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PRE-DEMOLITION HAZARDOUS MATERIAL REPORT

SUBJECT PROPERTY ADDRESS: BUILDING #25 12740 TRITES RD. RICHMOND BC

DATE OF INSPECTION: SEP-15-2021

DATE OF ISSUANCE: SEP-29-2021

BACKGROUND

Clearco Environmental Consulting Ltd [CEC] has been retained in order to conduct a “Pre-demolition Hazardous Materials Inspection” at BUILDING#25 12740 TRITES RD.RICHMOND BC. The objective of the inspection is to identify suspect asbestos materials and other hazardous materials within the building, that may potentially be disturbed or impacted while conducting planned demolition activities. Representative bulk samples were collected of suspect asbestos materials by [CEC] personnel. All samples are submitted for laboratory analysis to confirm the presence or absence of asbestos fibers. Laboratory analytical results are included within this report.

METHODOLOGY

This inspection was conducted in adherence to BCOHSR 20.112, Part 6 section 6.6 and Guidelines (G20.112). Collection of bulk sample are performed by certified AHERA building inspectors, following hygiene principals outlined within the manual “Safe practices for Handling Asbestos”, published by **WorkSafeBC**. All suspect asbestos material bulk samples are analyzed using the NIOSH (National institute of Occupational Safety & Health) Method 9002: 1994. Our partnered third party laboratories are ISO certified, in order to ensure high accuracy and quality control of laboratory analysis. Lead samples are analyzed using “EPA SW 846 3050B/ 700B Method”. Inspection was conducted following semi-destructive methods. Samples are carefully collected to minimize the disturbance of suspect hazardous materials, in accordance to ALARA principals. **All samples are collected following the “Bulk Material Sample Collection Guide” published by WorkSafeBC.** Homogenous 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 material is assumed to contain asbestos, samples do not have to be collected. The professional judgement of a qualified inspector can be used to reduce the number of bulk samples of homogeneous materials. A secondary visual inspection is also conducted in order to identify other hazardous materials present within the confines of the building. Including but not limited to PCB containing fluorescent light ballasts & tube lights, Mercury containing switches, Lead coatings, CFC’s in refrigerants, Mold/ fungi growth, chemicals, solvents, accelerants, radioactive smoke detectors and other bio-hazards.

INSPECTION PARAMETERS / SCOPE OF WORK

The subject building is slated for demolition for the purpose of new construction. All interior and exterior surfaces of the building were inspected to identify and / or sample suspect asbestos and lead containing materials.

ASBESTOS CONTAINING MATERIALS

TOTAL NUMBER OF BULK SAMPLES COLLECTED	{33}
TOTAL NUMBER OF SAMPLES CONFIRMED TO CONTAIN ASBESTOS	{09}
LABORATORY ANALYSIS CONDUCTED BY	SARCOVA INDUSTRIES INC.

- The Occupational Health and Safety Regulation defines *asbestos-containing material* as containing 0.5% or more asbestos content as determined by polarized light microscopy, electron microscopy, and/or gravimetric analysis. An exception is made for vermiculite-insulation. EPA recommends all vermiculite insulation be assumed as asbestos containing material. Materials listed within the chart below are confirmed to contain asbestos through laboratory analysis.

MATERIAL TYPE	LOCATION	% & TYPE OF ASBESTOS	APPROX. QUANTITY
Vinyl Floor tile	N.W Side building washroom	1% Chrysotile	80 SQ FT
Fiber Board	West Side Electrical room behind panel	90% Chrysotile	36 SQ FT
Cement Board	West side electrical room wash station walls + Ceiling	60% Chrysotile 5% Amosite	300 SQ FT
Window Putty	Exterior North Side Wood frame window	1% Chrysotile	<50KG

- The following materials were identified on site and are historically known / assumed to contain the presence of asbestos fibers.

MATERIAL TYPE	LOCATION	ASBESTOS (Y/N)	APPROX. QUANTITY
Cast Iron Pipe / Bell Spigot Thread Gaskets	Drainage pipes Cast iron	Y	<50 KG
Mastic	Exterior roof top vents	Y	<25 KG

- The following materials were **NOT** observed at time of our inspection but may be hidden / concealed within isolated or inaccessible areas of the building. If encountered treat as ACM.

MATERIAL TYPE	LOCATION	OBSERVED (Y/N)	APPROX. QUANTITY
Vermiculite insulation	Possibly hidden behind wall cavities, under floor boards, above ceiling space, within cinder block wall cavities or other isolated areas of the building.	N	Unknown
Penetration Putty	May be found on exterior building penetrations including on electrical, plumbing, internet and telecommunication feeds	N	Unknown
Sealing Mastic	May be concealed behind window frames, door frames, or under wood siding	N	Unknown
Adhesives	May be found behind wall mount mirrors, cabinets or other fixtures	N	Unknown
Gaskets	May be found within wall & ceiling mount light fixtures	N	Unknown
Cement Pipe	May be found around the exterior parameter of building buried below ground	N	Unknown
Air cell Pipe insulation	May be found within crawl space on radiant pipes and plumbing	N	Unknown

DISCUSSION

- Asbestos fiber board identified behind drywall surfacing material within electrical room wash station
- Washroom located on the N.W side of the building contains asbestos VFT
- Crawl space beneath the building was not accessible at time of inspection Aircell pipe wrap may be present beneath the building
- Fiber board located behind electrical panel is confirmed to be ACM
- Wood frame window located on the exterior north side of the building is confirmed to contain asbestos containing window putty

- The following materials are concluded to be negative for the presence of asbestos fibers.

MATERIAL	LOCATION
	Throughout interior of building walls & ceilings
Spray Texture	
Vinyl Floor Tile	U.floor common washroom & kitchen
Leveling Compound	Under ceramic tile throughout building
Paper Liner	Under Hardwood Flooring
Insulation	Attic space
Drywall Joint Compound	Throughout lower level
Ceiling Tiles	Throughout lower level
Asphalt Shingle	Exterior Roof

OTHER, HAZARDOUS MATERIALS CHART

- These materials were visually identified within the building at time of inspection

CFC'S	RADIOACTIVE MATERIALS	MERCURY	PCB'S	CHEMICALS	MOLD	RODENT DROPPINGS	BIO HAZARD
√	√	√	√	√	√	√	
Fridge N.W Storage room	All Smoke alarms throughout building	Thermostat Switch	Tube Lighting throughout the building	House hold cleaning chemicals Solvents, paints, strippers, accelerants	mold observed on surfaces throughout the building	Observed throughout areas of the building	

- It is the sole responsibility of the Building Owner to ensure the above identified hazardous materials are safely removed and disposed of (as required) following the Ministry of Environment's "Special Waste Regulation".

LEAD PAINT AND COATINGS CHART

- All samples were analyzed using EPA SW 846 3050B/7000B method. Samples whose lead concentration is below the Reporting Limit will be marked as “<0.009%”. Materials containing greater than 90 ppm or 0.009% lead are considered to be lead containing, and a qualified person should be consulted on the regional regulations concerning removal and disposal of such materials.

SAMPLE #	LOCATION	SUBSTRATE	COLOUR	CONCENTRATION	LEAD BASED (Y/N)
LS1787-01	North West Interior Washroom	Wood	White	0.031	Y
LS1787-02	North West Room Walls	Wood	White	0.029	Y
LS1787-03	North West Room	Wood	Silver	<0.009	N
LS1787-04	West Room	Wood	Grey	<0.009	N
LS1787-05	N.W Washroom	Wood	Dark Grey	0.087	Y
LS1787-06	Unit 2501A Structural Posts Green	Wood	Green	1.506	Y
LS1787-07	Unit 2502A Structural Post	Wood	Green	2.324	Y
LS1787-08	Unit 2503A Structural Post Green Paint	Wood	Green	2.036	Y
LS1787-09	Unit 2504A Structural Post Green Paint	Wood	Green	0.963	Y
LS1787-10	Unit 2505A Structural Post	Wood	Green	<0.009	N

LS1787-11	Exterior Wood Siding South side	Wood	Green	0.811	Y
LS1787-12	Exterior Wood Siding North side	Wood	Green	3.560	Y
LS1787-13	Exterior West side paneling	Wood	Grey	<0.009	N
LS1787-14	Exterior North Side Wood Frame Window	Wood	Green	<0.009	N
LS1787-15	Exterior North Side Parking Stop	Concrete	Yellow	1.392	Y
LS1787-16	Exterior East Side paneling	Wood	Grey	<0.009	N
LS1787-17	Exterior South Side Parking Stop	Concrete	Yellow	2.465	N
LS1787-18	Exterior cladding South	Aluminum	White	<0.009	N
LS1787-19	Exterior cladding North	Aluminum	Grey	0.013	Y
LS1787-20	Exterior Gutter	Aluminum	White	0.013	Y

- **Abrasive activities including, but not limited to, grinding, blasting, welding, power cutting, buffing, dry sanding and scraping are not to be performed until an independent risk assessment is conducted and appropriate safe work procedures are drafted. An exposure control plan is to be implemented prior to conducting any abrasive activities that may disturb lead coatings. All lead abatement activities are to follow the guidelines set forth by WorkSafeBC, published within the manual “Safe Practices for Handling Lead”.**

PRIMARY BUILDING SYSTEMS INFO

AGE OF CONSTRUCTION	1970 Timber frame construction
TOTAL AREA	16,300 SQ FT
PROPERTY TYPE/ USAGE	Seafood Packing
LEVELS	2
OCCUPANCY	Unoccupied
ATTIC INSULATION	None
WALL INSULATION	Fiber glass
ROOF TYPE	Aluminum cladding
INTERIOR WALL SYSTEMS	Wood panel
INTERIOR CEILING FINISHES	Wood panel
EXTERIOR SURFACING MATERIAL	Aluminum cladding
FLOORING TYPE	Hardwood/ Ceramic tile/ VFT/ Laminate/ VSF
WINDOW TYPE	Aluminum/ Vinyl
BEDROOMS	5
WASHROOMS	2
HEATING SYSTEM	Forced Air

➤ ADDITIONAL FIELD NOTES

Building is primarily used for storage. Building consists of timber construction with aluminum cladding and aluminum roof. Original wood siding beneath aluminum cladding. All floors throughout the interior are bare wooden plank.

WHAT IS ASBESTOS?

Asbestos is a natural mineral. This mineral is characterized by unusual qualities. Asbestos has a high heat resistance, strong enough to resist corrosion, a poor conductor of electricity, very durable and flexible. Asbestos is a great insulator against electricity and heat. Its qualities have made it very popular for many commercial utilities. Since asbestos is made of long, flexible and silky fibers, it can be used in many forms. Asbestos can be used in roofing materials, patching and spackling compound, stucco, insulating pipes, brake pads, lining cements, floor tiles, appliance wiring, drywall compounds, plaster, textures, boiler pipes, insulation, furnaces and furnace doors, among many other materials found within buildings. The performance capabilities of asbestos are difficult to match and this is why it was used extensively in building prior to the 1990's. Asbestos is a hazardous material and poses a health risk. **Anyone at risk of asbestos exposure is at risk of developing serious and chronic health problems.** In fact, no safe level of minimum exposure has ever been established for asbestos. Diseases from asbestos take a long time to develop. Asbestos poses health risks only when the fine asbestos fibers are inhaled. Exposure to asbestos may occur when working in construction-related activities such as demolition and asbestos abatement, or when workers are engaged in a wide variety of activities associated with building maintenance. Asbestos fibers can remain in the air for several hours, this means there is a long-time frame in which one can be exposed to asbestos if materials are improperly handled or disturbed. Once these fibers are inhaled, they lodge into the lungs and cause scarring that can lead to asbestosis and many types of lung cancer

WHAT ARE PCB'S?

PCB: Polychlorinated Biphenyls. PCB's have been used in many products, including electrical equipment, surface coatings, and paints. PCB's may be released into the environment through waste in landfills. Since PCB is fairly soluble in fat, it tends to build up in animal fat, and due to predation, PCB is passed along the food chain to other animals. PCB's cause a wide variety of health risks, often at low exposure levels. Some forms of PCB's act like hormones while some will act like nerve toxins. They affect the nervous, immune, endocrine, reproductive, and enzyme systems in different ways. PCB's can also cause cancers. If fluorescent light fixture(s) containing PCB's were observed during our inspection of the building, they must be handled and removed appropriately. Removal must take place prior to demolition and the disposal must be in accordance with the Ministry of Environment's "Hazardous Waste Regulation". If some light fixture(s) are observed in the building during or prior to building demolition, you must stop with the demolition immediately. The fixtures must be removed and disposed of as per the Ministry of Environment's Hazardous Waste Regulations before the building demolition can continue.

WHAT IS MERCURY?

Mercury is a metal element that occurs naturally in the environment and consists of many different forms. In its elemental form, Mercury, can form a vapor at room temperature. Inhalation of mercury vapor, absorbing, mercury through the skin or injecting it can lead to serious health problems such as organ failure, brain damage, birth defects, mental retardation, and damage to our central nervous system. Mercury is found in wall-mounted thermostats, household lamps and bulbs (fluorescent, high intensity discharge (HID), and neon lamps). Sometimes it may also be found in household switches and in paint. If found, the above listed items should be carefully disposed of as per the Ministry of Environment's "Hazardous Waste Regulation".

WHAT IS LEAD?

Lead is a natural and highly toxic metal which is extremely useful in making a variety of materials. Long-term exposure to lead can cause serious health problems because it is very toxic. Lead exposure can cause vomiting, stomach and body pains, convulsions, coma, mental developmental problems, anemia, interference with calcium absorption, brain damage and other health problems including death. Common materials in which lead is present include, oil based paints, primers and enamels which are applied to the interior/ exterior of buildings, lead vent pipes, and stained glass windows. Prior to 1986, some homes had water supply pipes which contained lead, although this is not as common. Lead may also be present in many household objects and materials.

WHAT ARE CFC'S?

Most refrigerants found in air conditioners, refrigerators, and freezers contain fluorocarbons, and many fluorocarbon compounds contain chlorine. Chlorofluorocarbon (CFC) refrigerants were commonly used in equipment manufactured before 1995. We now know that these chemicals have the potential to damage the ozone layer in the stratosphere. The ozone layer in the upper atmosphere, high above our weather systems, absorbs ultraviolet radiation from the sun and prevents it from reaching the surface of the planet, where it can be harmful to life.

HANTA VIRUS

Hantavirus Pulmonary Syndrome (HPS) is a severe, sometimes fatal, respiratory disease in humans caused by infection with hantaviruses. Anyone who comes into contact with rodents that carry hantaviruses is at risk of HPS. Rodent infestation in and around dwellings remain the primary risk for hantavirus exposure. Even healthy individuals are at risk for HPS infection if exposed to the virus.

WHAT IS SILICA?

Silica, often referred to as quartz, is a very common mineral. It is found in many materials, common on construction and oil & gas sites, including soil, sand, concrete, masonry, rock, granite, and landscaping materials. The dust created by cutting, grinding, drilling or otherwise disturbing these materials can contain crystalline silica particles. These dust particles are very small. You cannot see them. This respirable silica dust causes lung disease and lung cancer. It only takes a very small amount of airborne silica dust to create a health hazard. Recognizing that very small, respirable silica particles are hazardous, the Occupational Safety and Health Administration (OSHA) regulation 29 CFR 1926.1153 requires construction employers to keep worker exposures at or below a Permissible Exposure Level (PEL) of 50 µg/m³

HAZARDOUS MATERIAL REMOVAL

A “hazardous material” is any material that can harm people, organisms, property and even the environment. These materials are subject to regulations that dictate how and where they can be properly disposed. A hazardous material can eventually become a hazardous waste, if it is not properly discarded. These materials should be handled with extreme care and should always be discarded in a safe manner, that is accepted by the federal, provincial and municipal bylaws. Removing or disposing of hazardous materials in a manner not accepted by *WorkSafeBC’s* guidelines may lead to fines, compliance orders, and in some cases, criminal charges. It is strongly recommended, to hire a professional contractor in order to appropriately abate the hazardous materials. All hazardous materials identified within this report must be removed and disposed as per the Ministry of Environment's “*Special Waste Regulation*” and Environmental Management Act's “*Hazardous Waste Regulation*”. Furthermore, the transportation of hazardous materials must follow regulations set forth by the (*Transport of Dangerous Goods Regulation*).

ASBESTOS MATERIAL REMOVAL

It is imperative that all asbestos materials be removed by a “Qualified Contractor”. We strongly suggest, home owners do not disturb or attempt to remove hazardous materials themselves. Improper handling of asbestos or other hazardous materials, can lead to exposure and contamination concerns that may be detrimental to one’s health. The abatement Contractor must file a “Notice of Project” along with safe work procedures to *WorkSafeBC* a minimum 48 hours in advance of commencing abatement activities. The contractor is required to have an “Exposure Control Plan” in place and conduct an independent “Risk Assessment” in order to determine the most appropriate abatement controls measures. All work must be conducted in accordance to *WorkSafeBC* Guidelines, as set forth within the manual “Safe Practices for Handling Asbestos”. A copy of this report must remain on site at all times of asbestos abatement activities.

STATEMENT OF LIMITATIONS

This inspection was conducted in a semi destructive manner. This means, surface materials were penetrated to check for layers when reasonably achievable. No structural areas, walls or framed floors were demolished during the inspection. Samples were taken carefully to limit the disturbance of potential asbestos containing materials. Asbestos materials may still be present within the building due to hidden or inaccessible areas. If any suspect asbestos material is uncovered during abatement or demolition activities, work must stop, and [CEC] must be contacted immediately. All other non-tested building materials are to be assumed as ACM until further testing can prove otherwise. We cannot guarantee the presence or absence of below ground/ buried oil tanks. No x-ray screening devices were utilized to locate the presence of underground oil tanks. The owner is solely responsible to inquire about the possibility of such oil tanks, by contacting the Municipal City Hall for records or hiring an Inspector with underground oil tank screening expertise. No soil testing was conducted during the course of our inspection, further independent testing must be conducted if deemed important. No machinery or mechanical systems were dismantled during the course of our inspection. [CEC] is not responsible for any changes to site conditions post inspection. Therefore, we cannot guarantee our findings for an extended period of time. [CEC] is not responsible for any reporting inaccuracies from the laboratory analysis. Bulk sample analysis is independently conducted by third party ISO Certified laboratories. If there are any discrepancies or if you disagree with the results, the collected bulk samples may be retrieved directly from our partnered labs within 30 days of sample collection. [CEC] is not responsible for the misuse of this report. This report should not be used without the expressed permission of [CEC] personnel. If you are unsure as to whether a contractor is properly licensed and qualified, please contact *WorkSafeBC* at 604-276-3100.

If you require any further clarifications or have any questions in regards to this report, please call the office of Clearco Environmental Consulting Ltd. [CEC] and we will be happy to assist you.

Thank you for your business,

Ash Kalia EP

*Certified Environmental Professional
Occupational Health & Safety Dip.
AHERA Building Inspector# 176598
Certified Lead Risk Assessor
NIOSH 582 Certified*

A Final Word from Clearco Environmental Consulting Ltd...

The conclusions provided in this report are based on our findings and are subject to confirmations and adjustments. This report may require revision or additions as further information becomes available at the time work is carried out.

The information presented in this report is based on direct visual observation made by Clearco Environmental Consulting Ltd [CEC] personnel and in some instances information provided by others. Recommendations contained within our report reflect our informed opinion based on the information gathered during our inspection. The findings cannot be extended to components of the building or portions of the site that were not reviewed or inspected or that were concealed or unavailable for direct observation at the time of our visit. There is a possibility for additional asbestos material being present in the building which have not been identified during our visit, given the limited nature of this inspection. No legal survey, soil test, detailed structural engineering investigation, or quantity survey compilation have been made. No responsibility, therefore, is assumed concerning these matters, or for any failure to carry out those technical or engineering procedures required to discover any inherent or hidden hazardous materials within this property.

The conclusions and recommendations detailed in this report are based upon the information available at the time of preparation of the report. No investigative method eliminates the possibility of obtaining imprecise or incomplete information. Professional judgement was exercised in gathering and analyzing the information obtained and in the formulation of our conclusions and recommendations. The recommendations are not intended to be utilized as a detailed specification for any remedial work that may be required. Clearco Environmental Consulting Ltd. accepts no responsibility for the misinterpretation of our recommendations, or actions taken based on them without our consultation and supervision.

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FLOOR PLANS

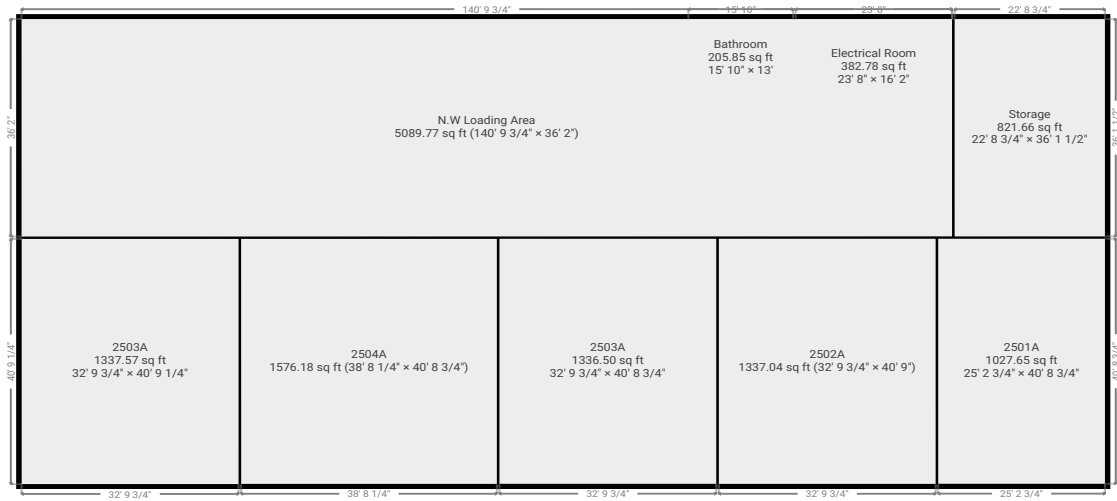
Project 136

#25- 12740 Trites Rd , Richmond , BC
 TOTAL AREA: 12524.07 sq ft • LIVING AREA: 12524.07 sq ft • FLOORS: 1 • ROOMS: 0

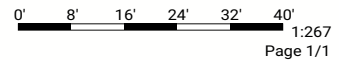


▼ Ground Floor

TOTAL AREA: 12524.07 sq ft • LIVING AREA: 12524.07 sq ft • ROOMS: 0



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IMAGES



Asbestos fiber board behind panel in electrical room



Asbestos cement board behind drywall



interior of storage units



Interior of storage units



Fiber glass pipe wrap



Chemicals, solvents and paints in storage room

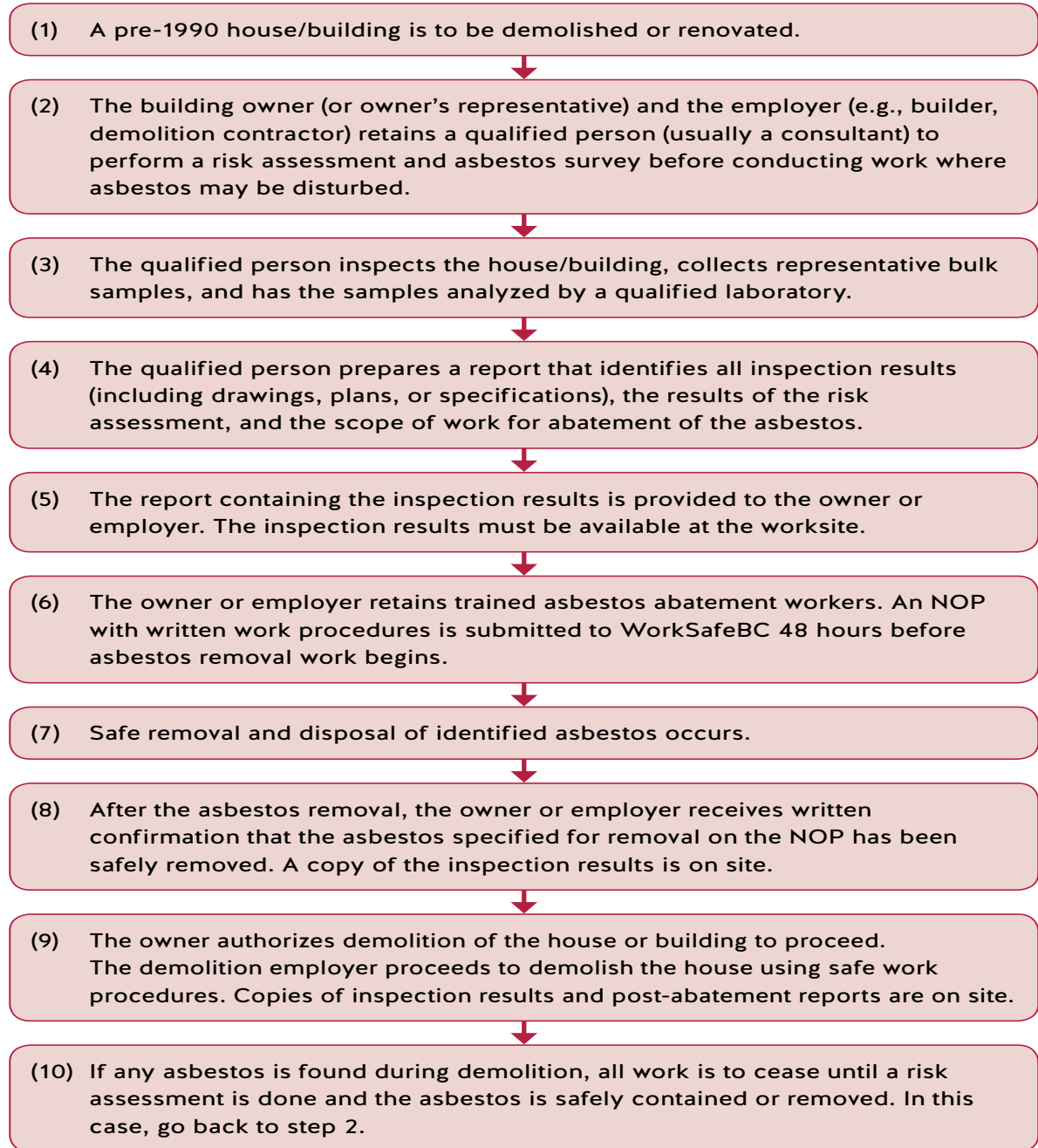


Tube lighting in storage rooms

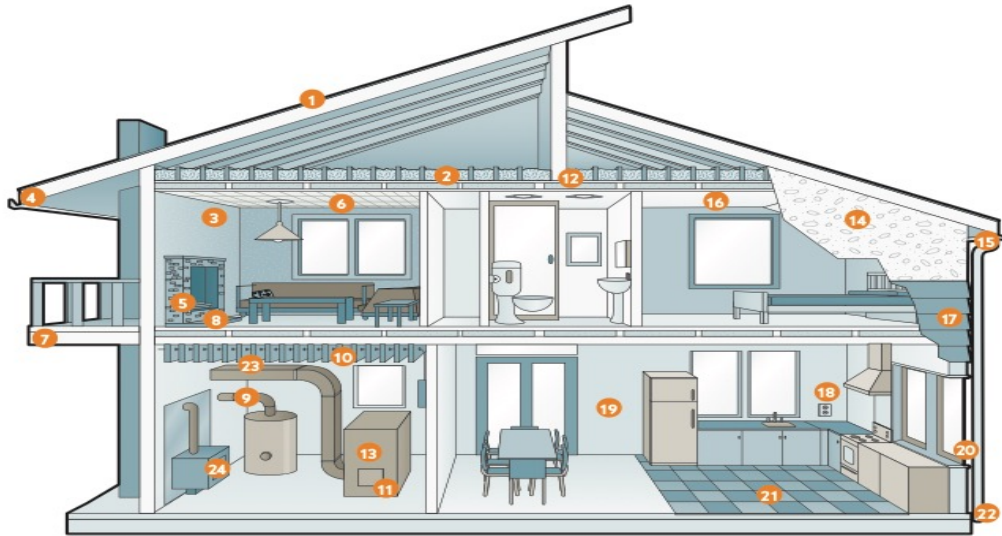


Paint cans on North side of the building

Ten steps to compliance with asbestos abatement requirements of section 20.112 of the Regulation for a pre-1990 house/building demolition



Potential sources of asbestos in the home



- | | | | |
|---|---|--|---|
| 1 Roof felt and shingles | 9 Pipe insulation | 15 Soffit boards can be made of asbestos cement or asbestos insulating board | 20 Window putty |
| 2 Loose, blown-in insulation, such as vermiculite | 10 Main panel and fuse box; each fuse wire has an individual asbestos flash guard | 16 Textured or stipple-coated walls and ceilings | 21 Flooring: vinyl tiles and linoleum sheet flooring; flooring adhesive |
| 3 Incandescent light fixture backing | 11 Door and gasket covers | 17 Asbestos cement (transite) board siding and undersheathing | 22 Downpipes can be made of asbestos cement |
| 4 Roof gutters can be made of asbestos cement | 12 Backing behind recessed lighting | 18 Outlets and switches | 23 Insulation on electrical wires |
| 5 Artificial fireplace logs and ashes | 13 Boiler and furnace insulation | 19 Gypsum board filling compound, and patching and joint compound for walls and ceilings | 24 Heat reflector for wood stove |
| 6 Acoustic tiles | 14 Asbestos can be found in stucco | | |
| 7 Deck undersheathing | | | |
| 8 Asbestos pad under the fireplace hearth | | | |

Please note: This floor plan depicts a typical older home. Asbestos use has declined significantly; homes built before 1990 are more likely to contain asbestos products.

WORK SAFE BC

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.

2021-09-21



Please find attached the results of the analysis for the samples submitted to the lab for the project indicated on the report below. Results for all material provided can be found on the following pages.

All samples were analyzed using the NIOSH (National Institute for Occupational Safety and Health) Method 9002 : 1994. Sample numbers are generated based on the order in which they appear on the COC, the formal sample number is the Sarcova PID followed by the reported sample ID. Samples containing multiple layers were first separated into individual samples for each layer and analyzed separately, specific layers were identified based on regions of homogeneity. All asbestos concentrations are reported as a percent of the total material in the layer as estimated by a calibrated visual estimate. Samples whose asbestos concentration is below the limit of detection shall be marked as "None Detected". Sarcova Industries Inc. is a Standards Council of Canada accredited laboratory which maintains a proficient status in the AIHA Proficiency Analytical Testing (PAT) Programs' Bulk Asbestos Proficiency Analytical Testing (BAPAT) program. Material Descriptions provided by clients shall be used for at least one layer of the sample in question unless the material description would lead to a misunderstanding of analysis results. Where a sample contains additional layers not specified in the material description those materials were described by the analyst to the best of their ability. Colors provided in association with material descriptions are decided by selecting the closest match from a sixteen color reference sheet, however the subjective nature of color interpretation may result in disagreements between the color reported and the material *in situ*. Where color disagreements occur the color provided by the client shall be used.

The results presented in this report are strictly valid for the samples received by the laboratory personnel and as such are subject to error generated during sampling. The results presented in this report relate only to the material tested. These results may not be reproduced, except in full, without the expressed permission of Sarcova Industries Inc. management.

Samples are archived for four weeks after analysis. Samples that are not retrieved by the client will be disposed of in accordance with local regulations.

Sincerely,

Patrick O'Donnell M.Sc,
Quality Assurance Officer



Sarcova Industries Inc.
 4183 McConnell Drive
 Burnaby, B.C. V5A 3J7
 604.356.9880 | www.sarcova.com

Analysis Results: Asbestos in Bulk Materials



Sarcova PID: BS8436
 Analyst PO
 Analysis Method: NIOSH 9002:1994

Project Location: Building #25 - 12740 Trites Road, Richmond BC

Client: Clearco Environmental Consulting
 Contact: 778-318-9904
 Client Project #: N/A

SAMPLE ID	SAMPLE LOCATION	LAYER	MATERIAL DESCRIPTION	NON-FIBROUS MATERIAL	NON-ASB FIBROUS MATERIAL	ASBESTOS TYPE AND PERCENTAGE
1	Exterior North Side Bulkhead Wood Frame Window	1	Putty (White)	White Brittle Material	-	None Detected
2	Exterior North Side Bulkhead Wood Frame Window	1	Putty (White)	White Brittle Material	-	None Detected
3	Exterior North Side Bulkhead Wood Frame Window	1	Putty (White)	White Brittle Material	-	None Detected
		2	Putty (White)	White Brittle Material	-	Chrysotile-1%
4	Exterior Walls Under Aluminum Cladding East	1	Construction Paper	Binders	Cellulose-90%	None Detected
5	Exterior Walls Under Aluminum Cladding West	1	Construction Paper	Binders	Cellulose-90%	None Detected
6	Exterior Walls Under Aluminum Cladding South	1	Construction Paper	Binders	Cellulose-90%	None Detected
7	Exterior Walls Under Aluminum Cladding North	1	Construction Paper	Binders	Cellulose-90%	None Detected
8	Exterior Walls Under Aluminum Cladding North	1	Construction Paper	Binders	Cellulose-90%	None Detected
9	West Side Electrical Room	1	Fiber Board (White)	White Brittle Material	Cellulose-3%	Chrysotile-90%
10	West Side Electrical Room	1	Fiber Board (White)	White Brittle Material	Cellulose-3%	Chrysotile-90%

Date Received: 2021/09/17 Date Analyzed: 2021/09/21 Report Date: 2021/09/21 Report Prepared By: CM Report Reviewed By: CM Page 2 of 4

Analysis Results: Asbestos in Bulk Materials



Sarcova P.I.D.: BS8436
 Analyst: PO
 Analysis Method: NIOSH 9002.1994

Project Location: Building #25 - 12740 Triles Road, Richmond BC

Client: Clearco Environmental Consulting
 Contact: 778-318-9904
 Client Project #: N/A

SAMPLE ID	SAMPLE LOCATION	LAYER	MATERIAL DESCRIPTION	NON-FIBROUS MATERIAL	NON-ASB FIBROUS MATERIAL	ASBESTOS TYPE AND PERCENTAGE
11	West Side Electrical Room	1	Fiber Board (White)	White Brittle Material	Cellulose-3%	Chrysotile-90%
12	West Side Electrical Room Wash Station	1	Cement Board (White)	White Brittle Material	Cellulose-3%	Chrysotile-60% Amosite-5%
13	West Side Electrical Room Wash Station	1	Cement Board (White)	White Brittle Material	Cellulose-3%	Chrysotile-60% Amosite-5%
14	West Side Electrical Room Wash Station	1	Cement Board (White)	White Brittle Material	Cellulose-3%	Chrysotile-60% Amosite-5%
15	West Side Electrical Room Foundation Wall	1	Texture Spray	Gypsum	Cellulose-3%	None Detected
16	West Side Electrical Room Foundation Wall	1	Texture Spray	Gypsum	Cellulose-3%	None Detected
17	West Side Electrical Room Foundation Wall	1	Texture Spray	Gypsum	Cellulose-3%	None Detected
18	NW Washroom	1	Vinyl Floor Tile (Beige)	Vinyl, Binders, Quartz	-	Chrysotile-1%
		2	Mastic (Black)	Black Soft Material	Cellulose-1%	None Detected
19	NW Side Washroom	1	Vinyl Floor Tile (Grey)	Vinyl, Binders, Quartz	-	Chrysotile-1%
		2	Mastic (Black)	Black Soft Material	Cellulose-1%	None Detected
20	NW Side Common Washroom	1	Backsplash Board	White Brittle Material	Cellulose-90%	None Detected
21	Entry West Side	1	Fiber Cladding (Green)	Green Brittle Material	Fiberglass-30%	None Detected
22	Entry West Side	1	Fiber Cladding (Green)	Green Brittle Material	Fiberglass-30%	None Detected
23	Entry West Side	1	Fiber Cladding (Green)	Green Brittle Material	Fiberglass-30%	None Detected
24	Radiant Heat	1	Pipe Insulation	Binders	Fiberglass-95%	None Detected
		2	Pipe Insulation Wrap	Grey Soft Material, Binders, Black Soft Material	Cellulose-80% Fiberglass-10%	None Detected

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Analysis Results: Asbestos in Bulk Materials



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Project Location: Building #25 - 12740 Triles Road, Richmond BC

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SAMPLE ID	SAMPLE LOCATION	LAYER	MATERIAL DESCRIPTION	NON-FIBROUS MATERIAL	NON-ASB FIBROUS MATERIAL	ASBESTOS TYPE AND PERCENTAGE
25	Radiant Heat	1	Pipe Insulation	Binders	Fiberglass-95%	None Detected
		2	Pipe Insulation Wrap	Grey Soft Material, Binders, Black Soft Material	Cellulose-80% Fiberglass-10%	None Detected
26	Radiant Heat	1	Pipe Insulation	Binders	Fiberglass-95%	None Detected
		2	Pipe Insulation Wrap	Grey Soft Material, Binders, Black Soft Material	Cellulose-80% Fiberglass-10%	None Detected
27	Radiant Heat	1	Pipe Insulation	Binders	Fiberglass-95%	None Detected
		2	Pipe Insulation Wrap	Grey Soft Material, Binders, Black Soft Material	Cellulose-80% Fiberglass-10%	None Detected
28	Radiant Heat	1	Pipe Insulation	Binders	Fiberglass-95%	None Detected
		2	Pipe Insulation Wrap	Grey Soft Material, Binders, Black Soft Material	Cellulose-80% Fiberglass-10%	None Detected
29	Roof	1	Paper Liner	Binders	Cellulose-90%	None Detected
30	Roof	1	Paper Liner	Binders	Cellulose-90%	None Detected
31	Roof	1	Paper Liner	Binders	Cellulose-90%	None Detected
32	Roof	1	Paper Liner	Binders	Cellulose-90%	None Detected
33	Roof	1	Paper Liner	Binders	Cellulose-90%	None Detected

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