



ENVIRONMENTAL MANAGEMENT
& CONSULTING



LIMITED PRE-RENOVATION HAZARDOUS BUILDING MATERIALS ASSESSMENT

Centennial Centre
2805 Carlow Road Victoria, BC

Prepared for:
City of Langford

Prepared by:
TerraWest Environmental Inc.

Project File: LANG25-02r01

November 6, 2024

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EXECUTIVE SUMMARY

TerraWest Environmental Inc. (TerraWest) was retained by City of Langford (the 'Client') to conduct a Site visit at the property located at 2805 Carlow Road Victoria, BC herein referred to as the 'Site' for the purposes of completing a Limited Hazardous Building Materials Assessment (LHBMA) based on a scope of work provided by the Client.

The purpose of this LHBMA was to identify hazardous building materials and equipment at the Site prior to renovation activities, in accordance with the WorkSafeBC requirements outlined in the BC Occupational Health and Safety Regulation Section 20.112 - Hazardous Materials.

The scope of work provided by the Client is as follows:

The project involves the disassembly, transportation, and reassembly of a nine-container modular office building from its current location to a new site. This will include roof and soffit/fascia removal, and the relocation of plumbing, electrical and heating, ventilation and air conditioning (HVAC) systems.

The building was occupied at the time of this assessment.

Based on this information, TerraWest performed the following tasks in the areas potentially impacted as noted above:

- Visually assessed applicable building materials, finishes and systems for the potential presence of hazardous materials;
- Conducted representative sampling of materials suspected of containing asbestos and/or lead, and submitted samples to an accredited laboratory for analysis;
- Photographed sample locations and representative site conditions;
- Quantified known and suspect hazardous materials and recorded their locations and other observations in site notes;
- Developed a site plan showing sample locations, analytical results, and site information;
- Provided this assessment report, which includes site observations, analytical results, sample location site plan, representative photographs, conclusions, and recommendations.

The LHBMA was conducted by TerraWest representative Jorge Ezquerra, BSSE WSBC Certification #ASB – 10004506 on October 31, 2024

The hazardous materials table below summarizes the observations and laboratory analytical results:

Hazardous Material	Type
Asbestos-Containing Building Materials (ACMs)	None identified
Lead in Paints	None identified
Lead Products	- Sewer exhaust vents - Electrical components (connectors, conductors and solder) (potential)
Leachable Lead Materials	Not in scope
Batteries (contain heavy metals)	- Batteries in emergency lights - Batteries in fire alarm systems
Mercury	- Fluorescent light tubes - Compact fluorescent light bulbs - High pressure sodium, metal halide and/or neon lights
Pressure Treated Wood (may contain arsenic, copper and /or chromium)	Exterior fence posts
Polychlorinated Biphenyls (PCBs)	Not observed
Halocarbons	Roof top units
Radioactive Materials	Not observed
Biological Hazards	Suspected mould growth and water damage in crawlspace and above ceilings
Silica	Silica is present fibre cement siding, drywall, texture coat, plaster, ceramic tile, grout, and other cementitious building materials.
Synthetic Vitreous Fibres	Fibreglass insulation
Flammables and Explosives/Storage Tanks	Paint can in crawlspace

Where hazardous materials were found to be present, all visually similar materials in the work area must be considered hazardous and handled following WSBC regulatory requirements.

If additional suspected hazardous materials are encountered or damaged during renovation or demolition activities, work must stop immediately and materials left in place until assessed by a Qualified Professional.

This Executive Summary is subject to the same standard limitations as contain in the report and must be read in conjunction with the entire report. This document is not intended for use as a scope of work for hazardous materials abatement.

TABLE OF CONTENTS

1.0	INTRODUCTION.....	4
2.0	SCOPE OF WORK.....	4
2.1	Limitations.....	5
3.0	BUILDING DESCRIPTION.....	6
4.0	OBSERVATIONS & RESULTS.....	7
4.1	Asbestos.....	7
4.2	Lead in Paint.....	7
4.3	Other Hazardous Materials.....	8
5.0	RECOMMENDATIONS.....	9
6.0	LIMITATIONS & CLOSURE.....	12

FIGURE

Figure 1. Sample Locations and Results

APPENDICES

Appendix A	Site Photographs
Appendix B	Methodology
Appendix C	Regulatory Framework
Appendix D	Laboratory Analytical Reports

1.0 INTRODUCTION

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The purpose of this LHBMA was to identify hazardous building materials and equipment at the Site prior to renovation activities, in accordance with the WorkSafeBC requirements outlined in the BC Occupational Health and Safety Regulation Section 20.112 - Hazardous Materials.

Potential hazardous materials and equipment were identified through visual observations and/or sampling and laboratory analysis as per the scope of work outlined in Section 2.0 of this report.

Supporting evidence and data collected during this LHBMA are provided in the following:

- Sample Location Plan in Figure 1;
- Site photographs in Appendix A;
- Assessment methodologies in Appendix B;
- A summary of regulatory framework in Appendix C; and
- Laboratory analytical reports in Appendix D.

2.0 SCOPE OF WORK

The scope of work provided by the Client is as follows:

The project involves the disassembly, transportation, and reassembly of a nine-container modular office building from its current location to a new site. This will include roof and soffit/fascia removal, and the relocation of plumbing, electrical and heating, ventilation and air conditioning (HVAC) systems.

The building was occupied at the time of this assessment.

Based on this information, TerraWest performed the following tasks in the areas potentially impacted as noted above:

- Visually assessed applicable building materials, finishes and systems for the potential presence of hazardous materials;

- Conducted representative sampling of materials suspected of containing asbestos and/or lead, and submitted samples for analysis;
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- Developed a site plan showing sample locations, analytical results, and site information;
- Provided this assessment report, which includes site observations, analytical results, sample location site plan, representative photographs, conclusions, and recommendations.

The LHBMA was conducted by TerraWest representative Jorge Ezquerro, BSSE WSBC Certification #ASB – 10004506 on October 31, 2024

2.1 LIMITATIONS

This HBMA was limited to the materials and equipment identified in the scope of work provided by the Client and described above.

Analytical results of visually homogeneous materials were extrapolated to all areas to undergo the planned work, and are dependent on visual observations or other available information. Materials such as plaster finishes and painted drywall surfaces, which have a homogenous visual appearance but potentially dissimilar underlying substrate, cannot be extrapolated with certainty.

The quantities shown in the sections below are estimates only – hidden materials may be present. The contractor is responsible for verifying site conditions.

It is assumed or was visually determined that the following items did not contain asbestos:

- Laminate wood flooring (click-type)
- Ceramic tile
- Glass
- Metals
- Plastics in non-industrial applications
- PVC wall panels
- Floor tile and sheet flooring
- Acoustic ceiling tiles

Materials suspected to contain asbestos may be present and include:

- Electrical wiring and cables

These materials were not sampled as sampling would compromise system integrity, pose a safety risk to the field staff, and/or the materials may have been concealed and not readily accessible (i.e. located underground). Additional assessment of these materials for asbestos must be conducted if discovered prior to disturbance.

The table below summarizes the areas that were specifically excluded from this LHBMA:

Exclusions	Rationale
Contents	Beyond the scope of this LHBMA.
Equipment/Systems	No equipment or systems were disassembled to sample and/or assess enclosed materials.
Phase I Environmental Site Assessment	Beyond the scope of this LHBMA
Radon Testing	Beyond the scope of this LHBMA
Leachate Analysis	Beyond the Scope of this LHBMA

In addition to the limitations described above, hazardous materials may be present at the Site that were not available, accessible, or visible for observation and are therefore not included in this report.

3.0 BUILDING DESCRIPTION

The following observations were made by TerraWest at the Site:

Item	Finding/Observation
Construction/Renovation Era	1992
Total Building Area	~20000 S F
Number of Floors	1
Renovation Area	~6000 S F
Foundation	Steel joists on wood block columns
Roofing Materials	Asphalt shingles/torch-on/metal
Structural Materials/Framing	Wood frame and metal, plywood skirting on wood framing
Exterior Finishes	Painted wood siding
Interior Wall Finishes	PVC wall paneling
Ceiling Finishes	Acoustic ceiling tile on t-bar grid
Floor Finishes	Vinyl sheet flooring

Item	Finding/Observation
Insulation in Walls and Ceilings	Fibreglass (where observed)
Heating, Ventilation, and Air Conditioning System Type	Ducted forced air furnace and electric baseboard
Mechanical Insulation	None observed
Electrical	110/220V
Plumbing	PVC
Windows	Wood frame/aluminum
Putties/Caulking/Mastics	None observed

4.0 OBSERVATIONS & RESULTS

4.1 ASBESTOS

The following materials were assessed for the presence of asbestos through visual assessment or laboratory analysis. **Bolded** materials in the table below were determined to contain asbestos. All visually similar materials in the building must be assumed to be asbestos-containing. See Appendix D for a list of materials analyzed for asbestos content.

Sample ID	Sample Location(s)	Material Type	Material Location	Asbestos Type/ Percentage	Approximate Quantity (surface area)	*Abatement Risk Level
A01A, B, C	Roof – Northeast	Black mastic	Electrical conduit	None found	N/A	N/A
A02A, B, C	Roof – Northeast	White mastic	Electrical conduit	None found	N/A	N/A
A03A, B	Roof – Southeast and Northwest	Asphalt membrane	Roof	None found	N/A	N/A

*to be confirmed by abatement contractor

4.2 LEAD IN PAINT

Samples of dry paint were submitted for laboratory analysis of lead content. Those samples with a lead content greater than or equal to 90 milligrams/kilogram (mg/kg), which is equivalent to 90 parts-per-million (ppm), are considered 'lead-containing' as defined in Health Canada's Surface Coating Materials Regulation and are **bolded** in the following table:

Sample ID	Sample Location(s)	Colour/Substrate	Material Location	Lead Content (ppm)
L01	Exterior walls	Green on wood	Flashing	< 82
L02	Exterior walls	Light blue on wood	Flashing	< 82
L03	Exterior deck	Blue on wood	Deck and steps	< 80
L04	Exterior - Fence & Door trim	White paint on wood	Fence & Door trim	< 80

Concentrations of lead in paint that exceed 100 mg/kg are generally understood to be potentially leachable. Metal components with lead-based coatings can be recycled as metal construction waste without conducting a leachate test.

Lead-based paints that are not adhered to metallic surfaces slated for recycling must be analyzed for leachate through the toxicity characteristic leachate procedure prior to disposal.

4.3 OTHER HAZARDOUS MATERIALS

The following table provides a summary of other hazardous materials observed during this LHBMA:

Material	Type	Estimated Quantity/Location
Lead-Containing Products	- Roof sewer exhaust vents - Electrical components (connectors, conductors and solder) (potential)	4 vents - Electrical throughout
Batteries (contain heavy metals)	- Batteries in: - Smoke Detectors - Fire Alarm System - Emergency Lights - Exit Signs	3 Smoke detector 4 exit signs 4 emergency lights
Mercury	- Fluorescent light tubes - Compact fluorescent light bulbs - High pressure sodium, metal halide and/or neon lights	60 tubes 20 CFLs 6 lights
Pressure Treated Wood (pre-2004 lumber may contain	Fence posts on deck	4 posts

Material	Type	Estimated Quantity/Location
Chromated Copper Arsenate)		
Polychlorinated Biphenyls (PCBs)	Not identified	N/A
Halocarbons	Three rooftop heat pumps	3 heat pumps
Radioactive Materials	Not identified	N/A
Biological hazards	- Suspect mould growth in crawlspace - Water damage may support mould growth on ceilings and in ceiling cavities	- Crawlspace, throughout - MCC and Janitorial station
Crystalline Silica	Fibre cement siding, drywall, texture coat, plaster, ceramic tile, grout and other cementitious building materials are assumed to contain crystalline silica.	All cementitious building materials
Synthetic Vitreous Fibres	Fiber glass insulation in walls and ceilings above t-bar	Throughout
Flammable and Explosive Materials/Storage Tanks	Paint can in crawlspace	01

N/A – not applicable

5.0 RECOMMENDATIONS

Based on the results of the LHBMA, TerraWest recommends the following substance-specific recommendations:

1. **Lead Containing Products:** Elemental lead can be recycled as metal construction waste. Workers should exercise caution if heat is to be used to melt any lead containing products. Molten lead can produce significant quantities of inhalable lead fumes which can pose a severe health hazard. As per WorkSafeBC regulation 12.115 - "coating on metal which could emit harmful contaminants (such as lead, chromium, organic materials, or toxic combustion products) must be removed from the base metal, whenever practicable, before welding or cutting begins."
2. **Mercury Vapour in Lighting:** Care should be taken to avoid breaking fluorescent light tubes, compact fluorescent light (CFL) bulbs and high intensity discharge (HID) lights and releasing mercury vapour. Light bulbs and tubes

removed from use should be recycled at a licensed recycling facility or disposed of at a household hazardous waste recipient. Drop-off locations for commercial volumes of light bulbs and tubes (more than 16 bulbs/tubes) are listed on Recyclepedia at <https://www.rcbc.ca/> or on Product Care Recycling at <https://www.productcare.org/products/lights/british-columbia/>. Large volumes (more than one pallet of bulbs/tubes) may be eligible for free pickup – contact Product Care for details.

3. Batteries: Batteries may contain heavy metals including lead, nickel, cadmium and lithium. Batteries that are removed from use must be transported to a licenced recycling facility in accordance with the BC Environmental Management Act - Recycling Regulation. Drop-off locations for household quantities of batteries are listed on Recyclepedia at <https://www.rcbc.ca/> or on Call2Recycle at <https://www.call2recycle.ca/>. Contact Call2Recycle for details on ordering battery collection boxes or handling bulk battery shipments.
4. Crystalline Silica and Synthetic Vitreous Fibres: Workers must use caution to avoid creating airborne dust while working on or otherwise disturbing materials containing silica or synthetic vitreous fibres. Use WorkSafeBC-approved procedures in order to decrease dust levels.
5. Halocarbons: Each refrigeration, air-conditioning, and fire-extinguishing system or unit removed from service should be inspected to confirm the presence of common halocarbons including CFCs, HCFCs, halons, HFCs and PFCs. If halocarbons are present, they will require proper recovery and disposal. The BC Ozone-Depleting Substances Regulations apply to any ODS abatement procedures (Ozone Depleting Substances and Other Halocarbons Regulation, Environmental Management Act, B.C. Reg. 317/2012, including amendments). These regulations require that all ODS must be collected, stored and recycled, or collected and disposed of by a qualified technician. Recyclepedia (<https://www.rcbc.ca/>) provides a searchable list of drop-off locations for individual refrigerators and freezers as well as contact information for the Recycling Hotline, which provides local information on public and private recycling options for halocarbon-containing units.
6. Suspect Visible Mould Growth/Water Damage: Should selective removal of water-damaged or materials with suspect visible mould growth occur prior to renovation/demolition activities, the mould remediation protocol outlined in WorkSafe BC Guideline 4.79 Moulds and Indoor Air Quality, 2007, and the Canadian Construction Association document, Mould Guidelines for the Canadian Construction Industry, CCA82-2004, must be observed. A qualified environmental consultant should be engaged to assess the effectiveness of remediation activities prior to reinstatement of materials. In the event that demolition will be conducted using heavy equipment, ensure that the

equipment operator and any workers near the demolition site are protected from exposure to airborne mould and other contaminants.

7. Biological Agents/Suspect Mould Growth: The handling of biological agents must comply with Section 6 of the BC OHS Regulations – Biohazards, which involves development of an Exposure Control Plan (ECP) to mitigate or eliminate worker exposure. The ECP must be written in accordance with WorkSafeBC OHS Regulation 5.54. Further information about working with biological agents is provided in the WorkSafeBC publication Controlling Exposure: Protecting Workers from Infectious Disease (BK129).
8. Flammables and Explosives: Prior to renovation of a building, stored chemicals, flammables and explosives must first be removed, and be recycled or disposed of in accordance with the BC Ministry of Environment - Environmental Management Act - Hazardous Waste Regulation. Drop-off locations for individual product types are listed on Recyclepedia (<https://www.rcbc.ca/>). Further information about disposal of the following items is available:
 - o Household pesticides and flammable liquids: Product Care Recycling (<https://www.productcare.org/products/hhw/british-columbia/>)
 - o Household paints (<https://www.productcare.org/products/paint/british-columbia/>)
 - o Used oil, filters and antifreeze: BC Used Oil Management Association (<https://bcusedoil.com/>)
- 9.

General recommendations include:

- A copy of this report must be posted at the work site at all times.
- Prepare a scope of work for hazardous material disturbance or removal required for the planned work. The scope of work should include a risk assessment, safe work practices, personal protective equipment including respiratory protection, and disposal of waste materials.
- Provide copies of this report to Site personnel including contractors prior to commencement of work.
- WorkSafeBC Regulations require that all hazardous materials be safely removed prior to renovation or demolition or protected from damage prior to the commencement of construction. Handling, removal or disturbance of hazardous materials must be undertaken by a qualified contractor employing WorkSafeBC-approved procedures.
- WorkSafeBC requires the owner or prime contractor to submit a written Notice of Project at least 48 hours before beginning any work activity where workers may be exposed to hazardous substances (BC OHS Regulation 20.2.1). A

submission form is available at www.worksafebc.com/en/for-employers/just-for-you/submit-notice-project.

- Work must stop if previously unidentified suspected hazardous materials are encountered or inadvertently damaged or disturbed during renovation and/or demolition activities. These suspect materials must be left undisturbed until a qualified person has determined the status of the material.
- All materials in the work area that are visually similar to those identified as hazardous materials in this report must be considered hazardous and addressed accordingly.
- Retain a qualified consultant to specify, assess and verify the successful removal of hazardous materials.

6.0 LIMITATIONS & CLOSURE

This work was performed subject to the Terms and Limitations presented or referenced in the proposal for this project. TerraWest Environmental Inc. has prepared this report for the exclusive use of its Client and may be relied upon by the Client for their private business purposes. Any other third party use of this report, or reliance placed on it, or decisions taken based on it, is the responsibility of such parties. TerraWest accepts no responsibility for any damages suffered by any third party, or any claims made by any third party as a result of decisions made or actions conducted, based on this report. This report does not constitute any expression of legal opinion, and the Client is specifically advised to seek professional legal opinions with respect to applicable regulatory statutes in this matter.

Investigations described by this report were initiated on the Subject Property at the request of the Client. TerraWest's investigations were conducted in accordance with generally accepted practices of such environmental investigations. No other warranties are made, either expressed or implied.

The findings of this report are partially based on information provided to TerraWest by the Client and other individuals or organizations. While TerraWest believes that information was provided in good faith and has attempted to verify such information where possible, TerraWest does not accept any responsibility for any inaccuracies, deficiencies or omissions contained in this report, based on the use of such information.

These report findings are partially based on TerraWest's observations of Site environmental conditions, limited to the dates and specific locations of investigation. This report constitutes neither an endorsement nor a condemnation of the Subject Property.

A signed paper copy of this report constitutes the official and complete deliverable document of record in this matter. The complete report includes the main report text,

Attachments and Appendices, as identified in the Table of Contents. Should this report be distributed by means of digital transmission, or copied in paper hardcopy form, TerraWest accepts no liability for the completeness, accuracy or digital compatibility of the files provided.

TerraWest Environmental Inc.

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FIGURE



Carlow Road

Goldstream Avenue

MATERIAL CODES

AM = Asphalt membrane
MAS = Mastic
PNT = Paint



FIGURE SAMPLE LOCATIONS AND RESULTS
STOCK PILE

CLIENT: CITY OF LANGFORD

LOCATION: 2805 CARLOW ROAD, LANGFORD, BC

PROJECT: LANG25-02

INSPECTION DATE: 10/31/2024

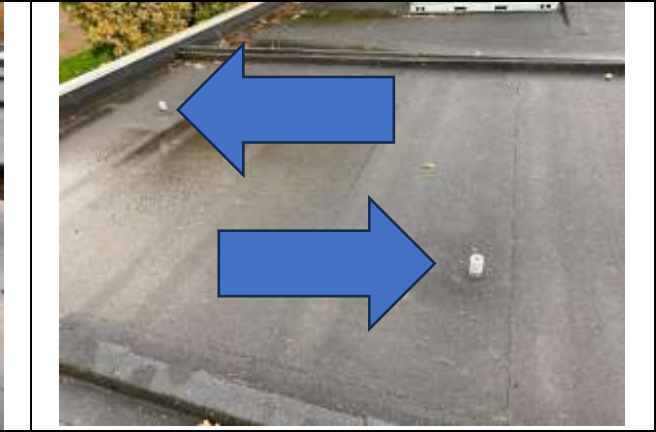
CREATED BY: JORGE EZQUERRA

LEGEND

B01 →	ASBESTOS SAMPLE LOCATION - ASBESTOS NOT DETECTED	L01 →	LEAD PAINT SAMPLE LOCATION - LEAD < 90 PPM
B01 →	ASBESTOS SAMPLE LOCATION - ASBESTOS DETECTED	L01 →	LEAD PAINT SAMPLE LOCATION - LEAD > 90 PPM
1	ROOM IDENTIFICATION		

APPENDIX A

SITE PHOTOGRAPHS

		
Sample: A01A Location: Roof – Electrical pipes Description: Black mastic Hazardous Material: None found	Sample: A03B Location: Roof Description: Asphalt membrane Hazardous Material: None found	Sample: L01 Location: Exterior Siding Description: Green on Wood Hazardous Material: Lead (<82 ppm)
		
Sample: Visual identification Location: Crawlspace Description: Paint bucket Hazardous Material: Flammables and Explosives	Sample: Visual identification Location: Roof Description: Air conditioner/Roof Top Unit Hazardous Material: Halocarbons	Sample: L01 Location: Roof Description: Lead sewer exhaust pipes Hazardous Material: Lead

		
Sample: L02 Location: Exterior Siding Description: Light Blue on Wood Hazardous Material: Lead (<82 ppm)	Sample: Visual identification Location: MCC Description: Stains on ceiling Hazardous Material: Water damage (Mould potential)	Sample: Visual identification Location: Crawlspace Description: Dark staining on subfloor of trailers Hazardous Material: Mould (suspect)

APPENDIX B

METHODOLOGY

Walk-Through

An initial walk-through is conducted throughout the building and observations are made to familiarize the inspector with the types and locations of potential hazardous building materials and develop a sampling strategy.

Destructive testing of areas such as concealed layers of flooring, wall and ceiling cavities, concrete block voids, the exterior building envelope and roofing is conducted to the extent possible by the current building use and occupancy.

Asbestos

To confirm or discount the presence of asbestos, representative bulk samples of potential asbestos-containing materials are collected. Areas of homogenous material are identified as defined in WorkSafeBC OHS Guideline 20.112 - "Homogenous material is considered uniform in texture and appearance, was likely installed at the same time and is likely to be of only one type of material or formulation". Table 2 of the Guideline is used to determine the minimum number of representative bulk samples of each homogenous material. Quantities, sample locations and locations of suspected ACM are recorded. Each sample location is identified with a unique sample number.

Certain materials (such as duct tape, asbestos cement pipe or vermiculite insulation) may be visually identified as ACM without confirmatory sampling.

The following materials are generally not sampled for safety and/or logistical reasons and are assumed to contain asbestos:

- Gaskets or packing on plumbing or mechanical equipment
- Roofing, soffit boards and fascia boards at unsafe heights
- Fibrous paints or coatings
- Elevator brake shoes
- Electrical equipment including wiring, cables and light fixtures
- Fire-rated doors
- Insulation inside of or underneath heated equipment such as boilers or incinerators

Bulk asbestos samples are handled under chain-of-custody protocol and are submitted to TerraWest Environmental Inc., Industrial Hygiene Proficiency Analytical Testing (IHPAT) Program participant, Lab# 296538 in accordance with NIOSH Method 9002.

Bulk asbestos samples are handled under chain-of-custody protocol and are submitted to an accredited laboratory for analysis in accordance with PLM: Bulk Asbestos Building Materials NIOSH 9002. If vermiculite insulation is not visually identified as asbestos containing, it must be analyzed following the Research Method for Sampling and Analysis of Fibrous Amphibole in Vermiculite Attic Insulation (EPA/600/R-04/004, dated January 2004) published by the United States Environmental Protection Agency. All materials containing over 25% vermiculite are considered as a vermiculite material or insulation and are also considered asbestos containing if any asbestos is present (even less than 0.5%), as per Safe Work Practices for Handling Asbestos, WorkSafe BC.

The asbestos analysis is completed using a stop positive approach when appropriate for site conditions. Stop positive means that a set of samples of homogenous material are analyzed consecutively and when a sample is identified as asbestos containing, the analysis is stopped and the remainder of the sample set is assumed to contain asbestos.

Samples (other than vermiculite) containing at least 0.5% asbestos are identified as being asbestos containing.

Lead in Paint

In 1976, Canada's federal Hazardous Product Act restricted concentrations of lead in new interior paints to 0.5% (5000 parts-per-million (ppm)); however, the use of lead in exterior paints was not restricted. In 1991, the Canadian

Paint and Coatings Association voluntarily lowered lead concentrations in new interior paints to 600 ppm. The Hazardous Products Act was not updated to formally recognize this 600 ppm limit until 2005 and still allowed lead to be used in certain classes of paint with a warning label. In 2010, Canada amended the Hazardous Products Act to further lower the concentration of lead in paint to 90 ppm except for certain classes of paint bearing a warning label. Therefore, interior paint manufactured before 2010 may contain greater than 90 ppm of lead.

Distinct types of paints and coatings are visually identified during the survey. If a paint is present in sufficient quantity and destructive sampling is possible, a sample is collected by scraping the surface down to the substrate to ensure that all layers are represented. Each sample is assigned a unique sample number and recorded on the sample plan.

Paint samples are handled under chain-of-custody protocol and submitted to an accredited laboratory for analysis using one or more of the following methods:

- Lead in Paint Chips by Flame Atomic Absorption Spectrophotometry (EPA Method SW-846 3050B/7000B), and/or
- Toxicity Characteristic Leaching Procedure (EPA Method SW-846 1311/7000B).

Samples containing greater than 0.009% lead (90 parts per million) are identified as lead-containing in accordance with Health Canada's Surface Coating Materials Regulations (SOR2016-193).

Samples collected for TCLP analysis include the underlying substrate (eg. paint on wood). Samples with waste extract containing greater than 5 mg/L of lead are identified as leachable lead waste in accordance with the BC Hazardous Waste Regulation (BC Reg 243/2016).

Lead in Ceramic Tile Glaze

All ceramic tile glaze is assumed to contain lead. Glazed ceramic tiles are not tested as they are not considered to be a paint or surface coating.

Bulk Lead

Suspected bulk lead products are identified by visual observation only. No samples are collected.

Polychlorinated Biphenyl-Containing Electrical Equipment

The Site is visually assessed for the presence of polychlorinated biphenyls (PCBs) in electrical equipment such as fluorescent light ballasts or fluid-filled transformers that may have been manufactured in 1980 or earlier.

An in-depth review of each ballast is to be reserved for deconstruction. Dismantling of in-service electrical equipment to observe individual ballasts is not feasible due to risk of electric shock and damage to operating fixtures. PCBs in dielectric fluids (transformers etc.), and other liquid sources are not sampled as part of this assessment.

Halocarbons

The potential presence of halocarbons in HVAC equipment, refrigeration equipment and fire suppression systems is determined by visual observation of manufacturer's labels and maintenance records only.

Pressure-Treated Lumber

Pressure-treated lumber is commonly used in decks, fences and playground structures and may be treated with preservatives containing arsenic, chromium and/or copper. According to Health Canada, structures built before 2004 may contain Chromated Copper Arsenate (CCA), which is no longer available for residential construction projects. Pressure-treated lumber is identified by visual observation only; no samples are collected. Pressure-treated lumber may be identified by a label or stamp, a pattern of slits in the wood, or a green colour. These attributes may be obscured by paint, stain or weathering.

Mercury-Containing Equipment

Mercury-containing equipment such as thermostats, manometers and fluorescent tube/lamps/bulbs are identified by visual observation only.

Batteries

Depending on the type, batteries may contain nickel, cadmium, mercury, lithium, cobalt, and copper. Batteries are visually identified only.

Radioactive Materials

Radioactive sources such as smoke detectors are identified by visual observation only as testing for radioactive materials is outside the scope of work.

Silica

All cementitious building materials including concrete, masonry, brick, mortar, stucco, stone, ceramic tile, grout, leveling or setting compound, gypsum wall board (drywall), fibre cement board, plaster and texture coat are assumed to contain crystalline silica. No sampling is conducted.

Suspect Visible Growth and Biological Agents

Observations are made to identify the presence of suspected visible growth and/or staining on surface materials. Sampling to confirm the presence of mould growth or performing an intrusive inspection of concealed areas is outside the scope of work.

Visual observations are made for evidence of rodent, avian or bat guano or other hazardous biological agents including biomedical waste, nests, damage, carcasses, traps, staining and tracks.

Synthetic Vitreous Fibres

Fibreglass insulation, mineral wool insulation and ceramic fibre insulation products identified by visual observation are assumed to contain synthetic vitreous fibres (SVF), which are also known as man-made vitreous fibres (MMVF).

Toxic, Flammable and Explosive Materials

Toxic, flammable or explosive materials, including fuel storage tanks, are identified by visual observation of manufacturer's labels, containers or tanks only. No samples are collected.

APPENDIX C

REGULATORY FRAMEWORK/REFERENCES

- *Controlling Exposure: Protecting Workers from Infectious Disease*, WorkSafeBC, 2021 (BK129).
- *Hazardous Waste Regulation*, BC Reg. 243/2016, BC Ministry of Environment, including amendments.
- *Infection Control During Construction, Renovation and Maintenance of Health Care Facilities*, Canadian Standards Association, 2017 (CAN/CSA-Z317.13-17).
- *Lead-Containing Paints and Coatings: Preventing Exposure in the Construction Industry*, WorkSafeBC, 2011 (BK93).
- *Mould Guidelines for the Canadian Construction Industry*, Canadian Construction Association, 2004 (CCA-82-2004).
- *Occupational Health and Safety Regulation*, BC Reg. 296/97, including amendments.
- O'Grady, Kelly and Amelie Perron (2011). "Reformulating Lead-Based Paint as a Problem in Canada". *American Journal of Public Health*, 101 (Suppl. 1), 176-187.
- *Ozone Depleting Substances and Other Halocarbons Regulation*, BC Reg. 220/2006, Environmental Management Act, including amendments.
- *PCB Regulations*, SOR/2008-273, Canadian Environmental Protection Act, including amendments.
- *Recycling Regulation*, BC Reg. 206/2017, Environmental Management Act, including amendments.
- *Safe Work Practices for Handling Asbestos*, WorkSafeBC, 2017 (BK27).
- *Safe Work Practices for Handling Lead*, WorkSafeBC, 2017 (BK159).
- *Staying Safe Around Treated Wood*, Health Canada, 2019.
- *Surface Coating Materials Regulations*, SOR/2016-193, Health Canada, 2016.
- *Table of Exposure Limits for Chemical and Biological Substances*, WorkSafeBC, 2019.
- *Transportation of Dangerous Goods Regulations SOR/2019-101*, Transportation of Dangerous Goods Act, including amendments.

APPENDIX D

LABORATORY ANALYTICAL REPORTS

Client:	Third Space Planning		Sampled by:	JE	
Sample address:	2805 Carlow Victoria, BC		Analysed by:	RM	
Client Number:			Date Received:	31 October 2024	
Method/ Proficiency:	NIOSH 9002 / AIHA Lab# 296538		Date Analysed:	31 October 2024	

SAMPLE				Layer			ASBESTOS CONTENT			OTHER FIBRES
#	LOCATION/ROOM	MATERIAL	SIZE (cm)	#	DESCRIPTION	%	IDENTIFIED	MINERAL	%	OTHER FIBRES/ COMMENTS
A01A	Roof - Pipe ducts	Black mastic	.5x.5x.5	1	black mastic	100	NO			5% cellulose
A01B	Roof - Pipe ducts	Black mastic	.5x.5x.5	1	black mastic	100	NO			5% cellulose
A01C	Roof - Pipe ducts	Black mastic	.5x.5x.5	1	black mastic	100	NO			5% cellulose
A02A	Roof - Pipe ducts	White mastic	3x.5x.5	1	white mastic	100	NO			2% cellulose
A02B	Roof - Pipe ducts	White mastic	.5x.5x.5	1	white mastic	100	NO			2% cellulose
A02C	Roof - Pipe ducts	White mastic	1x1x.5	1	white/ grey/ black mastic	100	NO			2% cellulose
A03A	Roof	Asphalt membrane	3x.5x.5	1	black sand on black fibrous tar	100	NO			30% mixture of cellulose and synthetics
A03B	Roof	Asphalt membrane	3x.5x.5	1	black sand on black fibrous tar	100	NO			30% mixture of cellulose and synthetics

**EMSL Canada Inc.**

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<http://www.EMSL.com>torontolab@emsl.com

EMSL Canada Or 552417648
CustomerID: 55TWEV42
CustomerPO: TPSPC25-01
ProjectID:

Attn: **Jorge Ezquerra**
Terrawest Environmental
201-716 Goldstream Ave
Victoria, BC V9B 2X3

Phone: (866) 500-1553
Fax:
Received: 11/1/2024 11:04 AM
Collected: 10/31/2024

Project: TPSPC25-01/ 2805 Carlow Road

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

<i>Client Sample</i>	<i>Description</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>RDL</i>	<i>Lead Concentration</i>
L01 552417648-0001		10/31/2024	11/4/2024	0.2443 g	82 ppm	<82 ppm
	Site: Green on wood - Exterior walls					
L02 552417648-0002		10/31/2024	11/4/2024	0.2450 g	82 ppm	<82 ppm
	Site: Light blue on wood - Exterior walls - Flashing					
L03 552417648-0003		10/31/2024	11/4/2024	0.2546 g	80 ppm	<80 ppm
	Site: Blue on wood - Exterior walls - Deck and steps					
L04 552417648-0004		10/31/2024	11/4/2024	0.2560 g	80 ppm	<80 ppm
	Site: White paint on wood - Exterior - Fence & Door trim - Room 7					

Rowena Fanto, Lead Supervisor
or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted.

* Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.008% wt based on the minimum sample weight per our SOP. "<" (less than) result signifies the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. Definitions of modifications are available upon request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON AIHA LAP, LLC-ELLAP Accredited #196142

Initial report from 11/05/2024 09:44:32