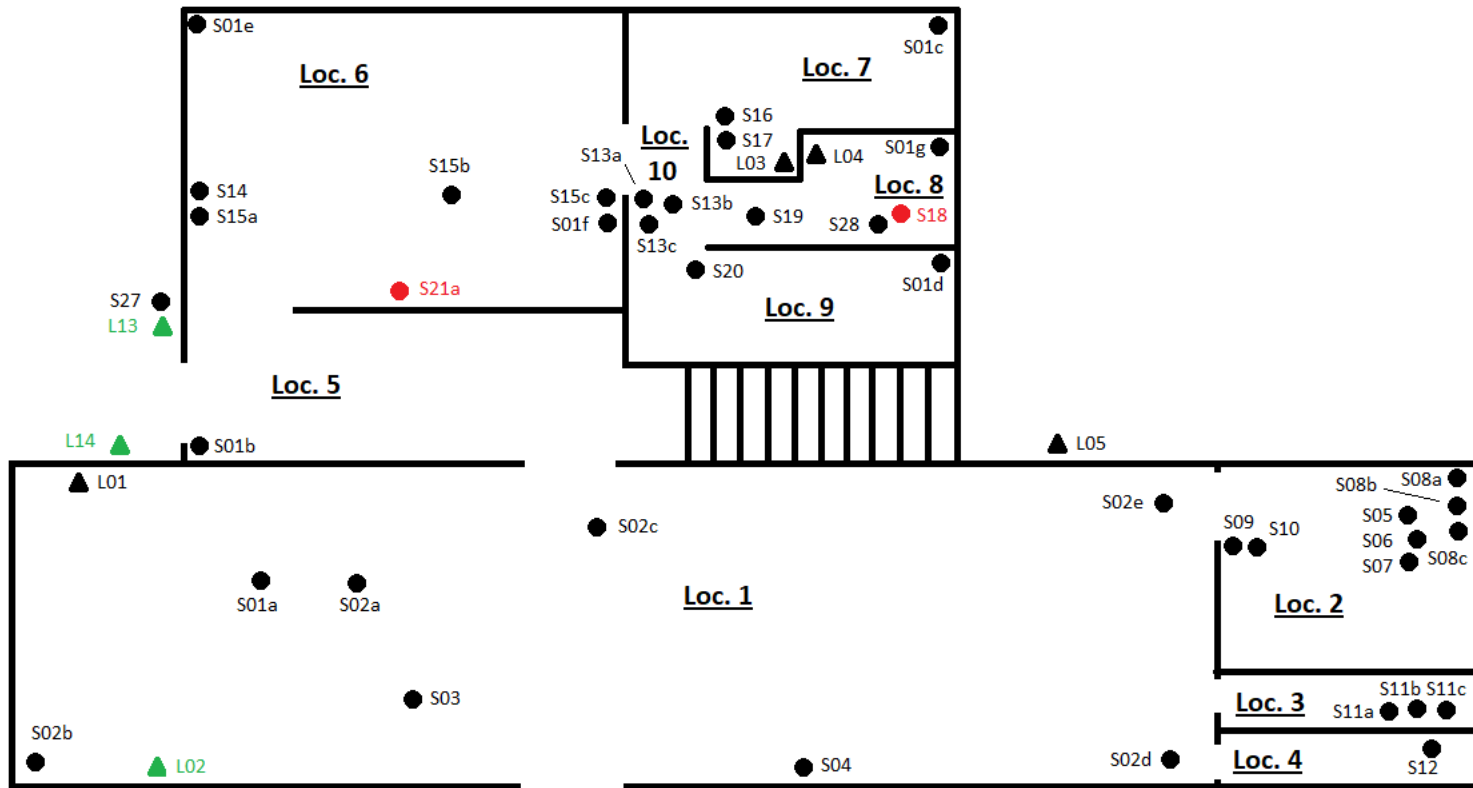
1. BC Occupational Health and Safety Regulation
2. Safe Work Practices for Handling Asbestos, WorkSafeBC, 2020
3. Hazardous Waste Regulation, BC Ministry of Environment and Climate Change Strategy
4. Ozone Depleting Substances and other Halocarbons Regulation, B.C. Reg. 220 / 2006, Environmental Management Act.
5. PCB Regulations, SOR / 2008-273, Canadian Environmental Protection Act.
6. Safe Work Practices for Handling Lead, WorkSafeBC, 2020
7. Transportation of Dangerous Goods Regulations SOR / 2008-34, Transportation of Dangerous Goods Act.

Appendix 3 – Drawing



Main Floor Locations

- 1 - Main Room
- 2 - Main Room Kitchen
- 3 - Main Room Bathroom 1
- 4 - Main Room Bathroom 2
- 5 - Main Landing
- 6 - North Kitchen
- 7 - Office 1
- 8 - Office Bathroom
- 9 - Office 2
- 10 - Hallway



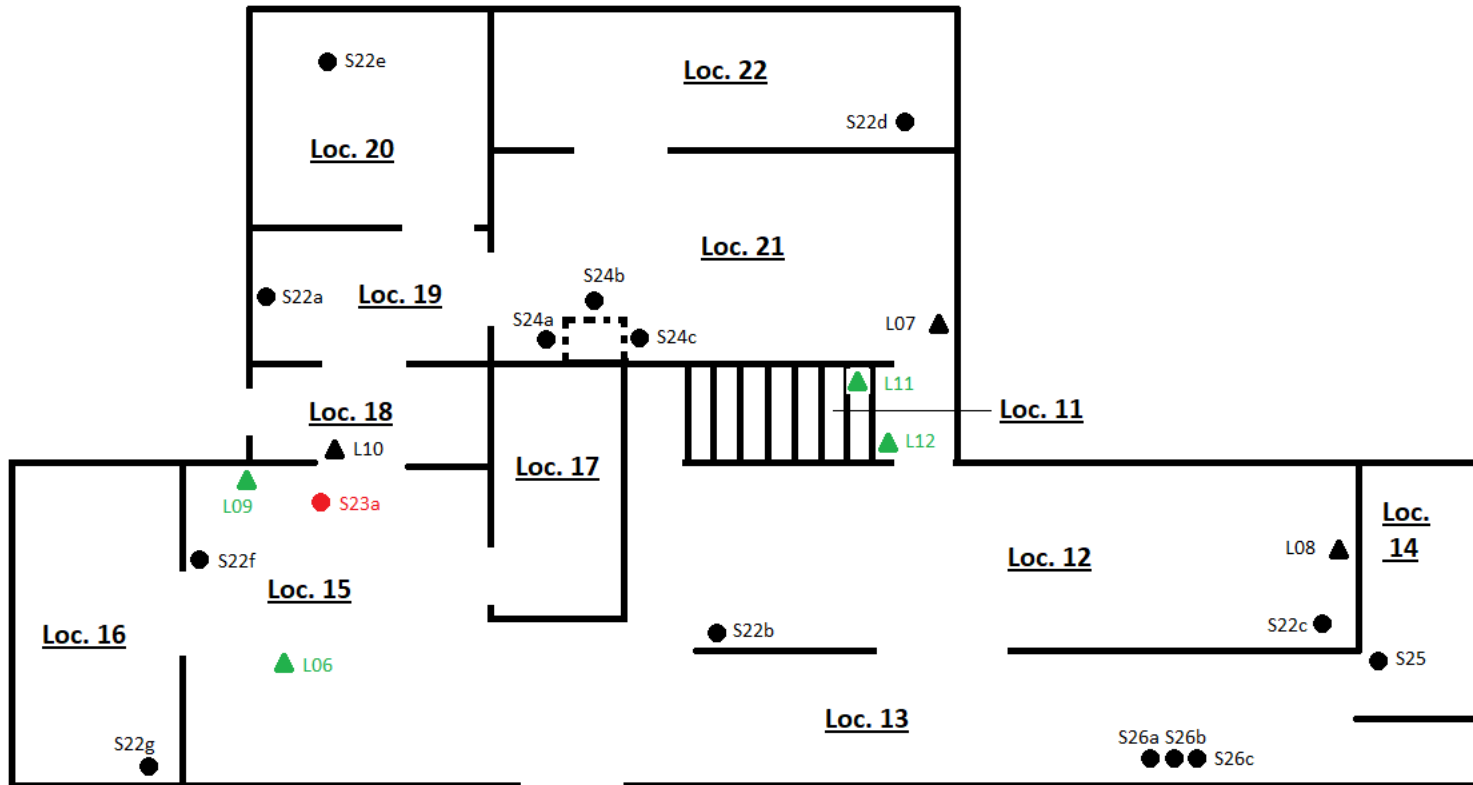
LEGEND	PROJECT NAME: Pre-Demolition Hazardous Materials Survey	DATE: April 13, 2023
<ul style="list-style-type: none"> ● Asbestos Sample Location -Positive Result ▲ Lead Sample Location -Positive Result 	PROJECT ADDRESS: 160 Main Reserve, Xaxli'p First Nations	PROJECT NO.: HOM23-102.01
	CLIENT: Xaxli'p First Nations	SCALE: NTS
		DRAWN BY: Becky Mizzi

NOTE: DRAWING IS COLOUR DEPENDENT. NON-COLOUR COPIES MAY ALTER INTERPRETATION.



Basement Locations

- 11 - Stairwell
- 12 - Room 9
- 13 - North Area
- 14 - Bathroom 1
- 15 - South Area
- 16 - Room 5
- 17 - Furnace Room
- 18 - Entry
- 19 - Hot Water Tank Room
- 20 - Storage Room
- 21 - West Area
- 22 - Room 3



LEGEND	PROJECT NAME: Pre-Demolition Hazardous Materials Survey	DATE: April 13, 2023
● Asbestos Sample Location -Positive Result	PROJECT ADDRESS: 160 Main Reserve, Xaxli'p First Nations	PROJECT NO.: HOM23-102.01
▲ Lead Sample Location -Positive Result		SCALE: NTS
	CLIENT: Xaxli'p First Nations	DRAWN BY: Becky Mizzi

NOTE: DRAWING IS COLOUR DEPENDENT. NON-COLOUR COPIES MAY ALTER INTERPRETATION.

Appendix 4 – Photographs



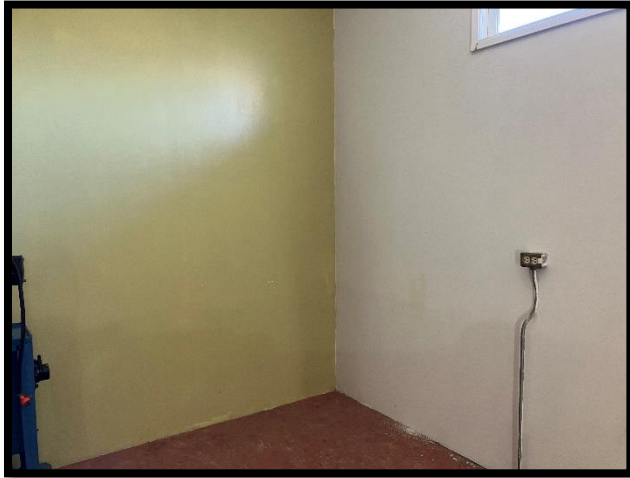
Asbestos was detected in the Gravel Pattern Vinyl Sheet Flooring (S18) within the Main Floor: Office Bathroom (Loc. 8).



Asbestos was detected in the Sink Mastic (S21) applied to the Underside of the Sink within the Main Floor: North Kitchen (Loc. 6).



Asbestos was detected in the Duct Tape (S23) applied to HVAC Ducting Systems within the Basement: South Area (Loc. 15) and Furnace Room (Loc. 17).

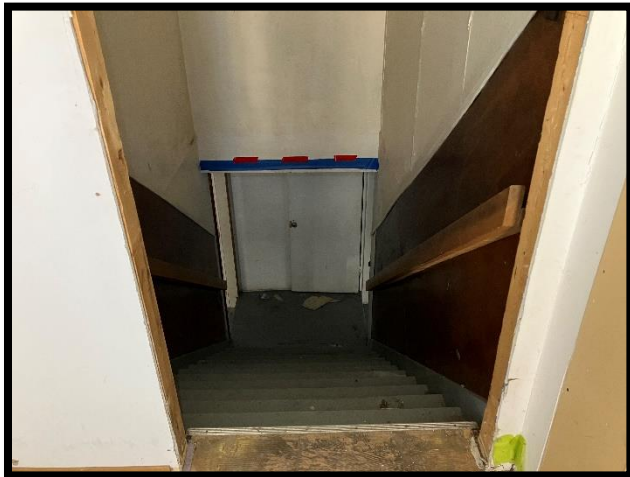


Lead was detected in the Mustard Paint (L02) applied to Drywall Wall Boards within the Main Floor: Main Room (Loc. 1).



Lead was detected in the White Paint (L06) applied to Wood Pillars within the Basement: Room 9 (Loc. 12), North Room (Loc. 13), South Area (Loc. 15) and Room 5 (Loc. 16).

Lead was detected in the Light Blue Paint (L09) applied to Cinderblock within the Basement: South Area (Loc. 15).



Lead was detected in the Blue Paint (L11) applied to Wood Stairs within the Basement Stairwell (Loc. 11).

Lead was detected in the White Paint (L12) applied to Compressed Cellulose Board within the Basement Stairwell (Loc. 11).



Lead was detected in the White Paint (L13) applied to Wood on the Exterior.

Lead was detected in the Blue Paint (L14) applied to Wood on the Exterior.

Appendix 5 – Analytical Results

ASBESTOS ANALYSIS REPORT

Client:	Xaxli'p First Nation	Apex Report No.:	HOM23-102.01
Project Location:	160 Main Reserve, Xaxli'p First Nations	Client Project No:	-
Samples Received:	60	Client Project Name:	Main Building
Samples Analyzed:	56	Date Reported:	13/04/2023

Sample No.	Lab No.	Sample Description	Sample ID	Result
S01a	104866	Single - White Compound	Drywall Joint Compound / Location 1	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S01b	104867	Single - White Compound	Drywall Joint Compound / Location 7	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S01c	104868	Single - White Compound	Drywall Joint Compound / Location 7	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S01d	104869	Single - White Compound	Drywall Joint Compound / Location 9	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S01e	104870	Single - White Compound	Drywall Joint Compound / Location 6	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S01f	104871	Single - White Compound	Drywall Joint Compound / Location 6	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S01g	104872	Single - White Compound	Drywall Joint Compound / Location 8	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S02a	104873	Single - White Compound, Fibrous	Texture Coat / Location 1	Asbestos Fibres Not Detected 0.5-5% Cellulose Fibres 95-99.5% Non-Fibrous
S02b	104874	Single - White Compound, Fibrous	Texture Coat / Location 1	Asbestos Fibres Not Detected 0.5-5% Cellulose Fibres 95-99.5% Non-Fibrous
S02c	104875	Single - White Compound, Fibrous	Texture Coat / Location 1	Asbestos Fibres Not Detected 0.5-5% Cellulose Fibres 95-99.5% Non-Fibrous
S02d	104876	Single - White Compound, Fibrous	Texture Coat / Location 1	Asbestos Fibres Not Detected 0.5-5% Cellulose Fibres 95-99.5% Non-Fibrous
S02e	104877	Single - White Compound, Fibrous	Texture Coat / Location 1	Asbestos Fibres Not Detected 0.5-5% Cellulose Fibres 95-99.5% Non-Fibrous

Method: US EPA 600/R-93/116 by Polarized Light Microscopy

Apex EHS Services Inc.

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Sample No.	Lab No.	Sample Description	Sample ID	Result
S03	104878	1st Layer - Pink Vinyl	Vinyl Floor Tile (Light Pink) / Location 1	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S03	104878	2nd Layer - Brown Glue	Vinyl Floor Tile (Light Pink) / Location 1	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S04	104879	Single - Coral Vinyl, Fibrous	Vinyl Floor Tile (Medium Pink) / Location 1	Asbestos Fibres Not Detected 10-20% Cellulose Fibres 80-90% Non-Fibrous
S05	104880	Single - Grey Vinyl	Vinyl Floor Tile (White & Grey) / Location 2	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S06	104881	Single - Beige Vinyl	Vinyl Floor Tile (Beige & Brown) / Location 2	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S07	104882	Single - Grey Vinyl	Vinyl Floor Tile (Grey) / Location 2	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S08a	104883	Single - Grey Compound, Granular	Levelling Compound / Location 2	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S08b	104884	Single - Grey Compound, Granular	Levelling Compound / Location 2	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S08c	104885	Single - Grey Compound, Granular	Levelling Compound / Location 2	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S09	104886	Single - White Vinyl	Vinyl Floor Tile (White & Pink) / Location 2	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S10	104887	Single - White Vinyl	Vinyl Floor Tile (White, Pink & Blue) / Location 2	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S11a	104888	Single - Grey Compound	Levelling Compound (Light Grey) / Location 3	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S11b	104889	Single - Grey Compound	Levelling Compound (Light Grey) / Location 3	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S11c	104890	Single - Grey Compound	Levelling Compound (Light Grey) / Location 3	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S12	104891	Single - Light Purple Vinyl	Vinyl Floor Tile (Blue) / Location 4	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S13a	104892	Single - Brown Compound	Mastic (Brown) / Location 10	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous

Method: US EPA 600/R-93/116 by Polarized Light Microscopy

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Sample No.	Lab No.	Sample Description	Sample ID	Result
S13b	104893	Single - Brown Compound	Mastic (Brown) / Location 10	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S13c	104894	Single - Brown Compound	Mastic (Brown) / Location 10	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S14	104895	1st Layer - Beige Vinyl	Vinyl Sheet Flooring (Beige & Pink Square) / Location 6	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S14	104895	2nd Layer - White Foam	Vinyl Sheet Flooring (Beige & Pink Square) / Location 6	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S14	104895	3rd Layer - Beige Compound, Fibrous	Vinyl Sheet Flooring (Beige & Pink Square) / Location 6	Asbestos Fibres Not Detected 60-70% Cellulose Fibres 30-40% Non-Fibrous
S15a	104896	Single - Grey Compound	Levelling Compound / Location 6	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S15b	104897	Single - Grey Compound	Levelling Compound / Location 6	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S15c	104898	Single - Grey Compound	Levelling Compound / Location 6	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S16	104899	1st Layer - White Vinyl	Vinyl Floor Tile (White) / Location 7	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S16	104899	2nd Layer - Black Mastic	Vinyl Floor Tile (White) / Location 7	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S17	104900	1st Layer - Black Vinyl	Vinyl Floor Tile (Black) / Location 7	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S17	104900	2nd Layer - Black Mastic	Vinyl Floor Tile (Black) / Location 7	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S18	104901	1st Layer - Beige Vinyl	Vinyl Sheet Flooring (Brown Gravel Pattern) / Location 8	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S18	104901	2nd Layer - White Foam	Vinyl Sheet Flooring (Brown Gravel Pattern) / Location 8	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S18	104901	3rd Layer - Beige Compound, Fibrous	Vinyl Sheet Flooring (Brown Gravel Pattern) / Location 8	60-70% Chrysotile Asbestos 30-40% Non-Fibrous
S19	104902	1st Layer - Cream Vinyl	Vinyl Sheet Flooring (Beige Tile) / Location 8	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous

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Sample No.	Lab No.	Sample Description	Sample ID	Result
S19	104902	2nd Layer - White Foam	Vinyl Sheet Flooring (Beige Tile) / Location 8	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S19	104902	3rd Layer - Beige Compound, Fibrous	Vinyl Sheet Flooring (Beige Tile) / Location 8	Asbestos Fibres Not Detected 5-10% Synthetic Fibres 5-10% Glass Fibres 80-90% Non-Fibrous
S20	104903	1st Layer - Light Blue Vinyl	Vinyl Floor Tile (Light Blue) / Location 9	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S20	104903	2nd Layer - Yellow Glue	Vinyl Floor Tile (Light Blue) / Location 9	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S21a	104904	Single - Black Mastic, Fibrous	Sink Mastic (Black) / Location 6	0.5-5% Chrysotile Asbestos 95-99.5% Non-Fibrous
S21b	104905	-	Sink Mastic (Blue) / Location 6	Stop Positive - Sample Not Analyzed
S21c	104906	-	Sink Mastic (Blue) / Location 6	Stop Positive - Sample Not Analyzed
S22a	104907	Single - White Compound	Drywall Joint Compound / Location 18	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S22b	104908	Single - White Compound	Drywall Joint Compound / Location 12	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S22c	104909	Single - White Compound	Drywall Joint Compound / Location 12	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S22d	104910	Single - White Compound	Drywall Joint Compound / Location 21	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S22e	104911	Single - White Compound	Drywall Joint Compound / Location 19	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S22f	104912	Single - White Compound	Drywall Joint Compound / Location 15	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S22g	104913	Single - White Compound	Drywall Joint Compound / Location 15	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S23a	104914	Single - Off-White Compound, Fibrous	Duct Tape / Location 15	70-80% Chrysotile Asbestos 20-30% Non-Fibrous
S23b	104915	-	Duct Tape / Location 15	Stop Positive - Sample Not Analyzed

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Sample No.	Lab No.	Sample Description	Sample ID	Result
S23c	104916	-	Duct Tape / Location 15	Stop Positive - Sample Not Analyzed
S24a	104917	Single - Off-White Compound, Granular	Brick Mortar / Location 21	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S24b	104918	Single - Off-White Compound, Granular	Brick Mortar / Location 21	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S24c	104919	Single - Off-White Compound, Granular	Brick Mortar / Location 21	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S25	104920	Single - Beige Compound, Fibrous	Residual Paper Backing / Location 14	Asbestos Fibres Not Detected 0.5-5% Glass Fibres 95-99.5% Non-Fibrous
S26a	104921	Single - Grey Compound, Fibrous	Sink Mastic (White) / Location 13	Asbestos Fibres Not Detected 0.5-5% Cellulose Fibres 95-99.5% Non-Fibrous
S26b	104922	Single - Grey Compound, Fibrous	Sink Mastic (White) / Location 13	Asbestos Fibres Not Detected 0.5-5% Cellulose Fibres 95-99.5% Non-Fibrous
S26c	104923	Single - Grey Compound, Fibrous	Sink Mastic (White) / Location 13	Asbestos Fibres Not Detected 0.5-5% Cellulose Fibres 95-99.5% Non-Fibrous
S27	104924	1st Layer - Black Compound	Roof Core / Exterior	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S27	104924	2nd Layer - Black Compound, Granular	Roof Core / Exterior	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S27	104924	3rd Layer - Black Compound, Fibrous	Roof Core / Exterior	Asbestos Fibres Not Detected 60-70% Cellulose Fibres 30-40% Non-Fibrous
S27	104924	4th Layer - Black Compound, Granular	Roof Core / Exterior	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S27	104924	5th Layer - Black Compound, Granular	Roof Core / Exterior	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S27	104924	6th Layer - Black Compound, Fibrous	Roof Core / Exterior	Asbestos Fibres Not Detected 60-70% Cellulose Fibres 30-40% Non-Fibrous
S27	104924	7th Layer - Black Compound, Granular	Roof Core / Exterior	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous

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Sample No.	Lab No.	Sample Description	Sample ID	Result
S28	104925	1st Layer - Beige Vinyl	Vinyl Sheet Flooring (2nd Layer, Below S18) / Location 8	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S28	104925	2nd Layer - White Foam	Vinyl Sheet Flooring (2nd Layer, Below S18) / Location 8	Asbestos Fibres Not Detected 99.5-100% Non-Fibrous
S28	104925	3rd Layer - Beige Compound, Fibrous	Vinyl Sheet Flooring (2nd Layer, Below S18) / Location 8	Asbestos Fibres Not Detected 0.5-5% Cellulose Fibres 95-99.5% Non-Fibrous

Samples analyzed in accordance with US EPA 600/R-93/116 by Polarized Light Microscopy and Apex EHS Services SOP: ASB-1 American Industrial Hygiene Association (AIHA) BAPAT Program Laboratory Number 224210
Quantification of $\geq 0.5\%$ by volume is possible with this method.
Apex EHS Services will not accept any responsibility as to the manner of interpretation or application of these results.

Authorized by:

A handwritten signature in black ink, appearing to read "Amanda Copp".

Amanda Copp, B.Sc., EP.
Laboratory Manager

Method: US EPA 600/R-93/116 by Polarized Light Microscopy

LEAD ANALYSIS REPORT

Client:	Xaxli'p First Nation	Apex Report No.:	HOM102.01
Project Location:	160 Main Reserve, Xaxli'p First Nations	Client Project No:	-
Samples Received:	14	Client Project Name:	Main Building
Samples Analyzed:	14	Date Reported:	11/04/2023

Sample No.	Lab No.	Sample Description	Weight (g)	Lead Concentration
L01	16429	White on Drywall / Location 1	0.2493 g	<0.0085 % wt
L02	16430	Mustard on Drywall / Location 1	0.2484 g	0.01 % wt
L03	16431	Light Blue on Drywall / Location 7	0.2461 g	<0.0085 % wt
L04	16432	Beige on Drywall / Location 8	0.2456 g	<0.0085 % wt
L05	16433	White on Metal / Exterior	0.2494 g	<0.0085 % wt
L06	16434	White on Wood / Location 15	0.2491 g	0.03 % wt
L07	16435	White on Cinderblock / Location 21	0.2462 g	<0.0085 % wt
L08	16436	White on Drywall / Location 12	0.2459 g	<0.0085 % wt
L09	16437	Light Blue on Cinderblock / Location 15	0.2472 g	0.04 % wt
L10	16438	Blue on Concrete / Location 18	0.2477 g	<0.0085 % wt
L11	16439	Blue on Wood / Location 11	0.2459 g	0.02 % wt
L12	16440	White on Compressed Cellulose Board / Location 11	0.2463 g	0.06 % wt
L13	16441	White on Wood / Exterior	0.2466 g	2.28 % wt
L14	16442	Blue on Wood / Exterior	0.2470 g	2.04 % wt

Samples analyzed in accordance with EPA Method 200.7/7000B and Apex EHS Services SOP of Lead Paint Analysis by FAAS.

American Industrial Hygiene Association (AIHA) ELPAT Program Laboratory Number 224210.

Reporting limit is 0.0085 % wt based on the minimum required sample weight per Apex SOP.

Apex EHS Services will not accept any responsibility as to the manner of interpretation of these results.

Apex EHS Services Inc.

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Authorized by:

A handwritten signature in black ink, appearing to read "Amanda Copp".

Amanda Copp, B.Sc., EP.
Laboratory Manager

Appendix 6 – Asbestos Health Effects & Risk Assessment Requirements

Health Hazards from Asbestos Exposure

Exposure to any type of asbestos increases the risk of cancer of the lung, larynx, and ovary, as well as mesothelioma (cancer of the lining around the outside of the lungs), and non-malignant lung and pleural disorders, including asbestosis, pleural plaques and pleural effusions.¹ There have also been positive associations between asbestos exposure and cancer of the pharynx, stomach, and colorectum.² Asbestos has been labelled a Group 1 carcinogen, a known human carcinogen, by the International Agency for Research on Cancer.²

Exposure occurs when asbestos fibres become airborne and workers inhale those fibres. Asbestos fibres are commonly small enough to be inhaled deep into the lungs. It is known that cutting, breaking, drilling, or abrading asbestos-containing materials can release asbestos fibres into the air.

When exposure to asbestos is combined with cigarette smoking, it presents a much greater risk of developing lung cancer.

WorkSafeBC Asbestos Risk Assessment Requirements

The Occupational Health and Safety Regulations (OHSR) contains legal requirements that must be met by all workplaces under the inspectional jurisdiction of WorkSafeBC. The includes most workplaces in B.C., except mines and federally chartered workplaces such as banks, interprovincial and international transportation, telephone systems, and radio, television, and cable services.

Section 6.6 of the OHSR under subsection (3), that before a work activity that involves working with or in proximity to asbestos-containing material begins, the employer must ensure that a qualified person assesses the work activity and classifies it as a low risk work activity, a moderate risk work activity or a high risk work activity.

The WorkSafeBC Occupational Health and Safety Guidelines section G6.6-1 outlines the risk assessment process. Section G6.8 of the Guidelines outlines ten common renovation and demolition scenarios for handling and removing asbestos-containing materials during demolition and renovation. These can be found on the WorkSafeBC website at:

<https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/ohs-guidelines>

¹ Canadian Centre for Occupational Health and Safety. Asbestos: Health Effects. 2012. Available from: <http://www.ccohs.ca/oshanswers/chemicals/asbestos/effects.html>

² International Agency for Research on Cancer. Monograph 100C: Asbestos (Chrysotile, amosite, crocidolite, tremolite, actinolite, and anthophyllite). 2012. Available from: <http://monographs.iarc.fr/ENG/Monographs/vol100C/mono100C-11.pdf>

Appendix 7 – Terms of Reference

- This report has been prepared in accordance with generally-accepted consulting practices and the level of care for hazardous materials and occupational health and safety consulting services. No other warranty, expressed or implied, is made.
- This report should be read in conjunction with all other communication between Apex EHS Services and the client with respect to the subject site.
- This report has been prepared in response to the specific objectives of the client as stated when Apex EHS Services was retained to carry out this project.
- This report has been prepared for the sole use of the client and no other party may rely on this report or any component of this report.
- This report remains the copyright of Apex EHS Services.
- Apex EHS Services accepts no responsibility for any damages to a third party resulting from the use of this report.
- This report is based on the conditions observed at the date of the assessment and is limited specifically to the areas defined in the report.
- Apex EHS Services has relied on any information provided by the client regarding the subject site and has assumed this information is accurate and truthful.
- This report in written or digital format must not be altered in any way by the client.