



**Pre-Demolition Hazardous Building Materials Survey
of
325 Lewis Drive, Quesnel, BC**

June 20th, 2025

**Prepared For:
The City of Quesnel**

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Executive Summary

T&T OHS was retained by the City of Quesnel (the Client) to conduct a pre-demolition hazardous building materials survey on a structure located at 325 Lewis Drive, Quesnel, BC (the site).

This hazardous materials survey was completed in accordance with Section 20.112 of the Occupational Health and Safety Regulation (B.C. Reg 296/97).

The purpose of this hazardous materials survey was to identify which materials, if any, contain asbestos and/or other hazardous materials. This report includes a list of building materials that are confirmed or suspected of containing hazardous materials.

Hazardous materials are summarized in the table below.

Table 1.0 Hazardous Materials Summary

Hazardous Material	Type and Location
Asbestos (observed)	→ No asbestos-containing building materials were identified during this investigation.
Asbestos (potentially concealed)	→ Materials commonly found to contain asbestos were observed or are suspected to be present (not sampled) including: Electrical cables, buried asbestos cement pipes, bell and spigot piping gaskets.
Lead (observed)	→ Some sampled paints contain lead concentrations greater than 90ppm
Lead (potentially concealed)	→ Elemental lead assumed to be present in seals on bell and spigot piping joints seals, solder on wiring and copper pipe joints, and roof vents and flashings.
Mercury	→ Mercury containing thermostats were not observed during this investigation; mercury containing fluorescent light tubes were observed during this investigation.
PCBs	→ Fluorescent light ballasts were observed during this investigation.
Radioactive Materials	→ Smoke detectors were not observed during this investigation.
AST/UST	→ No ASTs/USTs were observed during this investigation.
ODS	No sources of ODS were observed during this investigation.
Hantavirus / Rodent Droppings	→ Rodent droppings were not observed during this investigation.

Mould	→ Visible mould was not observed during this investigation.
Arsenic	→ Suspect CCA treated wood was not observed during this investigation.
UFFI	→ No UFFI was observed during this investigation.
Silica	→ Present in drywall, concrete, and other cementitious materials.

Where hazardous materials were found, they can be presumed to be found in similar materials throughout the building.

Recommendations for each material are outlined in section 3.0.

Copies of the analytical reports are provided in Appendix D.

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1.0 Introduction

T&T OHS was retained by the City of Quesnel (the Client) to conduct a pre-demolition hazardous building materials survey on a structure located at **325 Lewis Drive, Quesnel, BC** (the site).

This hazardous materials survey was completed in accordance with Section 20.112 of the Occupational Health and Safety Regulation (B.C. Reg 296/97). OHS Guidelines Part 6: Substance Specific Requirements G6.4 states:

- (1) The employer and the owner must ensure that a qualified person
 - (a) Collects representative samples of the materials in the workplace that the qualified person suspects may contain asbestos.

Visual identification of hazardous materials was carried out. Representative samples of building materials were collected for asbestos testing. Paint samples were collected for determination of lead content.

The purpose of this hazardous materials survey was to identify which materials, if any, contain asbestos and/or other hazardous materials. This report includes a list of building materials that are confirmed or suspected of containing hazardous materials.

The building located at 325 Lewis Drive, Quesnel, BC is a one-storey wood framed building with an approximate footprint of one thousand two hundred (1,200) square feet. The date of construction is 1985 (BC Assessment).

The structure was unoccupied during this investigation. Destructive testing was carried out.

This hazardous materials survey was limited to construction materials and components. No below-grade waterworks or plumbing systems or other sub-surface materials were included in the scope of this investigation.

Materials assumed to not contain asbestos during this hazardous materials survey include wood and wood composite materials, metals, glass, and synthetic plastics.

Visual identification of hazardous materials was carried out. Representative samples of building materials were collected for asbestos testing. Paint samples were collected for determination of lead content.

Where hazardous materials were found, they can be presumed to be found in similar materials throughout the building.

Recommendations for each material are outlined in section 3.0.

Copies of the analytical reports are provided in Appendix D.

2.0 Scope of Work

T&T OHS attended the site on June 10th, 2025. The scope of work was limited to:

- A visual inspection of all relevant areas of the structure for the presence of hazardous substances, including (but not limited to) asbestos containing materials (ACM), arsenic, lead based paints (LBP), lead-based products, radioactive materials, mould, rodent droppings and other sources of biological hazards, mercury, polychlorinated biphenyls (PCBs), ozone depleting substances (ODS), silica, and petroleum and controlled products.
- Bulk sampling and analysis of suspected ACM and LBP for the presence of asbestos and lead, respectively; and
- Make recommendations for further actions to take place prior to demolition.

According to the Client, the scope of work will be limited to:

- Full demolition of the structure.

2.1 Sampling Methodology

Representative bulk samples of suspected asbestos containing building materials were randomly collected from the building. Homogeneous material determination was based on the following criteria:

- **Similar physical characteristics (same colour and texture, etc.),**
- **Application (sprayed or trowled-on, assembly into a system, etc.),**
- **Material function (thermal insulation, floor tile, wallboard system, etc.).**
- A walkthrough of the relevant areas of the structure to determine locations of possible asbestos containing materials (ACM).
- Inspection and bulk sampling of building materials, as follows:
- A total of twelve (12) asbestos bulk samples were collected from the building during this investigation.
- Two (2) samples of tar shingle roofing material were collected during this investigation. No asbestos was detected in any of the samples.
- One (1) sample of concrete was collected from the interior floor of the building during this investigation. No asbestos was detected in any of the samples.
- Five (5) samples of textured coating/drywall joint compound were collected from interior walls/ceilings during this investigation. No asbestos was detected in any of the samples.

- Three (3) samples of drywall joint compound were collected from interior walls during this investigation. No asbestos was detected in any of the samples.
- One (1) sample of attic space insulation was collected during this investigation. No asbestos was detected in the sample.

2.2 Regulatory Criteria

As per WorkSafeBC requirements, the structure was surveyed for the presence of hazardous materials, including:

- Polychlorinated biphenyls (PCBs)
- Asbestos
- Mercury
- Arsenic
- Ozone Depleting Substances (ODS)
- Urea Formaldehyde Foam Insulation (UFFI)
- Radioactive materials
- Above- or under- ground Storage Tanks (AST/UST)
- Lead
- Hantavirus – rodent droppings
- Silica
- Mould

Regulatory information for each material is provided in Appendix A.

3.0 Results and Recommendations

If any material suspected of containing asbestos or any other hazardous material not identified in the initial scope of work is disturbed, all work must cease immediately until the area is contained, and the hazard is evaluated by a qualified professional and the hazardous materials, if present, are safely managed by a qualified contractor.

Notification

The Client has been made aware of the results of this survey. This report must be posted onsite, and site personnel need to have read and understood the content of this report prior to the commencement of work.

Hidden Hazardous Materials

Although every effort was made to collect samples of all potentially hazardous materials, they may be present at the subject site but were not visible or available for inspection during the survey and are, therefore, not described in this report.

If any suspect hazardous materials that are not described in this report are encountered during any demolition/renovation activities, all work must cease and the materials must be presumed to be hazardous and handled as such until testing determines the presence or absence of asbestos or other hazardous components, or the material is otherwise appropriately evaluated, and appropriate controls for the protection of workers and the public are put into place.

Recommendations

The following conclusions and recommendations have been based on the survey findings:

Prior to any renovation/demolition activities, T&T OHS recommends the following actions:

1. Provide copies of this report to site personnel, including contractors. A copy of the survey must be immediately available at the site whenever workers are present.
2. The contractor must have an exposure control plan in place for each hazardous substance identified in this report as being in way of the planned work.
3. Work must stop if additional suspect materials are encountered during any demolition/renovation work. These suspect materials must be left undisturbed until testing determines the presence or absence of asbestos or other hazardous materials. In addition, work must also stop in the event these suspect materials are disturbed inadvertently.

A qualified person should be retained and present on site during any demolition/renovation to identify any previously unidentified hazardous building materials should they be discovered.

Respecting Lead, Arsenic, Mercury, and other heavy metals, please note that the local landfill authority may require additional Toxicity Characteristic Leaching Procedure (TCLP) data before accepting material as 'Non-Hazardous Waste' as defined by the BC Hazardous Waste Regulations.

The recommendations pertaining to each of the identified hazardous materials within the subject building are presented in the sub-sections below.

3.1 Asbestos

All asbestos containing materials must be removed by a qualified asbestos abatement contractor.



The following asbestos-containing materials were identified from T&T OHS’s June 10th, 2025, survey:

No asbestos-containing building materials were identified during this investigation.

The following table lists materials that were not observed or sampled, either because they were not accessible or would have necessitated destructive testing. ***Before commencing any work affecting any materials in Tables 3.1, additional sampling must be conducted.***

TABLE 3.1: Summary of Materials that May / Are Presumed to Contain Asbestos

Asbestos Containing Material	Reason not Sampled
Electrical Cables	Building energized
Buried Asbestos Cement Pipes	Concealed
Wall Insulation	Concealed
Bell and spigot piping	Concealed
Fire door cores	Destructive testing
Roofing Materials	Destructive testing
Enclosed mechanical shafts	Concealed
Enclosed bulkheads	Concealed
Pipe chases	Concealed
Boilers and other mechanical equipment	Concealed
Masonry Block Insulation	Destructive Testing
Concealed flooring	Concealed / destructive testing

All procedures must be in accordance with BC Occupational Health and Safety Regulation (B.C. Reg 296/97), as exemplified in WorkSafeBC Publication BK27, ‘Safe Work Practices for Handling Asbestos’.

If any materials suspected to be asbestos containing are discovered during any demolition/renovation activities, all work must stop until samples can be analyzed. If the

materials are found to be asbestos containing, they must be removed by a qualified asbestos abatement contractor before any further work is carried out.

Prior to any work that may disturb any ACM, it is a regulatory requirement that a qualified person perform a Risk Assessment, in compliance with the Occupational Health & Safety Regulation Part 6 "Substance Specific Requirements". Identified ACMs must be removed and disposed of in accordance with the requirements of BC Reg. 296/97, by an experienced asbestos abatement contractor.

Suspected ACMs deemed visually similar to ACMs identified in this report and inaccessible ACMs not identified during this assessment should be considered asbestos containing and handled as such, unless proved 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 and the BC Hazardous Waste Regulation (BC Reg 63/88).

ACMs in good condition can be managed in place. Damaged ACMs should be addressed in accordance with the requirements of BC Reg. 296/97, as soon as possible.

3.2 Lead

The currently allowable level of lead in paint is set by Health Canada under the Canada Consumer Protection Act, Surface Coating Materials Regulation (SOR 2005-09). Under this regulation the maximum allowable concentration of lead in paint sold to consumers is 0.009% (90ppm). WorkSafeBC considers paint which contains lead at concentrations greater than 0.009% to present a potential health hazard if it is removed incorrectly. Surface coatings which contain more than 90ppm of lead may pose a potential risk to workers. **Materials with over 100ppm lead must undergo additional TCLP testing prior to disposal to determine if they should be handled as hazardous waste.**

Lead results are summarized in the table below. Any untested painted surfaces are presumed to be lead containing.

Table 3.2.1 Summary of Lead Results

Material	Location	Lead Concentration (ppm)	Health Canada Definition for Lead-Containing Paint (ppm)
Dark Brown Coloured Paint (L1)	Exterior Wood Siding	94	90
White Coloured Paint (L2)	Exterior Window Coverings/Door Trim	<80	
White Coloured Paint (L3)	Interior Main Entrance Door Frame	<80	
Dark Grey Coloured Paint (L4)	Interior Concrete Floor	367	
Cream Coloured Paint (L5)	Interior Door Trim	2,094	
Cream Coloured Paint (L6)	Interior Walls	<80	
White Coloured Paint (L7)	Interior Walls/Ceilings	<80	

ppm = parts per million

< = result is less than the limit of detection.

*substrate/matrix interference possible

Of the seven (7) paint samples collected and analyzed, three (3) had lead concentrations greater than the Health Canada limit of 90ppm.

Elemental lead may be present in seals on bell and spigot piping joints seals, solder on wiring or plumbing systems, and in other fixtures such as flashings or roof vents.

Workers must be provided with appropriate PPE for the work they will be conducting. Materials with leachable lead must be sorted from general construction waste and disposed of according to Regulations.

Demolition, corrective action, or remedial work on paint applications containing any concentration of lead should be undertaken in a manner to avoid generating fine particulate matter or dust (i.e.: avoid sanding). The use of personal protective equipment is recommended to reduce the potential for over-exposure to lead dust.

When identified or suspected lead-containing materials (i.e.: paint, solder, caulking on bell fittings) within the subject building are to be removed prior to demolition or renovation activities, ensure compliance with the following:

- Surface Coating Materials Regulations SOR/2016-193
- The occupational exposure control requirements of BC Reg 296/97
- The disposal requirements of BC Reg. 63/88
- The transportation requirements of the Federal Transportation of Dangerous Goods Regulation.

If known or suspected lead-based paint will be disturbed (e.g.: by scraping, burning, sanding, etc.) the paint shall be removed in accordance with the WorkSafeBC Occupational Health & Safety Regulation to prevent worker exposure to lead dust.

3.3 Leachable Lead

The BC Ministry of Environment and Climate Change Strategy regulates the disposal of some waste materials based on the leachability of metals and other compounds from the waste.

Under the BC Hazardous Waste Regulation materials with lead paint concentrations over 0.01 wt% (100ppm) destined for disposal at a licensed landfill facility must be tested for leachability to determine if they should be handled as a hazardous waste. The procedure for determining leachability is called the Toxicity Characteristic Leaching Procedure (TCLP). The BC Hazardous Waste Regulation limit for leachable lead is 5.0 mg/L.

No samples for TCLP lead leachate were collected during this investigation.

Consult the waste disposal facility for disposal requirements prior to disposal. Prior to demolition or renovation activities it is the responsibility of the client or the contractor to have samples collected by a qualified person and analyzed using the Toxicity Characteristic Leachate Procedure (TCLP).

3.4 Mercury

Mercury containing fluorescent light tubes were observed in the building during this investigation. Mercury containing thermostats were not observed during this investigation. No other mercury containing materials were observed.

Mercury containing materials must be removed prior to renovation/demolition activities and kept intact to prevent exposure to mercury fumes. They must be separated from general demolition waste and disposed of according to regulations. Workers should be protected with a

half mask with a mercury vapour cartridge and chemical resistant gloves when handling or working near broken light tubes/bulbs.

They should be removed, packaged for storage and transport or disposal/destruction at a licensed facility.

Mercury-containing materials identified within the subject building can be managed in place. No further action is currently required.

3.5 Polychlorinated Biphenyls – PCBs

Fluorescent light ballasts were observed in the building during this investigation.

Fixtures that will be disturbed must be removed prior to renovation/demolition activities and set aside and checked for PCB content prior to disposal.

Non-PCB containing ballasts must have a label affixed which states they do not contain PCBs. It may also be possible to determine PCB content by using guidelines in Environment Canada's document, "Identification of Light Ballasts Containing PCBs" (EPS 2/CC/2). ***If no determination can be made the ballasts must be assumed to contain PCBs. If they are determined to contain PCB's they must be disposed of in accordance with the BC Ministry of Environment guidelines at an approved disposal facility.***

PCB containing ballasts can be managed in place, where they are operating and in good condition. No further action is currently required until such time that demolition/renovation activities are to be conducted, or until 2025 when PCB-containing items will require removal and disposal.

3.6 Radioactive Components

Smoke detectors were not observed during this investigation.

Radioactive components that are identified for removal should be transported and disposed of in accordance with the following:

- The federal Transportation of Dangerous Goods Act
- The Nuclear Safety and Control Act (1997, c.9), Nuclear Substances and Radiation Devices Regulations (SOR/2000-207)

3.7 Petroleum and Controlled Products

Underground Storage Tanks (USTs) were not observed during this investigation.

Any stored and abounded chemicals and controlled products must be removed and disposed of prior to work, in accordance with the BC Ministry of Environment Hazardous Waste Regulation (Environmental Management Act).

3.8 Ozone Depleting Substances – ODS

No sources of ODS were observed during this investigation.

Sources of ODS should be removed from the work area prior to demolition/renovation activities commencing. If slated for disposal it must be degassed by a licensed technician.

When ODS containing materials within the subject building are removed and disposed of, ODSs must be handled, recycled, stored, and/or disposed of in accordance with the requirements of the Federal Halocarbon Regulations (2003). If waste is to be disposed of in British Columbia, it must be disposed of in accordance with the British Columbia Waste Management Act – Ozone Depleting Substances and other Halocarbons Regulation (BC Reg. 387/99). These regulations require that all ODS must be collected, stored, and recycled, or collected and disposed of by a qualified technician.

ODS-containing equipment can be managed in place and must be serviced by licensed refrigeration technicians.

3.9 Hantavirus – Bird and Rodent Droppings

Rodent droppings were not observed during this investigation.

If discovered during demolition activities, workers should be notified of the presence of feces and be provided with respiratory protection and/or other personal protective equipment (PPE) as deemed necessary for the work that they will be conducting.

3.10 Mould

Visible mould was not observed during this investigation. Mould may be present on hidden building materials and fabrics as well as water damaged building materials.

If discovered during renovation/demolition activities, workers should be notified of the 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.

Identified mould and/or moisture-impacted building materials should be removed in accordance with applicable guidelines and procedures for safe work (i.e.: CCA 82).

3.11 Arsenic

Treated wood was not observed during this investigation.

Although wood and wood dusts contaminated with arsenical pesticides do not require specialized disposal in BC, care must be exercised to minimize the potential for worker exposure to these materials through direct skin contact or through inhalation of dusts and fumes. Caution must be taken to ensure this material is not burned or composted if removed during demolition activities.

3.12 Urea Formaldehyde Foam Insulation – UFFI

No UFFI was observed during the investigation.

3.13 Crystalline Silica

When silica-containing materials (i.e.: drywall, concrete, etc.) within the subject building are to be removed or affected during demolition activities, workers should use caution to avoid creating airborne silica dust such that airborne silica dust concentrations do not exceed the exposure limit as stipulated by BC Reg 396/97 (0.025 mg/m³).

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 and/or HEPA equipped extraction systems attached to drills and other power equipment.
- Providing workers with facilities to properly wash prior to exiting the work area.

Silica-containing materials identified within the subject building can be managed in place. No further action is currently required.

4.0 Closure

This report has been prepared by T&T OHS exclusively for the Client, **the City of Quesnel**, and is intended to provide a survey of the potential for the presence of hazardous materials on the site. The conclusions made in this report reflect T&T OHS's best judgment in light of the information available at the time of preparation. No other warranty, expressed or implied, is made. This report may not be relied upon by any other person or entity without the express written consent of T&T OHS and the Client. 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. T&T OHS 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 findings of this report are based solely on data collected on site during this survey and on the conditions of the site during the completion of the work. T&T OHS has relied on good faith on information proved by individuals and sources noted in the report. No other warranty, expressed or implied, is made.

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.

This report is not intended for use as a scope of work for removal or as a specification section for inclusion in Tender Documents. Any unauthorized use of this report in that fashion is at the sole discretion and liability of the Owner.

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,

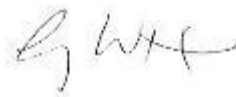
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APPENDIX A
HAZARDOUS MATERIALS



Hazardous materials are present in a large number of common building materials. These materials must be managed effectively to prevent exposure to workers and other persons, or they must be removed. In situations where work activities such as renovations and demolition will affect hazardous materials they must be removed prior to the start of work or appropriate control measures need to be implemented to ensure that workers are not exposed, and that contamination is not spread throughout the work and adjacent areas.

WorkSafeBC has established regulations regarding the handling and management of a number of hazardous materials along with guidelines for other hazardous materials. Other materials are regulated by environmental laws.

Materials that must comply with WorkSafeBC regulations include:

1. Asbestos
2. Lead
3. Silica
4. Mercury
5. Hantavirus
6. Arsenic
7. Radioactive materials

Materials that WorkSafeBC has established guidelines for include:

1. Mould

Materials that must comply with environmental regulations:

1. Polychlorinated biphenyls
2. Ozone depleting substances
3. Leachable metals
4. Urea formaldehyde foam insulation
5. Fuel oil storage tanks

Materials Subject to WorkSafeBC Regulation

Asbestos

Asbestos is a very common component of building materials. Most asbestos containing materials went out of use in the early 1980s. However, WorkSafeBC has determined that buildings constructed up to 1990 may contain asbestos and must be inspected prior to the start of renovation or demolition activities.

Asbestos becomes a hazard when it is disturbed, and airborne dust is created. Caution must be taken to ensure that asbestos containing materials are not disturbed. Asbestos exposure is known to have a number of health effects including asbestosis, lung cancer and mesothelioma.

Asbestos has been used in approximately 3000 manufactured products and is commonly found in residential structures in:

- Floor products (sheet flooring and floor tiles)
- Drywall filler compounds
- Plasters (usually in buildings constructed prior to 1930)
- Textured ceiling applications
- Duct tape (on heating system ducting and around forced air registers)
- Vermiculite
- Caulking and putties (on windows and doors and in levelling compounds)
- Cement products (siding and shingles as well as underground drainage pipes)
- Roofing felts and papers
- Pipe insulation (on piping, boilers and hot water tanks)

WorkSafeBC defines an asbestos containing material as one containing 0.5% or more asbestos by weight. Vermiculite is considered to be asbestos containing if any asbestos is present. WorkSafeBC has designated asbestos as an ALARA substance. This means that exposures to this material must be kept “as low as reasonably achievable”. Section 5.54 of the Occupational Health and Safety Regulation states that employers are required to develop and implement an exposure control plan when workers may be exposed to airborne concentrations of asbestos greater than 50% of the exposure limit.

All asbestos waste must be handled, transported and disposed of in accordance with current Ministry of Environment and Climate Change Strategy regulations.

Lead

Lead has been commonly used in paints and coatings. Coatings manufactured prior to 1970 are likely to contain high concentrations of lead. In the late 1970s, Canada restricted the concentration of lead in consumer paints to 5000 ppm. These restrictions did not apply to exterior paints. The acceptable level of lead in consumer paints was last reduced by the Federal government in 2010 to a concentration of 90 ppm. Lead can still be added to certain classes of paint, if the display panel carries a warning. Lead in paint concentration is not regulated when used in commercial or industrial worksites.

Lead becomes a hazard when painted surfaces are disturbed and airborne dust is created. Caution must be taken to ensure that lead containing materials are not disturbed. Lead exposure is known to have a number of health effects including damage to the central and peripheral nervous systems. It also affects the uptake of oxygen in the blood and can accumulate in bones. Lead is toxic to both male and female reproductive system and can have damaging effects to a developing fetus. Lead exposures can also occur when lead products are touched and lead contamination is ingested (eaten).

Lead is used in plumbing fixtures. Flashings and other products found on roofs may be made of pure lead. Lead has also been used in solders. This may be found on plumbing lines as well as on electrical equipment.

WorkSafeBC has designated lead as an ALARA substance. This means that exposures to this material must be kept “as low as reasonably achievable”. An employer must not permit workers to engage in a work activity or lead process that may expose workers to lead dust, fumes or mist unless a risk assessment has first been completed by a qualified person. If the risk assessment indicates potential for lead exposure, an exposure control plan meeting the requirements of Section 5.54 of the Occupational Health and Safety Regulation must be developed.

Waste materials with lead-based paint on them may have special disposal requirements (See Section 2.3.5). Lead paint that has been removed from building materials requires leachate testing to determine the appropriate method of disposal.

Silica

Silica is the second most common mineral on earth. It is found almost everywhere. It appears in two (2) main forms - amorphous and crystalline. Amorphous silica is not generally



considered to be a significant hazard. Crystalline silica is known to have a number of health effects including silicosis. The definition of respirable crystalline silica (RCS) includes the quartz, crystalline silica and cristobalite.

RCS becomes a hazard when it is disturbed, and airborne dust is created. Caution must be taken to ensure that silica containing materials are not disturbed.

Crystalline silica is present in a number of common building materials. These include:

- Plasters
- Cement
- Sand/gravel
- Stucco
- Drywall Filler Compounds
- Granite

As with lead, WorkSafeBC has designated crystalline silica as an ALARA substance which means that exposures to this material must be kept “as low as reasonably achievable”. Likewise, an employer must not permit workers to engage in a work activity or silica process that may expose workers to respirable crystalline silica dust unless a risk assessment has first been completed by a qualified person. If the risk assessment indicates potential for RCS exposure, an exposure control plan meeting the requirements of Section 5.54 of the Occupational Health and Safety Regulation must be developed.

Mercury

Mercury is a metal that is liquid at room temperatures and vaporizes at low temperatures. Mercury has a number of industrial uses. It is also found in thermostats, thermometers and inside fluorescent light tubes.

Mercury has a significant toxic effect on the central nervous system and can cause disease and even death. Mercury becomes a hazard when it is released into the environment. Significant concentrations of mercury can be present at room temperature because it vaporizes at low temperatures. This can occur when mercury thermometers or thermostat bulbs are broken or when fluorescent light tubes are broken.

WorkSafeBC has designated mercury as an ALARA substance. This means that exposures to this material must be kept “as low as reasonably achievable”. Section 5.54 of the Occupational Health and Safety Regulation states that employers are required to develop and implement an exposure control plan when workers may be exposed to airborne concentrations of mercury greater than 50% of the exposure limit.

All mercury waste requires disposal in accordance with current Ministry of Environment and Climate Change Strategy requirements.

Hantavirus

Hantavirus is associated with Hantavirus Pulmonary Syndrome. This disease is contracted by coming into contact with the droppings or urine of infected rodents. It can also be contracted by being bitten or scratched by infected rodents.

WorkSafeBC states that employers are required to develop and implement an exposure control plan when workers may be exposed to potentially contaminated rodent droppings.

It should be noted that diseases are associated from contact with other animal droppings, most notably Histoplasmosis, from contact with infected bird droppings.

There are no special disposal requirements for uninfected animal droppings.

Arsenic

Arsenic is a metal that is sometimes used in pesticides. It is also found in pressure treated wood products.

Exposures can occur when arsenic containing materials are disturbed and dust becomes airborne. Sawdust from cutting pressure treated wood or burning these materials can result in significant airborne arsenic concentrations.

Disposal of arsenic waste must be in accordance with current Ministry of Environment and Climate Change Strategy requirements.

Radioactive Materials

Radioactive materials are commonly found in smoke detectors. A small amount of radioactive material (²⁴¹Americium) is sealed in a metal case inside smoke detectors. This metal case must remain undisturbed to prevent exposure to radioactive materials.

Some ceramic tiles and forms of granite have also been found to contain radioactive materials. Radon is a naturally occurring gas created during the decay of other radioactive materials.

Waste smoke detectors must be disposed of in accordance with Canadian Nuclear Safety Commission requirements.

Materials Subject to WorkSafeBC Guidelines

Mould

Mould is prevalent throughout our environment. It occurs naturally with mould spores being present everywhere. Mould is nature's way of breaking down and recycling materials. Mould spores require moisture and a food source to begin growing. Water leaks (even very minor leaks) and moisture accumulation are usually sufficient for mould to begin growing.

Exposure to mould spores most often results in allergy type responses in susceptible individuals. These are similar in nature to "hay-fever" and can include runny eyes and noses and throat irritation. In more extreme cases, exposure to mould spores can result in "pneumonia-like" responses.

WorkSafeBC has not established exposure levels for airborne mould spores. WorkSafeBC does provide guidelines for dealing with mould contamination. These guidelines are included in the Indoor Air Quality regulation guidelines.

There are no special disposal requirements for mould waste.

Materials Controlled by Environmental Regulations

Polychlorinated Biphenyls

Polychlorinated biphenyls (PCBs) are regulated by both Provincial and Federal regulations. Fluorescent light ballasts containing PCBs must be treated as PCB waste and stored and disposed of in accordance with current regulations. Fluorescent light fixtures removed during demolition, construction or maintenance activities must be inspected for the presence of PCBs.

Each ballast identified as containing PCBs must be sent to a licenced facility in accordance with current regulatory requirements.

Ozone Depleting Substances

Ozone depleting substances (ODS) and chlorofluorocarbons are commonly found in older refrigerators and air conditioning units. They are sometimes found in fire suppression systems. Environmental regulations restrict the release of these compounds into the environment.

When systems or equipment contains ODS are set for disposal all the ODS must be collected for recycling or disposal by a licensed contractor.

Urea Formaldehyde Foam Insulation

Urea formaldehyde foam insulation (UFFI) was used as a retrofit insulation in older buildings. The expanding foam would be sprayed into wall and ceiling cavities to provide additional insulation in older buildings. It was most commonly used in residential settings.

Over time, in the presence of moisture, the insulation can break down and release formaldehyde gas. This insulating material was banned in 1978. Many older buildings contain UFFI.

There are no special disposal requirements for UFFI waste.

Fuel Oil Storage Tanks

Fuel oil storage tanks (above and below ground) are found in many houses and commercial buildings. The tanks can corrode and leak as they age. Spills often occur during tank filling and create contamination.

Tanks in use must be monitored to ensure that spillage and contamination does not occur. Tanks no longer in use must be removed for disposal and the surrounding soil checked for contamination.

Leachable Metals

The BC Ministry of Environment and Climate Change Strategy regulates the disposal of some waste materials based on the leachability of metals and other compounds from the waste. Testing may have to be carried out on materials removed from the building before they can be sent for disposal. This will depend on where the waste is being sent.

Within the Capital Regional District, disposal of painted waste materials at the Hartland landfill requires toxicity characteristic leaching procedure (TCLP) to determine leachable lead concentrations prior to acceptance as construction waste.

Other Materials

A number of hazardous materials may be present in a building that will be affected by renovations or demolition. These can include:

- Propane or butane cylinders
- Paint
- Solvents
- Toxic or corrosive products
- Other flammable materials

APPENDIX B

WorkSafeBC Bulk Material Sample Collection Guide



Bulk material sample collection guide

Type of material	Area of homogeneous material*	Minimum number of bulk samples to be collected**	Minimum recommended quantity per sample
Surfacing materials, including textured coatings, drywall mud, plasters, and stucco	Less than 90 m ² (approximately 1,000 sq. ft.)	At least 3 samples of each type of surfacing material	50 cm ³ (3 cu. in.); for drywall mud, sample the mud only — do not include the drywall or tape
	Between 90 and 450 m ² (approx. 5,000 sq. ft.)	At least 5 samples of each type of surfacing material	
	Greater than 450 m ²	At least 7 samples of each type of surfacing material	
Sprayed insulation and blown-in insulation, including sprayed fireproofing	Less than 90 m ² (approx. 1,000 sq. ft.)	At least 3 samples	50 cm ³ (3 cu. in.)
	Between 90 and 450 m ² (approx. 5,000 sq. ft.)	At least 5 samples	
	Greater than 450 m ²	At least 7 samples	
Loose vermiculite insulation (including vermiculite insulation within concrete masonry units, or CMUs)	Less than 90 m ² (approx. 1,000 sq. ft.)	At least 3 samples	4 L (1 gal.); collect from the top to the bottom of the application to get a representative sample
	Between 90 and 450 m ² (approx. 5,000 sq. ft.)	At least 5 samples	
	Greater than 450 m ²	At least 7 samples	
Ceiling tiles	Less than 90 m ² (approx. 1,000 sq. ft.)	At least 3 samples	5 cm x 5 cm (2 in. x 2 in.)
	Between 90 and 450 m ² (approx. 5,000 sq. ft.)	At least 5 samples	
	Greater than 450 m ²	At least 7 samples	
Flooring, including vinyl sheet flooring (and backing) and floor tiles	Any size	At least 1 sample per flooring type in each room (and 1 from each layer of flooring)	5 cm x 5 cm (2 in. x 2 in.)

Type of material	Area of homogeneous material*	Minimum number of bulk samples to be collected**	Minimum recommended quantity per sample
Levelling compounds and mortars	Any size	At least 3 samples	50 cm ³ (3 cu. in.)
Asbestos ropes, gaskets, wires, etc.	Any size	At least 1 sample	5 linear cm (2 linear in.) or 5 cm x 5 cm (2 in. x 2 in.)
Mechanical insulation, including duct taping, pipe insulation, elbows, and boiler/tank or vessel insulation	Any size	At least 3 samples	50 cm ³ (3 cu. in.); all layers must be collected down to the pipe, tank, or vessel
Mastics and putties, including duct mastic (around penetrations) and window putty	Any size	At least 3 samples	15 cm ³ (1 cu. in.)
Roofing materials, including felting and shingles	Less than 90 m ² (approx. 1,000 sq. ft.)	At least 1 sample (each layer of material must be sampled)	5 cm x 5 cm (2 in. x 2 in.); collect all layers, down to the sheathing
	Between 90 and 450 m ² (approx. 5,000 sq. ft.)	At least 2 samples (each layer of material must be sampled)	
	Greater than 450 m ²	At least 3 samples (each layer of material must be sampled)	
Asbestos cement (transite) board and pipe	Any size	At least 1 sample	5 cm x 5 cm (2 in. x 2 in.)
Other sprayed materials	Any size	At least 1 sample per type of material	1 full, small Ziploc bag
Other non-friable products	Any size	At least 1 sample per type of material	5 cm x 5 cm (2 in. x 2 in.)

* Homogeneous material is considered uniform in texture and appearance, was installed at one time, and is likely to be of only one type of material or formulation.

** If the material is assumed to contain asbestos, samples do not have to be collected. The professional judgment of a qualified person can be used to reduce the number of bulk samples of homogeneous materials. If fewer samples than the minimum recommended number are collected, surveyors should document the rationale for their position in the survey report.

APPENDIX C

PHOTOGRAPHS



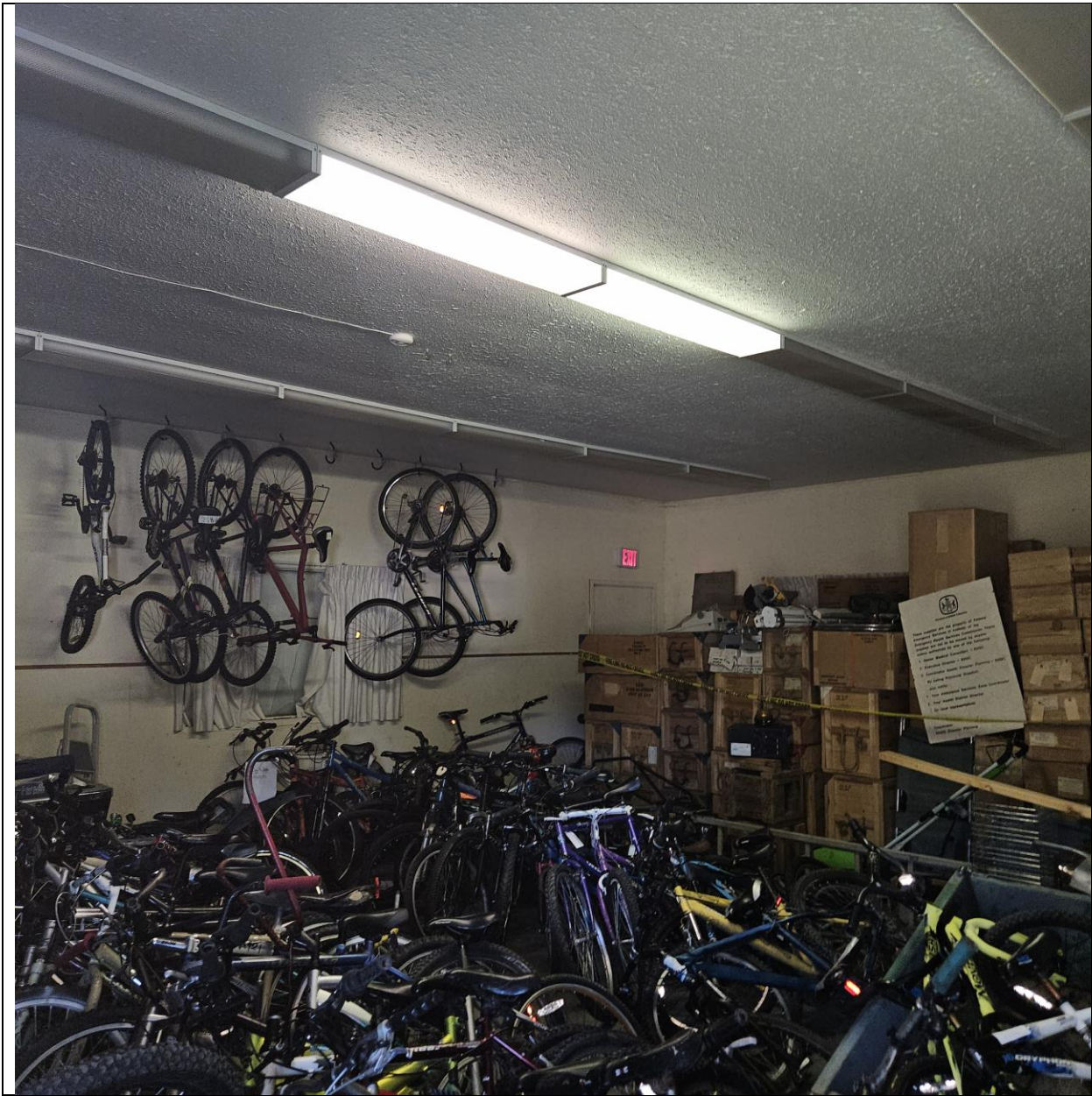


Photo 1	Date: 10-June-2025	Location: Interior
Description: View showing interior of the structure		



Photo 2	Date: 10-June-2025	Location: Interior
Description: View showing the interior of the structure.		

APPENDIX D

LABORATORY RESULTS

T&T OHS ASBESTOS BULK SAMPLE ANALYSIS

TSOLUM & TSABLE ENVIRONMENTAL LTD. LEAD IN PAINT ANALYSIS - #2733





Asbestos Bulk Sample Report

www.ttohs.com

This is a Record of Analysis only and does not imply representative sampling was achieved with respect to WorkSafeBC Regulations or that samples were collected by a Qualified Person

Project #: 2733
 Client: City of Quesnel
 Site: 325 Lewis Drive, Quesnel, BC
 PO#:

Sampled by: Ca
 Date Sampled: 10-June-2025
 Analyst: GW

Unit #2-1962 Quinn St. South
 Prince George, BC
 250.563.8484
gwong@ttohs.com

Sample #	Location	Material	Analysis Date	Layer	Description	%	Asbestos	%	Other Materials	%
2733-1	Roof	Tar Shingle	11-June-2025	1	Red and Beige-painted Aggregates and Black Tar Shards	15	None Detected	-	Non-fibrous	100
				2	Black Tar-coated Fibre Mat	85	None Detected	-	Fiberglass Non-fibrous	65 35
2733-2	Roof	Tar Shingle	11-June-2025	1	Red and Beige-painted Aggregates and Black Tar Shards	15	None Detected	-	Non-fibrous	100
				2	Black Tar-coated Fibre Mat	85	None Detected	-	Fiberglass Non-fibrous	65 35
2733-3	Interior Concrete Floor	Concrete	11-June-2025	1	Grey Paint	20	None Detected	-	Non-fibrous	100
				2	Tan Cementitious Chalky Mix with Aggregates and Silicates	80	None Detected	-	Cellulose Non-fibrous	5 95



Asbestos Bulk Sample Report

www.ttohs.com

Sample #	Location	Material	Analysis Date	Layer	Description	%	Asbestos	%	Other Materials	%
2733-4	Hot Water Tank Room Textured Walls/ Ceiling	Textured Coating/Drywall Joint Compound	11-June-2025	1	Cream-white Paint	10	None Detected	-	Non-fibrous	100
				2	White Fibrous Chalky Mix	15	None Detected	-	Cellulose Non-fibrous	5 95
				3	Tan Paper	20	None Detected	-	Cellulose	100
				4	Cream Chalky Mix	25	None Detected	-	Cellulose Non-fibrous	2 98
				5	Tan/Beige Paper	30	None Detected	-	Cellulose	100
2733-5	First Bathroom Textured Walls/ Ceiling	Textured Coating/Drywall Joint Compound	11-June-2025	1	Cream-white Paint	10	None Detected	-	Non-fibrous	100
				2	White Fibrous Chalky Mix	15	None Detected	-	Cellulose Non-fibrous	5 95
				3	Tan Paper	20	None Detected	-	Cellulose	100
				4	Cream Chalky Mix	25	None Detected	-	Cellulose Non-fibrous	2 98
				5	Tan/Beige Paper	30	None Detected	-	Cellulose	100
2733-6	Storage Room Textured Walls/ Ceiling	Textured Coating/Drywall Joint Compound	11-June-2025	1	Cream-white Paint	10	None Detected	-	Non-fibrous	100
				2	White Fibrous Chalky Mix	15	None Detected	-	Cellulose Non-fibrous	5 95
				3	Tan Paper	20	None Detected	-	Cellulose	100
				4	Cream Chalky Mix	25	None Detected	-	Cellulose Non-fibrous	2 98
				5	Tan/Beige Paper	30	None Detected	-	Cellulose	100
2733-7	Storage Room Bathroom Textured Walls/ Ceiling	Textured Coating/Drywall Joint Compound	11-June-2025	1	Cream-white Paint	10	None Detected	-	Non-fibrous	100
				2	White Fibrous Chalky Mix	15	None Detected	-	Cellulose Non-fibrous	5 95
				3	Tan Paper	20	None Detected	-	Cellulose	100
				4	Cream Chalky Mix	25	None Detected	-	Cellulose Non-fibrous	2 98
				5	Tan/Beige Paper	30	None Detected	-	Cellulose	100



Asbestos Bulk Sample Report

www.ttohs.com

Sample #	Location	Material	Analysis Date	Layer	Description	%	Asbestos	%	Other Materials	%
2733-8	Hot Water Tank Room Textured Walls/ Ceiling	Textured Coating/Drywall Joint Compound	11-June-2025	1	Cream-white Paint	10	None Detected	-	Non-fibrous	100
				2	White Fibrous Chalky Mix	15	None Detected	-	Cellulose Non-fibrous	5 95
				3	Tan Paper	20	None Detected	-	Cellulose	100
				4	Cream Chalky Mix	25	None Detected	-	Cellulose Non-fibrous	2 98
				5	Tan/Beige Paper	30	None Detected	-	Cellulose	100
2733-9	Main Storage Area Walls	Drywall Joint Compound	11-June-2025	1	Light Yellow/White Paint	15	None Detected	-	Non-fibrous	100
				2	White Chalky Mix 1	20	None Detected	-	Cellulose Non-fibrous	2 98
				3	Tan Paper	20	None Detected	-	Cellulose	100
				4	White Chalky Mix 2	10	None Detected	-	Cellulose Non-fibrous	3 97
				5	Tan/Beige Paper	35	None Detected	-	Cellulose	100
2733-10	Main Storage Area Walls	Drywall Joint Compound	11-June-2025	1	Light Yellow/White Paint	15	None Detected	-	Non-fibrous	100
				2	White Chalky Mix 1	15	None Detected	-	Cellulose Non-fibrous	2 98
				3	Tan Paper	20	None Detected	-	Cellulose	100
				4	White Chalky Mix 2	15	None Detected	-	Cellulose Non-fibrous	2 98
				5	Tan/Beige Paper	35	None Detected	-	Cellulose	100
2733-11	Main Storage Area Walls	Drywall Joint Compound	11-June-2025	1	Light Yellow/White Paint	15	None Detected	-	Non-fibrous	100
				2	White Chalky Mix 1	20	None Detected	-	Cellulose Non-fibrous	2 98
				3	Tan Paper	20	None Detected	-	Cellulose	100
				4	White Chalky Mix 2	10	None Detected	-	Cellulose Non-fibrous	3 97
				5	Tan/Beige Paper	35	None Detected	-	Cellulose	100

Analyzed in accordance with NIOSH Method 9002
 AIHA Proficiency Program Lab ID# 264415



Asbestos Bulk Sample Report

www.ttohs.com

Sample #	Location	Material	Analysis Date	Layer	Description	%	Asbestos	%	Other Materials	%
2733-12	Attic Space	Insulation	11-June-2025	1	Loose White Fibrous Mix	10	None Detected	-	Cellulose	100
				2	Loose Pink Fibrous Mix	15	None Detected	-	Fiberglass	100
				3	Loose Beige Wood Fragments	5	None Detected	-	Cellulose	100
				4	Loose Dark Brown and Grey Fibrous Extrusion Pellets with Fine Aggregates	70	None Detected	-	Cellulose Non-fibrous	35 65



Tsolum and Tstable Environmental Ltd.

800A 8th Street
Courtenay, BC V9N 1N8
Tel: (250) 871-8638
Fax: (250) 871-8639
www.tsolum.com

Lead Certificate of Analysis

Client Project #: 2733

Report Version: v1

Client: City of Quesnel
Site Address: 325 Lewis Drive, Quesnel, BC
PO:

Samples analyzed in accordance with TTE-AM-1000, Determination of Lead in Paint by Flame-AAS. Method Limit of Detection is 80 ppm

Sample Date: 10 June 2025
Sampled By: TTOHS(CA)
Analysis Date: 18 June 2025
Analyst: HW

Lab Sample Number	Sample Description	Location	***Concentration (ppm)	Concentration (% by weight)
2733 L1	Dark Brown Paint	Exterior Wood Siding	94	0.00944
2733 L2	White Paint	Exterior Window Coverings/Door Trim	<80	<0.008
2733 L3	White Paint	Interior Main Entrance Door Frame	<80	<0.008
2733 L4	Dark Grey Paint	Interior Concrete Floor	367	0.0367
2733 L5	Cream Paint	Interior Door Trim	2094	0.209
2733 L6	Cream Paint	Interior Walls	<80	<0.008
2733 L7	White Paint	Interior Walls/Ceilings	<80	<0.008

Notes:

- * Insufficient sample provided to perform QC reanalysis (< 200mg)
- ** Not enough sample provided to analyze (<100mg)
- *** Matrix/ substrate interference possible



CHAIN OF CUSTODY FORM

Payment Info	
Amount:	_____
Date Received:	_____
Send Invoice:	_____
Pynt Type:	_____

Client Information		Office Use Only	
Company:	City of Quesnel	TTOHS Project #:	2733
Name:	Brad Emslie	Received By:	_____
Billing Contact:	_____	Date Received:	_____
Billing Address:	_____	Time Received:	_____
Billing Email:	_____	Reporting Email:	carnett@ttohs.com
Office Phone:	_____	Cell Phone:	_____
		Fax:	_____

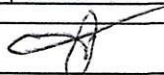
Sample Information

Project Details			
Site Address:	325 Lewis Drive	Client Project #	2733
	Quesnel, BC	PO #	_____

Requested Analysis	Turn Around Time	See current Schedule of Fees for rates	Results Due
<input type="checkbox"/> Bulk Asbestos <input type="checkbox"/> Aerosol Fibre <input checked="" type="checkbox"/> Lead in Paint* <input type="checkbox"/> Lead - TCLP* <input type="checkbox"/> Mould* <input type="checkbox"/> Other _____	<input checked="" type="checkbox"/> Regular 1 week <input type="checkbox"/> 4 Day <input type="checkbox"/> 3 Day <input type="checkbox"/> 2 Day <input type="checkbox"/> Next Day <input type="checkbox"/> Same Day		

*plus 2 day shipping and courier charge for Outside Services

Sample Details				
Lab Use (ID #)	Client Sample ID	Sample Type	Sample Location (i.e.: kitchen, attic, etc)	Sampled By / Date
Z0176-	L1	Dark Brwn Paint	Exterior Wood Siding	CA/10-June-2025
Z0176-	L2	White Paint	Exterior Window Coverings/Door Trim	CA/10-June-2025
Z0176-	L3	White Paint	Interior Main Entrance Door Frame	CA/10-June-2025
Z0176-	L4	Dark Grey Paint	Interior Concrete Floor	CA/10-June-2025
Z0176-	L5	Cream Paint	Interior Door Trim	CA/10-June-2025
Z0176-	L6	Cream Paint	Interior Walls	CA/10-June-2025
Z0176-	L7	White Paint	Interior Walls/Ceilings	CA/10-June-2025
Z0176-				
Z0176-				
Z0176-				
Z0176-				

SIGN HERE:		Date/Time:	10 JUNE 2025
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