LIMITED PRE-DEMOLITION HAZARDOUS BUILDING MATERIALS INSPECTION AND RISK ASSESSMENT

REPORT ON THE PRESENCE AND CONDITION OF
HAZARDOUS BUILDING MATERIALS AT:

820 DOCK ROAD
DELTA, BRITISH COLUMBIA

Prepared for:

AECOM Canada Ltd.

3292 Production Way
Burnaby, BC
V5A 4R4

Prepared by:

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Inspection Dates: August 23-24, 2021

September 10, 2021

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AECOM Canada Ltd.
3292 Production Way
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Attention: Mr. Thomas Hoffschild

Re: LIMITED PRE-DEMOLITION INSPECTION AND RISK ASSESSMENT FOR SUSPECT HAZARDOUS BUILDING MATERIALS AT 820 DOCK ROAD, DELTA, BRITISH COLUMBIA

Dear Mr. Thomas Hoffschild,

Epoch Environmental Consulting Ltd. (EPOCH) was retained to conduct a pre-demolition inspection and risk assessment for suspect hazardous building materials at the following buildings within the Annacis Island Auto Terminal located at 820 Dock Road, Delta, British Columbia:

- Former Paint and Body Shop (AS3);
- Accessory Shop #2 (AS2) & Mechanical Shop #1
- Parts Warehouse asphalt floor (Shipping and Receiving);
- Shed and Canopy attached to the Parts Warehouse.

1.0 EXECUTIVE SUMMARY

1.1 ASBESTOS-CONTAINING MATERIALS

The above referenced buildings were occupied during this inspection and are scheduled for future renovation. An inspection was requested to identify visible and potential asbestos-containing materials from both within and outside the commercial buildings located at the above referenced address.

The following areas and/or materials within the building shall be re-inspected for concealed suspect asbestos-containing materials:

- **Concrete Block Walls for suspect concealed vermiculite insulation**

The following materials identified **to contain asbestos** are listed below:

- Drywall Joint or Taping Compound (DJC or DJTC);
- Vinyl Asbestos Floor Tiles;
- Exterior Putty;
- Exterior Mastic;
- Potential vermiculite insulation within block walls.

- Asbestos-containing **Drywall Joint or Taping Compound (DJC)** was identified throughout all buildings. Please note that the areas specified are the exact locations of the asbestos-containing DJC samples collected. However, **all DJC throughout the building must be assumed as asbestos-containing** unless sufficient additional sampling can prove otherwise by isolating the specific areas which are not comprised of asbestos-containing DJC. Approximately 10,000 square feet of gypsum boards with asbestos-containing drywall joint compound material is estimated within the buildings.

- **Vinyl Asbestos Floor Tiles (VAFT)** were identified and observed in the former paint and body shop, AS3 training room and mechanical room (approximately 500 square feet). All floor tile materials potentially concealed at other areas within the building which resemble those referenced above shall first be considered, and removed as, asbestos-containing unless additional testing proves otherwise.

- Asbestos-containing **exterior putty** (white & black) was identified and observed in the former paint and body shop (AS3) roof eaves trough/s and vent/s. All similar caulking, putty, or mastic within the interior or exterior of the building shall be assumed asbestos-containing unless sufficient additional sampling can prove otherwise by isolating the specific areas which are not comprised of asbestos-containing window putty. Approximately 1500 linear feet of putty material were estimated within the building.

- Asbestos-containing **exterior mastic** was identified and observed on **all buildings** on the siding and roof structure / exhaust vent/s (about 10,000 linear feet). Please note that due to the height and slope of the main building roof, the main roof was not safely accessible at this time. **All exterior mastic materials associated with all buildings, such as vent pipes, flashings, skylights, etc., shall be assumed as asbestos-containing.**

- Asbestos-containing **insulation**, i.e., vermiculite, may exist within the block walls spaces within the building. Prior to any demolition of building materials, additional inspection shall be required in order to determine whether asbestos materials exist.

Please note that the quantity estimates for materials provided above are rough estimations only and shall not be used solely for quotation purposes. It is the responsibility of the contractor to provide their own estimations for asbestos abatement.

The following building materials were sampled and analyzed as no asbestos detected:

- Vinyl flooring in the mechanical shop office, mechanical shop 1 washroom, former paint and body shop Toyota room, bathroom 1 floor, bathroom 2 floor.
- Floor mastic/glue adhesive on the underside of vinyl floor tiles from mechanical shop office, mechanical shop 1 washroom, former paint and body shop Toyota room, bathroom 1 floor, bathroom 2 floor.
- Paper backed insulation;
- Ceiling tiles;
- Duct mastic;
- Block wall mortar;
- Spray insulation
- Exterior roofing shingle.

<Sample Results in Appendix A>

Potential asbestos-containing materials may be present in concealed areas of the building under newer layer of gypsum; flooring; behind walls and ceilings. If suspicious materials are observed during demolition, work shall stop, and the material further tested for asbestos. Such materials may include, but not limited to:

- **flooring (linoleum; vinyl floor tile, or residual flooring) potentially concealed under other flooring layers, wood sub-flooring, carpet, cabinetry, tubs and/or fixed furniture within the building;**
- **paper tape on the joints or seams of heating ducts located on floor exhaust registers/diffusers; behind walls; crawlspace; and, above false ceiling throughout the building;**
- **insulations concealed within furnaces, or within concrete walls and ceilings (vermiculite) throughout the building;**
- **insulating cement / parging / firestop compound within brick chimney surface penetrations (from ducting or other covered holes);**
- **mechanical pipe floor, wall, and ceiling penetrations;**
- **Cast iron drain pipes "Bell & Spigot" pipe fittings gasket/s. Additional destructive sampling may be conducted when the water supply has been turned off in order to sample and analyze the material for asbestos;**
- **drywall joint compound applied to concealed layers of drywall or additional plaster layers behind walls or ceilings;**
- **heat shields within light fixtures;**
- **cement boards or cement tiles on or behind walls or ceilings (Transite);**
- **Mastics / adhesives concealed behind walls (panels, wall boards, fixtures, mirrors, ceiling tiles, etc.);**

Prior to or during demolition of the building materials, if any other suspect materials are suspected or observed, work shall stop immediately and the material be tested or assumed as asbestos-containing. Additional inspection, sampling, analysis, and risk assessment shall be conducted by a qualified third-party consultant (EPOCH), prior to further disturbance and removal of the building materials.

Results and locations of the sampled materials may be found in Section 4 and 5 of this report.

WorkSafeBC modified "Moderate Risk" to "High Risk" asbestos work procedures will be required to safely remove and to clean-up the **joint taping compound complete with the drywall and other materials (wood framing, door trims, nail heads, patchwork on plaster, contaminated insulation and other porous materials, etc.)** as outlined in the "Safe Work Practices for Handling Asbestos' guidelines, 2017 Publication. Modified "Moderate Risk" work Procedure entails additional engineering controls such as the use of HEPA Filtration cabinets, and 3-stage decontamination facility for worker entry / exit into work area. In addition, upgrade in personal respirator protection to either a Full-face Passive respirator (5 f/ml), or a full-face powered air purifying respirator PAPR (10f/ml). Air monitoring is recommended for modified "Moderate Risk" work activities.

WorkSafeBC "Moderate Risk" asbestos work procedures will be required to safely remove the **Vinyl Asbestos Floor Tiles (VAFT)**, as outlined in the Safe Work Practices for Handling Asbestos guidelines, 2017 Publication. If scraping or sanding of this material is required to fully remove it from the concrete or wooden substrate then additional control measures may be required to limit potential dust exposure to workers, such as the use of an airless sprayer. In addition, upgrade personal respirator protection to Full-face piece respirator or PAPR may be required.

Removal of the **exterior putty** or caulking, will require WorkSafeBC "Moderate Risk" asbestos work procedures as outlined in the Safe Work Practices for Handling Asbestos guidelines, 2017 Publication.

WorkSafeBC "Moderate Risk" asbestos work procedures will be required to safely remove the **exterior mastic** materials from the building as outlined in the "Safe Work Practices for Handling Asbestos' guidelines, 2017 Publication.

Additional safety measures may also be used to ensure the safe removal and clean-up of all mastic and putty materials. Such measures may include the isolation of areas surrounding the building perimeter with clearly marked hazard tape in order to eliminate overhead hazards; the use of hard hats; and implementation of proper fall protection. Polyethylene drop sheets may also be used around the building's perimeters in order to collect any asbestos materials which may fall to the ground, hence avoiding any soil or ground contamination.

WorkSafeBC "High Risk" asbestos work procedures will be required to safely remove and to clean-up the **potential vermiculite insulation within the block walls** and associated debris as outlined in the "Safe Work Practices for Handling Asbestos' guidelines, 2017 Publication. Air monitoring is required for all "High Risk" work activities.

1.2 LEAD-CONTAINING PAINTS AND COATINGS

Surface paints and coatings were analyzed from the building interior and exterior. The representative paints and coatings analyzed from the exterior/interior of the building were identified to contain lead concentrations up to **74,000 ppm**, exceeding 600 ppm or 0.06% by weight (or ~0.04 mg/cm^2) as established by Cal/OSHA or 90 ppm by the Canada Consumer Product Safety Act. All similar materials shall also be assumed to contain lead. Demolition contractor disturbing these materials shall consider potential lead exposure risk and shall consider lead exposure in their Exposure Control Plan. In addition, develop and implement safe work procedures for handling lead-containing paints and materials.

Professional abatement by a qualified lead-abatement contractor for lead-based materials and thorough cleaning of any lead dust debris from demolition is recommended.

Work procedures must be developed in accordance to WorkSafeBC and inclusive of Part 5.48-5.49 (controlling Exposure), and Part 6.59-6.69 (Lead). EPOCH recommends referencing WorkSafeBC publication, "Safe Work Practices for Handling Lead", 2017. This document will assist current practices for lead information, products, health hazards, worker protection requirement, safe work procedures, and techniques for lead abatement.

1.3 DISPOSAL OF LEAD-BASED PAINTS/COATINGS

When paints have been identified over about **5000 ppm**, the paint will require waste characterization for disposal through TCLP Leachability Tests. Additional waste characteristic testing (TCLP) testing is recommended for lead-based paints. The purpose of this test is to determine the TCLP concentration for disposal requirement with respect to "leachability" or "mobility" of paints, or any materials (excluding ceramic tiles and metals). If the lead-containing paints exceed a leaching lead concentration of 5.0 mg/L, the paint and substrate (**excluding ceramic tiles and metals**) will be classified as Hazardous waste and therefore, will require proper disposal in accordance with the Ministry of Environment.

1.3 OTHER HAZARDOUS MATERIALS

Other suspect hazardous materials identified in the building at the time of the inspection were:

- Poly chlorinated biphenyl (PCB) in fluorescent light ballasts;
- mercury-containing switch in wall-mounted thermostat(s);
- mercury-containing gas in compact fluorescent light bulbs (CFLs) and fluorescent light tubes;
- ozone depleting substance such as chlorofluorocarbons (CFC's) and/or compressed gases in refrigeration, and heating, ventilation, and air conditioning (HVAC) equipment;
- rat droppings;
- paint cans;
- fuel cans / petroleum products;
- chemicals and/or solvents.

2.0 INTRODUCTION

A site inspection of the building was conducted by a certified US AHERA Asbestos Inspector on August 23, 2021 by Mr. Kyle Zell, B.Sc. (AHERA Cert# G7842) and by Mr. William Plantinga (AHERA Cert# HMSBIR998) and Mr. Michael Charters (AHERA Cert# HMSBIR999), of EPOCH. Suspect building materials were collected for asbestos identification. Other hazardous materials (i.e., Mercury thermostat switches, Paints, Chemical & Solvent, and PCB ballast) were also inspected for and noted, if observed.

The WorkSafeBC Occupational Health & Safety regulations; Part 20 Construction, Excavation, and Demolition; Section 20.112 Hazardous Material – states that before any work begins on the demolition or salvage of machinery, equipment, building or structures, the employer or owner must inspect the site to identify any asbestos, lead, or other heavy metals or toxic, flammable or explosive materials that may be handled, disturbed, or removed. In addition, the WorkSafeBC regulations require any identified hazardous materials shall be safely removed or contained prior to building demolition or renovations. <Attached in Appendix C>

Section 6.1 of the OHS Regulation defines asbestos-containing material (ACM) as follows:
means any manufactured article or other material which contains 0.5% or more asbestos by weight at the time of manufacture, or which contains 0.5% or more asbestos as determined in the National Institute for Occupational Safety and Health Manual of Analytical Methods, Method 9002, Issue 2 (microscopy, stereo and polarized light, with dispersion staining) or other method acceptable to the Board (EPA/600/R-93/116).

The Ministry of Environment – Hazardous Waste Regulations, and Transport Canada - Transportation of Dangerous Goods Regulations require that all hazardous materials be recycled, packaged, transported and/or disposed properly.

3.0 SCOPE OF WORK

The scope of work conducted:

- Inspect the mechanical shop 1, Former paint and Body Shop (AS3), Maintenance Shed; and the floor of the shipping and receiving of the commercial buildings for visible suspect asbestos-containing building materials;
- Collect and analyze suspected asbestos-containing building material samples;
- Collect and/or analyze suspected paints/coatings for lead;
- Provide risk assessment of identified asbestos material and remedial options;
- Report results of samples analysis;
- Provide general observations of other hazardous materials.

No detailed investigation for underground storage tank (UST) was conducted within the property.
If an underground storage tank (UST) is encountered during demolition, work shall stop until further assessment is conducted and a proper permit retained for the removal of the tank.

Minimum sampling requirements were conducted based on WorkSafeBC guideline 20.112 Hazardous Materials – Asbestos. Please see Appendix [C] for Safe Work practices for Handling Asbestos – Bulk material sample collection guide.

3.1 SURVEY LIMITATIONS

This survey is a non-destructive inspection due to the occupancy of the building.

The following areas and/or materials within the building were <u>not</u> inspected for suspect asbestos-containing materials in concealed areas are:

- **The hollow cavities of concrete block walls (potential interior vermiculite insulation); of exterior/perimeter block walls;**

Prior or during demolition, if any other materials are suspected for asbestos, stop work and notify the appropriate individuals to conduct further testing and risk assessment.

4.0 LABORATORY RESULTS

Eighty-Three (83) suspected building material samples were collected for laboratory analysis, to determine the presence of asbestos. The samples were delivered to the laboratory on August 23 and August 24, 2021 and were analyzed on August 25, 2021.

Seventeen (17) out of the Eighty-Three (83) samples collected for laboratory analysis were analyzed to contain asbestos. <Sample Results in Appendix A>

The collected bulk asbestos-containing materials were delivered to and analyzed at EPOCH Analytical Incorporated in Coquitlam, BC. The bulk material samples were analyzed in accordance to EPA/600/R-93/116 Method for identifying asbestos. The type and concentration of asbestos in the bulk samples were determined by combination of: Polarized Light Microscopy (PLM); morphology; refractive index; extinction; signs of elongation; birefringence and dispersion staining colors. Table 1 summarizes the laboratory results of <u>identified asbestos-containing materials</u>.

<u>Table 1: Laboratory Results</u>

Sample Number	Location	Area	Material Sampled	Asbestos
820 Dock Road, Delta, BC				
4	Mechanical Shop 1	Bathroom 1 - South Wall	DJC- Drywall Joint Compound	**Yes**
5	Mechanical Shop 1	Bathroom 2 - South Wall	DJC- Drywall Joint Compound	**Yes**
31	Former Paint and Body Shop	Training Room Storage - North Wall	DJC- Drywall Joint Compound	**Yes**
33	Former Paint and Body Shop	Training Room Storage - Floor	VFT - Vinyl Floor Tile	**Yes**
35	Former Paint and Body Shop	Mechanical Room - Floor	VFT - Vinyl Floor Tile	**Yes**

39	Former Paint and Body Shop	Toyota Room - North Wall	DJC- Drywall Joint Compound	**Yes**
42	Former Paint and Body Shop	Bathroom 1 - North Wall	DJC- Drywall Joint Compound	**Yes**
46	Former Paint and Body Shop	Bathroom 2 - North Wall	DJC- Drywall Joint Compound	**Yes**
51	AS2	AS2 - Roof	Mastic	**Yes**
54	AS2	AS2 - Roof Flashing Mastic	Mastic	**Yes**
64	Exterior Mechanic Shop 1	Siding Mastic	Mastic	**Yes**
65	Exterior Mechanic Shop 1	Roof Mastic	Mastic	**Yes**
66	Exterior Mechanic Shop 1	Roof Mastic	Mastic	**Yes**
68	Former Paint and Body Shop	Roof Exhaust Vent Mastic	Mastic	**Yes**
72	Former Paint and Body Shop	White Roof Putty	Putty	**Yes**
74	Former Paint and Body Shop	White Roof Putty	Putty	**Yes**
75	Former Paint and Body Shop	Black Vent Mastic	Putty	**Yes**

<See attached laboratory analysis results in Appendix A.>

4.2 LEAD-CONTAINING PAINTS AND COATINGS

4.2.1 Lead Identification

During our inspection, it was observed that some enamels, primers, coatings, and oil-based paints applied to the interior or exterior surfaces of the building were suspected of containing lead and/or other heavy metals. All paints/coatings shall be treated as suspect lead unless tested otherwise.

Surface paints and coatings were analyzed from the areas listed in Table 2. The surface paints were analyzed on August 23, 2021 with a XL3t 600 (S/N: 97584 X-Ray Fluorescence (XRF) Lead Paint analyzer, to determine the concentration of lead in paint. The limit of detection (LOD) for lead in paint using XRF is 0.01 mg/cm^2 or 10 ppm based on a 60 second reading time. The results only relate to the items tested. Other painted surfaces or materials other than those tested may contain lead.

Table 2: Summary of Lead-Containing Paint Results and Risk Assessment

Sample Number	Sample Location	Substrate	Colour	Result (ppm)	Variance (+/-)	Condition	Accessibility	Current Exposure Risk	Recommended Risk Level for demolition or disturbance of material (may vary depending on method)
LP 1	Mechanic Shop 1 - Wall	Concrete	White	<LOD	29	Good	High	Low	Low
LP 2	Mechanic Shop 1 - Wall	Wood	White	<LOD	26	Good	High	Low	Low
LP 3	Mechanic Shop 1 - Accent	Wood	Blue	<LOD	31	Good	High	Low	Low
LP 4	**Mechanic Shop 1 - Office Door Trim**	**Metal**	**Blue**	**1558**	**211**	**Good**	**High**	**Low**	**Low* to Moderate-High**
LP 5	**Mechanic Shop 1 - Metal Beams**	**Metal**	**Red**	**1466**	**255**	**Good**	**High**	**Low**	**Low* to Moderate-High**
LP 6	Mechanic Shop 1 - Office Wall	Wood	Beige	<LOD	29	Good	High	Low	Low
LP 7	Mechanic Shop 1 - Window Trim	Wood	Light Blue	<LOD	26	Good	High	Low	Low
LP 8	**Mechanic Shop 1 - Washroom Urinal Tile**	**Ceramic**	**White**	**512**	**85**	**Good**	**High**	**Low**	**Low* to Moderate-High**
LP 9	**Mechanic Shop 1 - Locker Room Floor**	**Concrete**	**Blue**	**455**	**111**	**Good**	**High**	**Low**	**Low* to Moderate-High**
LP 10	Mechanic Shop 1 - Washroom Wall	Drywall	Beige	<LOD	55	Good	High	Low	Low
LP 11	Mechanic Shop 1 - Washroom Wall	Drywall	Beige	<LOD	35	Good	High	Low	Low
LP 12	**Mechanic Shop 1 - Washroom Door Trim**	**Wood**	**Light Blue**	**1738**	**206**	**Good**	**High**	**Low**	**Low* to Moderate-High**
LP 13	AS2 - Wall	Drywall	White	<LOD	29	Good	High	Low	Low
LP 14	AS2 - Wall	Wood	White	<LOD	25	Good	High	Low	Low
LP 15	AS2 - Wall Accent	Wood	Grey	<LOD	27	Good	High	Low	Low
LP 16	**Maintenance Shed 2 - Metal Exterior Siding**	**Metal**	**Light Blue**	**1563**	**204**	**Good**	**High**	**Low**	**Low* to Moderate-High**

Sample Number	Sample Location	Substrate	Colour	Result (ppm)	Variance (+/-)	Condition	Accessibility	Current Exposure Risk	Recommended Risk Level for demolition or disturbance of material (may vary depending on method)
LP 17	**Maintenance Shed 2 - Metal Exterior Siding**	**Metal**	**White**	**1455**	**139**	**Good**	**High**	**Low**	**Low* to Moderate-High**
LP 18	AS3 - Wall	Drywall	Grey	<LOD	27	Good	High	Low	Low
LP 19	AS3 - Wall Accent	Drywall	Blue	<LOD	29	Good	High	Low	Low
LP 20	**AS3 - Floor**	**Concrete**	**Grey**	**181**	**36**	**Good**	**High**	**Low**	**Low* to Moderate-High**
LP 21	**AS3 - Washroom Wall**	**Concrete**	**Beige**	**291**	**55**	**Good**	**High**	**Low**	**Low* to Moderate-High**
LP 22	**AS3 - Washroom Wall Tile**	**Ceramic**	**White**	**74000**	**10**	**Good**	**High**	**Low**	**Low* to Moderate-High**
LP 23	AS3 - Washroom Wall	Drywall	Beige	<LOD	27	Good	High	Low	Low
LP 24	AS3 - Training Room Wall	Drywall	Cream	<LOD	27	Good	High	Low	Low
LP 25	AS3 - Training Room Wall	Drywall	Grey	<LOD	29	Good	High	Low	Low
LP 26	**AS3 - Washroom Wall Tile**	**Ceramic**	**White**	**15200**	**1008**	**Good**	**High**	**Low**	**Low* to Moderate-High**
LP 27	**AS3 - Exterior Siding**	**Metal**	**Light Blue**	**17300**	**1200**	**Good**	**High**	**Low**	**Low* to Moderate-High**

<LOD = Below Limit of Detection

Bulk or paint chip samples may be collected and analyzed by a lead-analysis laboratory to determine concentration by laboratory methodologies. Any detectable amount of lead in paints or coatings may pose a health risk when the material is disturbed, depending on the method.

*Operating an excavator (within the cab) during building demolition (low risk) or removing lead-containing material as a solid piece, etc. See further information in Section 2.2 Lead-containing paints/coatings Risk Assessment.

4.2.2 REGULATIONS AND/OR GUIDELINES FOR LEAD-CONTAINING PAINTS/COATINGS

Health Canada	***Canada Consumer Product Safety Act***	**0.009 % wt. (90 ppm / mg/kg)**
Cal/OSHA	***Lead Exposure (U.S. California Occupational Safety and Health Administration***	**0.06 % wt. (~0.04 mg/cm^2) or 600 ppm / mg/kg**
HUD / EPA	***U.S. Housing and Urban Development / Environmental Protection Agency***	**0.50 % wt. or 1.0 mg/cm^2**

- Health Canada and the new ***Canada Consumer Product Safety Act (formerly Canadian Hazardous Product Act (CHPA)***, under the Surface Coating Material Regulations (SOR/2005-109) defines that surface paint in ***new*** materials containing lead greater than 0.009% wt. (90 ppm or mg/kg) is to be considered lead-containing paints.

- ***State of California Division of Occupational Safety and Health Administration (Cal/OSHA)*** suggests that removal of lead-containing paint/coating which equals or exceeds 600 ppm or mg/kg (0.06 % wt. or ~0.04 mg/cm^2) requires safe work procedures worker protection (HEPA respirator and coveralls) and an exposure control plan be implemented.

- Lead-based paint is defined as paint or other surface coatings that contain lead equal to or exceeding 0.5 percent (%) by weight (5000 ppm or mg/kg) as per the U.S. Department of ***Housing and Urban Development*** (HUD) and the U.S. Environmental Protection Agency (EPA).

Lead concentrations as low as 90 mg/kg may present a risk to vulnerable people such as pregnant women (or those trying to become pregnant), older workers, and children. Any risk assessment should include the presence of high risk individuals within the workplace.

4.2.3 LEAD PAINTS/COATINGS RISK ASSESSMENT

See Table 1 for Summary of Materials tested for lead and their criteria for assessment below.

[1] **Accessibility**

High – easily accessible; **Moderate** – not easily accessible but within view; **Low** – not easily accessible, enclosed or obscured.

[2] **Current Exposure Risk**

High Risk – Indicates that "High Risk" must be followed in order to safely enter the building or area within the scope of work;
Moderate Risk – Indicates that "Moderate Risk" must be followed in order to be in proximity to the material;
Low Risk – Indicates that "Low Risk" must be followed in order to be within proximity to the material.

[3] **Risk Assessment for demolition or removal**

- The Risk Level is determined based on the planned disturbance to the material. Procedures must be followed, sufficient and appropriate engineering controls implemented and associated personal protective equipment must be worn based on safe work procedures as outlined in the WorkSafeBC "*Safe Work Practices for Handling Lead*", 2017 publication.

The surface paint and coatings analyzed were identified to range from < LOD (below limit of detection) to 74000 ppm.

However, all paints/coatings outside the inspected area/s shall also be treated as suspect lead paint unless tested otherwise.

Scope of work for demolition, removal or disturbance of materials or surfaces/coatings potentially containing lead:

- *Operating an excavator (within the cab) during building demolition (low risk);
- Removing suspect lead-containing surface paints/coatings materials using power tools with (low-moderate risk) or without (moderate-high risk) effective dust collection systems and HEPA filters;
- Manual demolition of lead-containing materials using non-powered hand tools such as crowbar, sledgehammer or similar (moderate risk);
- Scraping or sanding of lead-containing paints (moderate risk);
- Cleaning up and removing lead-containing dust and debris (moderate risk).

Based on the results of the surface paints/coatings analyzed and the aforementioned planned or supposed scope of work, disturbance to the lead-containing poses a lead exposure risk to workers.

Lead exposure is not to exceed the potential airborne lead concentration for an 8-hour occupational exposure limit (OEL) of 0.05 mg/m^3.

Work procedures must be developed in accordance to WorkSafeBC and inclusive of Part 5.48-5.49 (controlling Exposure), and Part 6.59-6.69 (Lead). EPOCH recommends referencing WorkSafeBC publication, "Safe Work Practices for Handling Lead", 2017. This document will assist current practices for lead information, products, health hazards, worker protection requirement, safe work procedures, and techniques for lead abatement.

4.2.4 DISPOSAL OF LEAD-BASED PAINTS/COATINGS

When paints have been identified over about **5000 ppm**, the paint will require waste characterization for disposal through TCLP Leachability Tests. Additional waste characteristic testing (TCLP) testing is recommended for lead-based paints. The purpose of this test is to determine the TCLP concentration for disposal requirement with respect to "leachability" or "mobility" of paints, or any materials (excluding ceramic tiles and metals). If the lead-containing paints exceed a leaching lead concentration of 5.0 mg/L, the paint and substrate (**excluding ceramic tiles and metals**) will be classified as Hazardous waste and therefore, will require proper disposal in accordance with the Ministry of Environment.

5.0 OBSERVATIONS

5.1 BUILDING DESCRIPTION

The buildings located at 820 Dock Road, Delta, BC was observed to consist of four separate buildings:

- The buildings were built pre-1990;
- The buildings had been built in a piecewise fashion, with additions to the buildings over time.

Mechanical Shop 1

- Concrete block walls were observed on the walls of the south rooms;
- Metal siding and roofing
- Styrofoam insulation in metal siding wall cavities
- Fiberglass ceiling insulation behind a plastic sheeting
- Concrete floor
- Vinyl flooring in washrooms
- No parging was observed at penetrations
- **Drywall (asbestos-containing Drywall joint compound - DJC)** in washroom and office;
- **Asbestos-containing mastic/s on exterior siding and roof.**

Maintenance Shed and AS2

- Metal siding and roofing
- Plywood walls and ceiling
- **Asbestos-containing mastic/s on exterior siding and roof.**

Shipping and Receiving

- Metal siding and roofing; **asbestos-containing mastic/s on exterior siding and roof.**
- Asphalt flooring
- Batt fibreglass insulation in ceiling and wall cavities

Former Paint and Body Shop (AS3)

- Concrete block walls were observed on the walls;
- Metal siding and roofing
- Styrofoam insulation in metal siding wall cavities
- Fiberglass ceiling insulation behind a plastic sheeting
- Concrete floor
- **Vinyl asbestos floor tiles** in former paint and body shop, AS3 training room and mechanical room (approximately 500 square feet).
- No parging was observed at penetrations
- **Drywall (asbestos-containing Drywall joint compound - DJC)** in washroom and office.
- **Asbestos-containing mastic/s on exterior siding and roof.**

5.2 ASBESTOS

The following identified asbestos materials and its locations are listed below:

a) Drywall Joint or Filling/Finishing Compound or Mud

Drywall joint or taping compound ("DJC") is used generally to fill-in connecting seams and uneven surfaces created by nail or screw holes on drywall boards. The DJC give the drywall a smooth and even finish for painting. **DJC may also be found on wood surfaces throughout the building such as window and door frames.** DJC is considered friable, however, when applied to drywall – it may be classified as non-friable due to the inability to crush the entire combined material (Drywall & DJC) to dust by simple hand pressure.

DJC samples were collected throughout the building/s. Asbestos-containing taping compound or mud applied to joints/seams/nail heads on wall & ceiling were identified within the buildings.

All DJC throughout the buildings must be assumed as asbestos-containing unless sufficient additional sampling can prove otherwise by isolating the specific areas which are not comprised of asbestos-containing DJC. Approximately 10,000 square feet of gypsum boards with asbestos-containing drywall joint compound material is estimated within the buildings. **DJC may also be found on plaster (patchwork) or wood surfaces throughout the building such as window and door frames.**
The DJC samples collected were analyzed to contain two percent (2%) Chrysotile asbestos (EAC2021-01-1788-4/5/31/42/46). The mud is considered non-friable when left in place, however are considered friable when broken/disturbed.

WorkSafeBC modified "Moderate Risk" to "High Risk" asbestos work procedures will be required to safely remove and to clean-up the **joint taping compound complete with the drywall and other materials (wood framing, door trims, nail heads, patchwork on plaster, contaminated insulation and other porous materials, etc.)** as outlined in the "Safe Work Practices for Handling Asbestos' guidelines, 2017 Publication. Modified "Moderate Risk" work Procedure entails additional engineering controls such as the use of HEPA Filtration cabinets, and 3-stage decontamination facility for worker entry / exit into work area. In addition, upgrade in personal respirator protection to either a Full-face Passive respirator (5 f/ml), or a full-face powered air purifying respirator PAPR (10f/ml). Air monitoring is recommended for modified "Moderate Risk" work activities.

b) Vinyl Asbestos Floor Tiles

Vinyl Asbestos Floor Tile (VAFT) was identified and observed within the following areas:

- **Former Paint and Body Shop (AS3) Training Room Storage Floor,** Vinyl Asbestos Floor Tiles; and,
- **Former Paint and Body Shop (AS3) Mechanical Room Floor,** Vinyl Asbestos Floor Tiles.

The collected Vinyl Asbestos Floor Tile (VAFT) samples were analyzed to contain two percent (2%) Chrysotile asbestos (EAC2021-01-1788-33/35). The VAFT materials were observed to be in fair condition, are considered non-friable and do not pose an immediate exposure hazard or health risk to individuals when left undisturbed.

All flooring materials potentially concealed in other areas within the building which may or may not resemble those referenced above shall also be considered, and removed as, asbestos-containing. Wood-laminate, ceramic tile, carpet, cabinetry, tubs and fixed furniture within the building may have concealed flooring materials beneath them.

WorkSafeBC "Moderate Risk" asbestos work procedures will be required to safely remove the Vinyl Asbestos Floor Tiles, as outlined in the Safe Work Practices for Handling Asbestos guidelines, 2017 Publication. If scraping or sanding of this material is required to remove it from the concrete or wooden substrate, then additional control measures may be required to limit potential dust exposure to workers, such as the use of an airless sprayer. In addition, upgrade in personal respirator protection to Full-face piece respirator may be considered.

c) Exterior Mastic/Putty

Asbestos-containing mastic was identified and observed in the following areas:

- **AS2 – Roof**, Mastic
- **AS2 - Roof Flashing Mastic,** Roof Mastic
- **Exterior Mechanic Shop 1,** Siding Mastic
- **Exterior Mechanic Shop 1,** Roof Mastic
- **Exterior Mechanic Shop 1,** Roof Mastic
- **Former Paint and Body Shop Roof Exhaust Vent Mastic,** Vent Mastic
- **Former Paint and Body Shop White Roof Putty,** Roof Putty
- **Former Paint and Body Shop White Roof Putty,** Roof Putty
- **Former Paint and Body Shop Black Vent Mastic,** Siding Mastic

Asbestos-containing mastic/putty was identified and observed on the siding, vents and perimeter roof flashing. The mastic/putty was identified to contain 2-3 percent (%) Chrysotile asbestos (EAC2021-01-1788 - 51/54/64/65/66/68/72/74/75). **All exterior mastic/putty materials associated with the exterior roof and associated structures, such as vent pipes, flashings, etc., shall be assumed as asbestos-containing unless further sampling proves otherwise.**

The mastic is considered non-friable, was observed to be in fair condition, and does not pose an immediate health or exposure risk to individuals, when left undisturbed.

"Moderate Risk" asbestos work procedures will be required to safely remove this material as outlined in the Safe Work Practices for Handling Asbestos guidelines, 2017 Publication.

Additional safety measures may also be used to ensure the safe removal and clean-up of all mastic and putty materials. Such measures may include the isolation of areas surrounding the building perimeter with clearly marked hazard tape in order to eliminate overhead hazards; the use of hard hats; and implementation of proper fall protection. Polyethylene drop sheets may also be used around the building's perimeters in order to collect any asbestos materials which may fall to the ground, hence avoiding any soil or ground contamination.

d) Potential Vermiculite Insulation (Block Walls)

Asbestos-containing vermiculite insulation may be present within the hollow cavities of the concrete block walls used on the exterior perimeter of the building. No destructive inspection / testing was conducted due to the integrity of the wall aesthetics of the wall and the building occupied by tenants.

Prior to any coring, drilling, or breakage of concrete block walls; additional inspection of the inner core of the block walls shall be required in order to determine whether asbestos materials exist and require further testing.

The insulation is considered friable and may pose an immediate health or exposure risk if the concrete block is breached.

If present, removal and clean-up of the vermiculite insulation will require WorkSafeBC "High Risk" asbestos work procedures as outlined in the Safe Work Practices Handling for Asbestos guidelines, 2017 Publication. Mandatory air monitoring is required for all "High Risk" work activities.

e) Other Materials Observed

The following building materials were observed and not suspected to be asbestos-containing:

- EPS Styrofoam insulation was observed in the wall cavities of the warehouses and is not suspected of containing asbestos.
- Fiberglass ceiling tiles were observed in the Mechanical shop washroom ceiling and are not suspected of containing asbestos.
- No parging was observed at any of the wire or duct penetrations
- The asphalt floor in the shipping and receiving building is not suspected of containing asbestos.

5.2.1 Materials Sampled as No Asbestos Detected

The following building materials were observed and not suspected to be asbestos-containing:

Vinyl flooring in the mechanical shop office, mechanical shop 1 washroom, former paint and body shop Toyota room, bathroom 1 floor, bathroom 2 floor.

- Floor mastic/glue adhesive on the underside of vinyl floor tiles from mechanical shop office, mechanical shop 1 washroom, former paint and body shop Toyota room, bathroom 1 floor, bathroom 2 floor.
- Paper backed insulation;
- Ceiling tiles;
- Duct mastic;
- Block wall mortar;
- Spray insulation
- Exterior roofing shingle.

Prior to or during demolition of the building materials, if any other suspect materials are suspected or observed, work shall stop immediately and the material be tested or assumed as asbestos-containing. Additional inspection, sampling, analysis, and risk assessment shall be conducted by a qualified third-party consultant (EPOCH), prior to further disturbance and removal of the building materials.

5.3 PCB CONTAINING MATERIALS, MERCURY, LEAD, AND OTHER CHEMICALS

A visual inspection of the building was conducted for the presence of the following materials:

- Fluorescent light fixtures suspected of containing PCB ballast,
- Paints or interior/exterior coating, construction material (vent pipes) suspected of containing lead
- Wall-mounted thermostats and other equipment suspected of containing mercury
- Stored chemicals suspected of containing toxic, corrosive, explosive, and flammable content
- Chlorofluorocarbon (CFC's) in refrigeration equipment

PCB Light Ballast

During our site inspection, fluorescent light fixtures were observed in the building and/or suspected of containing PCBs in the ballast. The fluorescent light bulbs may also contain mercury gas.

Mercury

During our site inspection, wall-mounted thermostats were observed and suspected of containing liquid mercury in the switch mechanisms.

Several fluorescent tubes were also observed or suspected of containing mercury gas.

New energy efficient light bulbs and fluorescent lights were observed in the building. These compact fluorescent light bulbs (CFLs) contain small amounts of gaseous mercury and should be recycled accordingly.

Lead-Containing Paints and Materials

During our inspection, it was observed that some enamels, primers, and oil-based paints applied to the interior and/or exterior surface of the building were suspected of containing lead and/or other heavy metals. All paints shall be treated as suspect lead paint unless tested otherwise.

If any lead-containing paint is to be removed or disturbed from its substrate, then a risk assessment, exposure control plan, and/or work procedures should be implemented.

Work procedures must be developed in accordance to WorkSafeBC and inclusive of Part 5.48-5.49 (controlling Exposure), and Part 6.59-6.69 (Lead). EPOCH recommends referencing WorkSafeBC publication, "Safe Work Practices for Handling Lead", 2017. This document will assist current practices for lead information, products, health hazards, worker protection requirement, safe work procedures, and techniques for lead abatement.

Crystalline Silicates

Silicates can be found in concrete materials. If cutting, drilling, sanding, and /or crushing concrete material during demolition, workers shall me made aware of the potential exposure to silica dust and their employers aware of the required WorkSafeBC regulations.

On-site Chemicals and Other Hazardous Materials

During our site inspection it was observed that the following materials were present and suspected at the time of our inspection:

- Suspect ozone depleting substances or chlorofluorocarbons (CFC's) liquid in refrigeration equipment were observed. The CFC's is contained within the unit. No health or exposure risk was observed at this time. Discontinued use of the refrigeration equipment will require proper disposal or recycling of the CFC.
- Fuel cannisters
- Household (domestic) chemicals
- Unused paint cans and solvents
- Heavy metals (i.e., lead) within paints / coatings

6.0 RECOMMENDATIONS

Any asbestos-containing materials shall be removed and disposed of in accordance to WorkSafeBC Occupational Health and Safety Regulations; Ministry of Environment – Waste Management Act – Hazardous Waste Regulations; and Transport Canada – Transportation of Dangerous Goods Regulations. All abatement work should be conducted by a qualified asbestos abatement contractor and all waste transported by a licensed waste disposal company, prior to any demolition of the building materials. All containment materials (poly sheeting, duct tape, etc.), contaminated insulation and other porous materials (carpeting, drapery, etc.), debris and dust within the areas of work shall also be removed as asbestos contaminated.

If any, all non-asbestos-containing drywall or gyproc shall be removed and disposed at an accepting recycling facility. No drywall shall be dumped at a landfill. Please note that municipal and privately owned disposal facilities have specific screening criteria for accepting ACM waste that must adhere to WorkSafeBC regulations. Contact them directly about laboratory report expiry dates and if mixed loads of material types with ACM and non-ACM content listed on laboratory reports will be accepted.

If any, all fluorescent lights, suspected of containing PCB ballasts, shall be dismantled and inspected by qualified personnel prior to or in conjunction with the work. Removal of the ballast shall be conducted in accordance to WorkSafeBC Occupational Health and Safety Regulations. All identified ballast containing PCBs shall be packaged, transported, and disposed of at an approved facility as per the Ministry of Environment Waste Management Act - Hazardous Waste Regulations and by a qualified and licensed company.

If any, all wall-mounted thermostats and fluorescent tubes containing mercury shall be carefully removed, and either recycled or disposed at an accepting facility as per Ministry of Environment Waste Management Act - Hazardous Waste Regulations.

If any, suspected lead and heavy metal-containing paints/coatings should be removed as possibly in-tact with its building material surface (wood, concrete, metals, etc.) by the demolition contractor. Demolition work procedures should include the continuous use of engineering controls to assist in minimizing airborne dust. It is recommended that the all workers in the immediate vicinity of the work, wear protective respirators equipped with HEPA filters.

Depending on the Leachate concentration of the lead-containing paints, established by the Ministry of Environment, lead containing paints remaining on the attached surface of the building material may be disposed as standard construction (demolition) waste. If the lead paints exceed the Leachate concentration, it may be classified as hazardous waste, and therefore, will be required to be disposed in accordance to the Ministry of Environment Waste Management Act - Hazardous Waste Regulations.

If any, all ozone depleting substances in refrigeration equipment (fridges, freezers, air conditioning units), paints, and solvents observed within the building(s) and its surrounding property areas shall be properly handled, collected and/or either disposed or recycled at an approved facility as per Ministry of Environment Waste Management Act – Hazardous Waste Regulations.

Other hazardous or infectious substances for consideration, such as: rodent dropping and/or carcasses, mold and fungi, and pigeon guano may cause infectious illnesses and/or respiratory diseases in humans. Unprotected trades or workers performing demolition of the building materials should consider and take necessary precautions, as per the WorkSafeBC Occupational Health and Safety Regulations, to protect themselves from potential exposure of any contaminants. Worker should wear protective disposable clothing and HEPA equipped respirators when working near or in potential health hazards.

7.0 LIMITATIONS & EXCLUSIONS

EPOCH warrants that the finding and conclusions stated in this report are in accordance with generally accepted asbestos evaluation methods. Every effort was taken to minimize the disturbance to the building materials that may have contained asbestos.

Only visible suspect materials from accessible areas were sampled during the assessment. Recommendation and conclusions are based on the conditions observed at the site and should not be extrapolated to other circumstances. It is possible that other conditions may exist which could not be identified during our inspection. However, we believe that the conditions observed, provided an accurate reflection of the condition of the building.

This report was prepared for the exclusive use of the building owner, and their authorized representatives. It is intended to provide a comprehensive assessment of the presence of ACM within the building. No other parties are entitled to this report without the written permission of having first been requested from EPOCH. EPOCH accepts no responsibility for any claims by third party errors in this report.

This report and/or documents relating to this project have been prepared by EPOCH and are considered a product and shall remain a copyright property of EPOCH. The intended client or client's agent may not copy in whole or parts of, give, lend, sell, or otherwise make available the report or any portion of it to any party without the express permission of EPOCH.

The report is based on data and information available and collected at the time of the inspection. This assessment was conducted by an EPOCH representative and is based on the site conditions at the time of the inspection.

If new information becomes available or if any materials were not addressed in this report and is suspected of containing asbestos, EPOCH should be requested to further investigate the matter.

It was not possible to access, inspect, nor sample some equipment components observed at the building. Furnaces or equipment were not dismantled for inspection of suspect hazardous materials. Other areas behind walls, above false ceilings, and the building envelope that are inaccessible were also not inspected.

Prior to or during demolition work, if any other materials are suspected for asbestos, stop work and notify the appropriate individuals to conduct further testing and risk assessment.

If you have any questions or require further assistance, please feel free to contact our office.

Sincerely,
EPOCH Environmental Consulting Limited

Kyle Zell, B.Sc.
Senior Field Technician
GL210910KZ

Reviewed by:

Chris Schumacher, B.Sc.
Manager, Hazardous Materials

Appendix A

Laboratory Results - Bulk Samples

August 25, 2021

Epoch Environmental Consulting Ltd. - Bulk
William Plantinga
100- 42 Fawcett Road
Coquitlam, British Columbia
Canada

EALABS.CA
EPOCH ANALYTICAL INC.
LEADERS IN ASBESTOS ANALYSIS

100 42 Fawcett Road Coquitlam, BC V3K 6X9
Ph: (604) 521-6806 info@ealabs.ca

Attention: William Plantinga

BULK SAMPLE ASBESTOS IDENTIFICATION RESULTS - 820 Dock Rd, Delta, BC (E2021-161-01)

Please find attached the laboratory results for the collected bulk material sample(s) submitted for asbestos identification. Examination of these sample(s) for asbestos content was conducted in accordance to EPA/600/R-93/116 methodology using Polarized Light Microscopy (PLM). All analysts are derived from calibrated visual estimate (CVE). Please be advised that this EPA test method has a detection limit of 1% and therefore has a limitation for quantifying asbestos content in sample(s) with low concentration of <1%. In these cases, Asbestos Point Count and/or Transmission Electron Microscopy (TEM) are encouraged for customers to obtain more accurate results.

The results relate only to the items tested. If the sample(s) were not collected by EPOCH personnel, the accuracy of the results is limited by the methodology and acuity of the sample collector. This report applies only to the sample(s) tested. The Client is solely responsible for the use and interpretation of test results. Reports or copies of same will not be released by Epoch Analytical Inc. (EA Labs) to any third party without prior written request from the Client. This report must not be reproduced except in full with approval from EA Labs. Test reports cannot be modified to exclude asbestos containing materials (ACM), or revised to change report dates for the purpose of satisfying third party disposal company policies. The sample(s) not destroyed in the testing will be kept for 30 calendar days before being disposed. This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the US federal government.

WorkSafeBC's definition of an Asbestos Containing Material (ACM), with the exception of vermiculite insulation, is 0.5%. Vermiculite insulation containing 'any' amount of asbestos is considered an ACM. Specifically, Research Method EPA600/R-04/004 is recommended for the analysis of vermiculite insulation. If asbestos results are reported as 'None Detected', this indicates no asbestos was identified in the sample submitted to Epoch Analytical Inc.

ACCREDITATIONS

EPOCH Analytical Inc. Coquitlam is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos sample analysis under NVLAP Lab Code 200746-0.

If you have any questions or require further assistance, please do not hesitate to contact our office.

Sincerely

EPOCH Analytical Inc.

L Murakami

Leanne Murakami B.A.
Lab Director

Accredited by
NVLAP TESTING
NVLAP LAB CODE 200746-0

EAC2021-01-1788-N

GL 2021-08-25 LL/sc

Client Information:

Epoch Environmental Consulting Ltd. - Bulk
William Plantinga
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Ph: (604) 521-6806 info@ealabs.ca

Asbestos Bulk Analysis by Polarized Light Microscopy - EPA/600/R-93/116

Project Name:	Annacis Auto Terminal Optimization Project	**EA Number:**	EAC2021-01-1788-N
Project Number:	E2021-161-01	**Submitted By:**	William Plantinga
Project Location:	820 Dock Rd, Delta, BC	**Date Received:**	2021-08-23
Sampled By:	William Plantinga	**Time Received:**	12:30 PM
Date Sampled:	2021-08-23	**Date Analyzed:**	2021-08-25
		Date Reported:	2021-08-25

Sample Number	Location	Material	Estimated Asbestos % (Fiber Color)	Non-Asbestos Fibers % (Fiber Color)	Non-Fibrous Materials %
1	Mechanical Shop 1 - Office - Floor	Peel and Stick Tile - Top Layer	NONE Detected	Cellulose - 1% FibreGlass - 2% (Beige)	97%
		Peel and Stick Tile - Bottom Layer	NONE Detected	Cellulose - 1% Synthetic Fiber - 2% (Beige)	97%
2	Mechanical Shop 1 - Office - Wall Behind Baseboard	Glue	NONE Detected	Cellulose - 1% (Beige)	99%
3	Mechanical Shop 1 - Office - Above Ceiling Tiles	Paper Backing Insulation - Insulation	NONE Detected	FibreGlass - 95% (Pink)	5%
		Paper Backing Insulation - Paper Backing	NONE Detected	Cellulose - 90% (Tan)	10%
		Paper Backing Insulation - Mastic	NONE Detected	Cellulose - 2% FibreGlass - 7% (Beige)	91%
4	Mechanical Shop 1 - Bathroom 1 - South Wall	DJC- Drywall Joint Compound	**Chrysotile - 2% (White)**		98%
5	Mechanical Shop 1 - Bathroom 2 - South Wall	DJC- Drywall Joint Compound	**Chrysotile - 2% (White)**		98%
6	Mechanical Shop 1 - Office - Ceiling	Ceiling Tile	NONE Detected	Cellulose - 90% (Tan)	10%
7	Mechanical Shop 1 - Office - Ceiling	Ceiling Tile	NONE Detected	Cellulose - 90% (Tan)	10%
8	Mechanical Shop 1 - Office - Ceiling	Ceiling Tile	NONE Detected	Cellulose - 90% (Tan)	10%
9	Mechanical Shop 1 - Bathroom 1 - Ceiling	Ceiling Tile	NONE Detected	FibreGlass - 95% (Beige)	5%
10	Mechanical Shop 1 - Bathroom 1 - Floor	VFT - Vinyl Floor Tile	NONE Detected	Cellulose - 1% (Beige)	99%
11	Mechanical Shop 1 - Bathroom 1 - Floor	Mastic	NONE Detected	Cellulose - 2% FibreGlass - 1% (Beige)	97%
12	Mechanical Shop 1 - Mechanic Shop - Ducting	Mastic	NONE Detected	Cellulose - 1% (Beige)	99%
13	Mechanical Shop 1 - Mechanic Shop - Ducting	Mastic	NONE Detected	Cellulose - 1% (Beige)	99%
14	Mechanical Shop 1 - Mechanic Shop - Ducting	Caulking	NONE Detected	Cellulose - 1% (Beige)	99%
15	Mechanical Shop 1 - Mechanic Shop - Ducting	Duct Tape - Paper Backing	NONE Detected	Cellulose - 90% (Tan)	10%
		Duct Tape - Mesh Backing	NONE Detected	FibreGlass - 90% (Beige)	10%
16	Mechanical Shop 1 - Mechanic Shop - Ducting	Duct Tape	NONE Detected	Cellulose - 90% (Tan)	10%

17	Mechanical Shop 1 - Mechanic Shop - Ducting	Duct Tape	NONE Detected	Cellulose - 90% (Tan)	10%
18	Mechanical Shop 1 - Mechanic Shop - Ducting	Mastic	NONE Detected	Cellulose - 2% (Beige)	98%
19	Mechanical Shop 1 - AS2 - North Wall	DJC- Drywall Joint Compound	NONE Detected	Cellulose - 2% FibreGlass - 10% (Beige)	88%
20	Mechanical Shop 1 - AS2 - South Wall	DJC- Drywall Joint Compound	NONE Detected	Cellulose - 2% FibreGlass - 10% (Beige)	88%
21	Mechanical Shop 1 - AS2 - North Wall	DJC- Drywall Joint Compound	NONE Detected	Cellulose - 2% FibreGlass - 10% (Beige)	88%
22	Parts Warehouse Shed & Canopy and interior - West Wall	Paper Backing Insulation - Insulation	NONE Detected	FibreGlass - 95% (Pink)	5%
		Paper Backing Insulation - Backing	NONE Detected		100%
23	Former Paint and Body Shop - Mechanic Shop - South Wall	DJC- Drywall Joint Compound	NONE Detected	Cellulose - 3% (Beige)	97%
24	Former Paint and Body Shop - Mechanic Shop - East Wall	DJC- Drywall Joint Compound	NONE Detected	Cellulose - 3% (Beige)	97%
25	Former Paint and Body Shop - Mechanic Shop - North Window	Window Mastic	NONE Detected	Cellulose - 3% (Beige)	97%
26	Former Paint and Body Shop - Mechanic Shop - North Wall	DJC- Drywall Joint Compound	NONE Detected	Cellulose - 3% (Beige)	97%
27	Former Paint and Body Shop - Mechanic Shop - South Wall	DJC- Drywall Joint Compound	NONE Detected	Cellulose - 3% (Beige)	97%
28	Former Paint and Body Shop - Locker Room - West Wall	DJC- Drywall Joint Compound	NONE Detected	Cellulose - 3% (Beige)	97%
29	Former Paint and Body Shop - Hallway - Ceiling	Ceiling Tile	NONE Detected	Cellulose - 40% FibreGlass - 20% (Beige)	40%
30	Former Paint and Body Shop - Bathroom - North Wall	DJC- Drywall Joint Compound	NONE Detected	Cellulose - 3% (Beige)	97%
31	Former Paint and Body Shop - Training Room Storage - North Wall	DJC- Drywall Joint Compound	**Chrysotile - 2% (White)**		98%
32	Former Paint and Body Shop - Training Room - North Wall	DJC- Drywall Joint Compound	NONE Detected	Cellulose - 2% (Beige)	98%
33	Former Paint and Body Shop - Training Room Storage - Floor	VFT - Vinyl Floor Tile	**Chrysotile - 2% (White)**		98%
34	Former Paint and Body Shop - Training Room Storage - Floor	Mastic	NONE Detected	Cellulose - 2% (Beige)	98%
35	Former Paint and Body Shop - Mechanical Room - Floor	VFT - Vinyl Floor Tile	**Chrysotile - 2% (White)**		98%
36	Former Paint and Body Shop - Mechanical Room - Floor	Mastic	NONE Detected	Cellulose - 1% (Beige)	99%
37	Former Paint and Body Shop - Archive Room - Ceiling	Ceiling Tile	NONE Detected	Cellulose - 40% FibreGlass - 20% (Beige)	40%
38	Former Paint and Body Shop - Archive Room - North Wall	DJC- Drywall Joint Compound	NONE Detected	Cellulose - 2% (Beige)	98%
39	Former Paint and Body Shop - Toyota Room - North Wall	DJC- Drywall Joint Compound	**Chrysotile - 2% (White)**		98%

40	Former Paint and Body Shop - Toyota Room - Floor	VFT - Vinyl Floor Tile	NONE Detected	Cellulose - 1% (Beige)	99%
41	Former Paint and Body Shop - Toyota Room - Floor	Mastic	NONE Detected	Cellulose - 1% (Beige)	99%
42	Former Paint and Body Shop - Bathroom 1 - North Wall	DJC- Drywall Joint Compound	**Chrysotile - 2% (White)**		98%
43	Former Paint and Body Shop - Bathroom 1 - Floor	VFT - Vinyl Floor Tile	NONE Detected	Cellulose - 1% (Beige)	99%
44	Former Paint and Body Shop - Bathroom 1 - Floor	Mastic	NONE Detected	Cellulose - 1% (Beige)	99%
45	Former Paint and Body Shop - Bathroom 1 - Ceiling	Ceiling Tile	NONE Detected	Cellulose - 40% FibreGlass - 20% (Beige)	40%
46	Former Paint and Body Shop - Bathroom 2 - North Wall	DJC- Drywall Joint Compound	**Chrysotile - 2% (White)**		98%
47	Former Paint and Body Shop - Bathroom 2 - Floor	VFT - Vinyl Floor Tile	NONE Detected	Cellulose - 1% (Beige)	99%
48	Former Paint and Body Shop - Bathroom 2 - Floor	Mastic	NONE Detected	Cellulose - 1% FibreGlass - 2% (Beige)	97%
49	Former Paint and Body Shop - Hallway - Ceiling	Ceiling Tile	NONE Detected	Cellulose - 40% FibreGlass - 20% (Beige)	40%
50	Former Paint and Body Shop - Bathroom - Ceiling	Ceiling Tile	NONE Detected	Cellulose - 40% FibreGlass - 20% (Beige)	40%
51	AS2 - Roof	Mastic	**Chrysotile - 2% (White)**		98%
52	AS2 - Ceiling Insulation	Insulation	NONE Detected	FibreGlass - 90% (Beige)	10%
53	AS2 - Eave Insulation	Insulation	NONE Detected	FibreGlass - 95% (Beige)	5%
54	AS2 - Roof Flashing Mastic	Mastic	**Chrysotile - 2% (White)**		98%
55	Mechanic Shop 1 - Ceiling Insulation	Insulation	NONE Detected	FibreGlass - 95% (Beige)	5%
56	Mechanic Shop 1 - Duct Mastic Grey	Mastic	NONE Detected	Cellulose - 1% (Beige)	99%
57	Mechanic Shop 1 - Duct Mastic Grey	Mastic	NONE Detected	Cellulose - 1% (Beige)	99%
58	Mechanic Shop 1 - Duct Caulking Red	Caulking	NONE Detected		100%
59	Mechanic Shop 1 - Duct Mastic Grey	Mastic	NONE Detected	Cellulose - 1% (Beige)	99%
60	Mechanic Shop 1 - Duct Mastic Grey	Mastic	NONE Detected	Cellulose - 1% (Beige)	99%
61	Mechanic Shop 1 - Block Wall Mortar by Locker	Mortar	NONE Detected		100%
62	Mechanic Shop 1 - Block Wall Mortar by Washroom	Mortar	NONE Detected		100%
63	Mechanic Shop 1 - Block Wall By Office	Mortar	NONE Detected		100%
64	Exterior Mechanic Shop 1 - Siding Mastic	Mastic	**Chrysotile - 2% (White)**		98%
65	Exterior Mechanic Shop 1 - Roof Mastic	Mastic	**Chrysotile - 2% (White)**		98%
66	Exterior Mechanic Shop 1 - Roof Mastic	Mastic	**Chrysotile - 2% (White)**		98%
67	Exterior Mechanic Shop 1 - Roof Caulking	Caulking	NONE Detected		100%
68	Former Paint and Body Shop - Roof Exhaust Vent Mastic	Mastic	**Chrysotile - 2% (White)**		98%

69	Former Paint and Body Shop - Locker Roof Shingle	Roofing Shingle	NONE Detected	Synthetic Fiber - 25% (Beige)	75%
		Roofing Shingle - Mastic	NONE Detected	Synthetic Fiber - 2% (Beige)	98%
70	Former Paint and Body Shop - Locker Roof Mastic	Mastic	NONE Detected	Synthetic Fiber - 2% (Beige)	98%
		Roofing Shingle	NONE Detected	FibreGlass - 20% (Beige)	80%
71	Former Paint and Body Shop - Locker Roof Mastic	Roofing Shingle	NONE Detected	Synthetic Fiber - 25% (Beige)	75%
		Roofing Shingle - Mastic	NONE Detected	Synthetic Fiber - 2% (Beige)	98%
72	Former Paint and Body Shop - White Roof Putty	Putty	**Chrysotile - 2% (White)**		98%
73	Former Paint and Body Shop - Roof Putty	Putty	NONE Detected	Cellulose - 2% (Beige)	98%
74	Former Paint and Body Shop - White Roof Putty	Putty	**Chrysotile - 2% (White)**		98%
75	Former Paint and Body Shop - Black Vent Mastic	Putty	**Chrysotile - 3% (White)**		97%
76	Former Paint and Body Shop - Roof Putty	Putty	NONE Detected	Cellulose - 2% (Beige)	98%
77	Former Paint and Body Shop - Exhaust Extractor Duct Tape	Duct Tape	NONE Detected	Cellulose - 80% (Beige)	20%
78	Former Paint and Body Shop - Paint Booth Extractor Fan Mastic	Mastic	NONE Detected	Cellulose - 1% (Beige)	99%
79	Former Paint and Body Shop - Paint Booth Extractor Fan Mastic	Mastic	NONE Detected	Cellulose - 1% (Beige)	99%
80	Former Paint and Body Shop - Ceiling Insulation	Mastic	NONE Detected	FibreGlass - 95% (Beige)	5%
81	Former Paint and Body Shop - Green Duct Mastic	Mastic	NONE Detected		100%
82	Former Paint and Body Shop - Spray-Foam insulation	Spray Insulation	NONE Detected		100%
83	Former Paint and Body Shop - Roof Putty	Putty	NONE Detected	Cellulose - 5% (Beige)	95%

Analyst Notes:

Analyzed and Reviewed By:

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Analyst

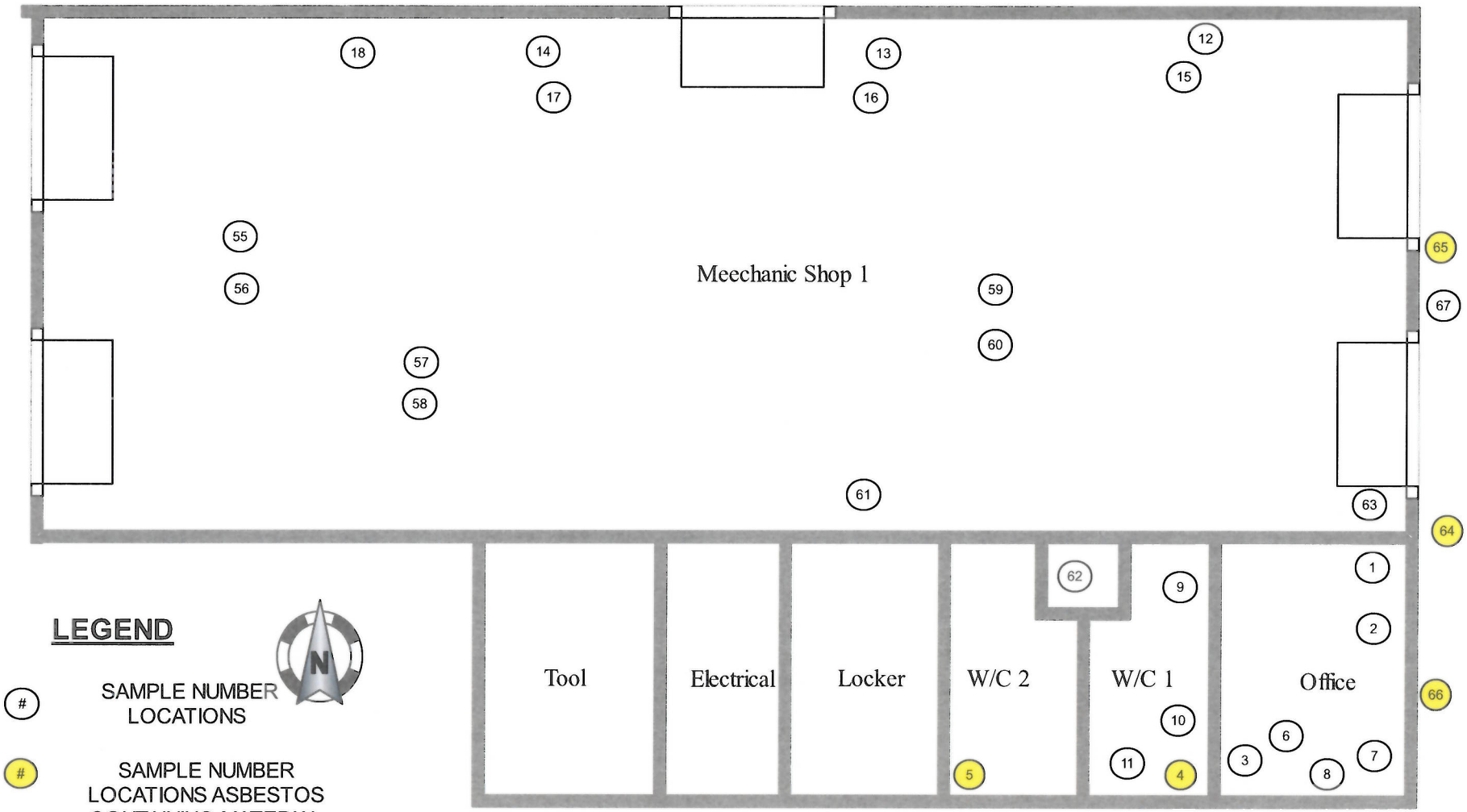
Simon Chen M. Eng.
Analyst

EAC2021-01-1788-N

EPOCH
ENVIRONMENTAL CONSULTING

Appendix B

Site Drawings and Sample Locations



LEGEND

(#) SAMPLE NUMBER LOCATIONS

(#) SAMPLE NUMBER LOCATIONS ASBESTOS CONTAINING MATERIAL

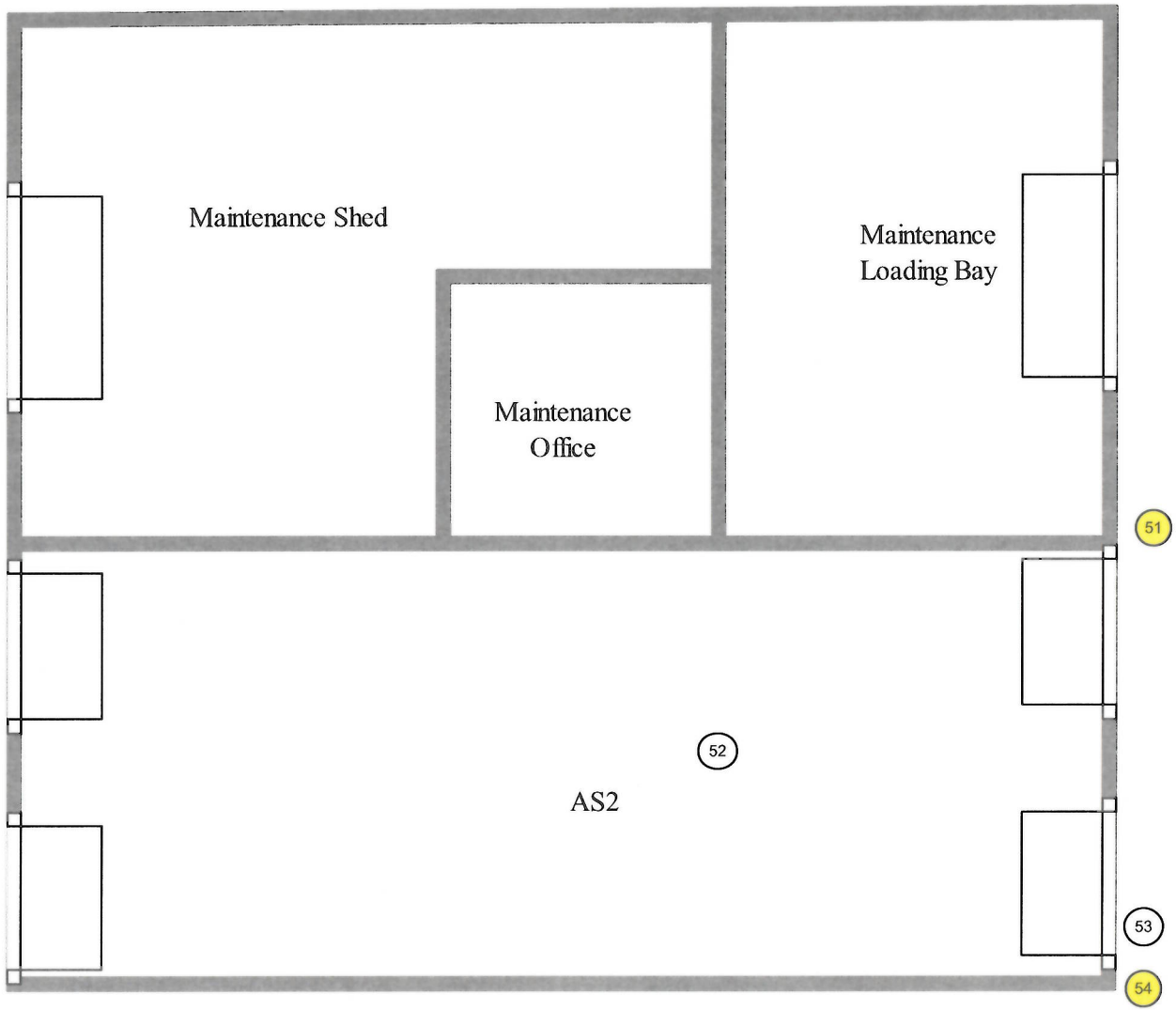
EPOCH ENVIRONMENTAL CONSULTING

Unit 100 - 42 Fawcett Road,
Coquitlam, BC

Project No: E2021-161-01	**Client Job No:**
Lab No: EAC2021-01-1788	**Checked By:** CS
Address: 820 Dock Road, Delta, BC	**Drawn By:** KZ
	DWG Scale: Not to Scale
	Inspection Date: August 23, 2021
	Client Name: AECOM Canada Ltd

Drawing No.: FIGURE 1

Drawing Title: FLOOR PLAN & SAMPLING LOCATIONS



LEGEND

(#) SAMPLE NUMBER LOCATIONS

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EPOCH ENVIRONMENTAL CONSULTING

Unit 100 - 42 Fawcett Road,
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Project No: E2021-161-01	**Client Job No:**
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	DWG Scale: Not to Scale
	Inspection Date: August 23, 2021
	Client Name: AECOM Canada Ltd

Drawing No.: FIGURE 2

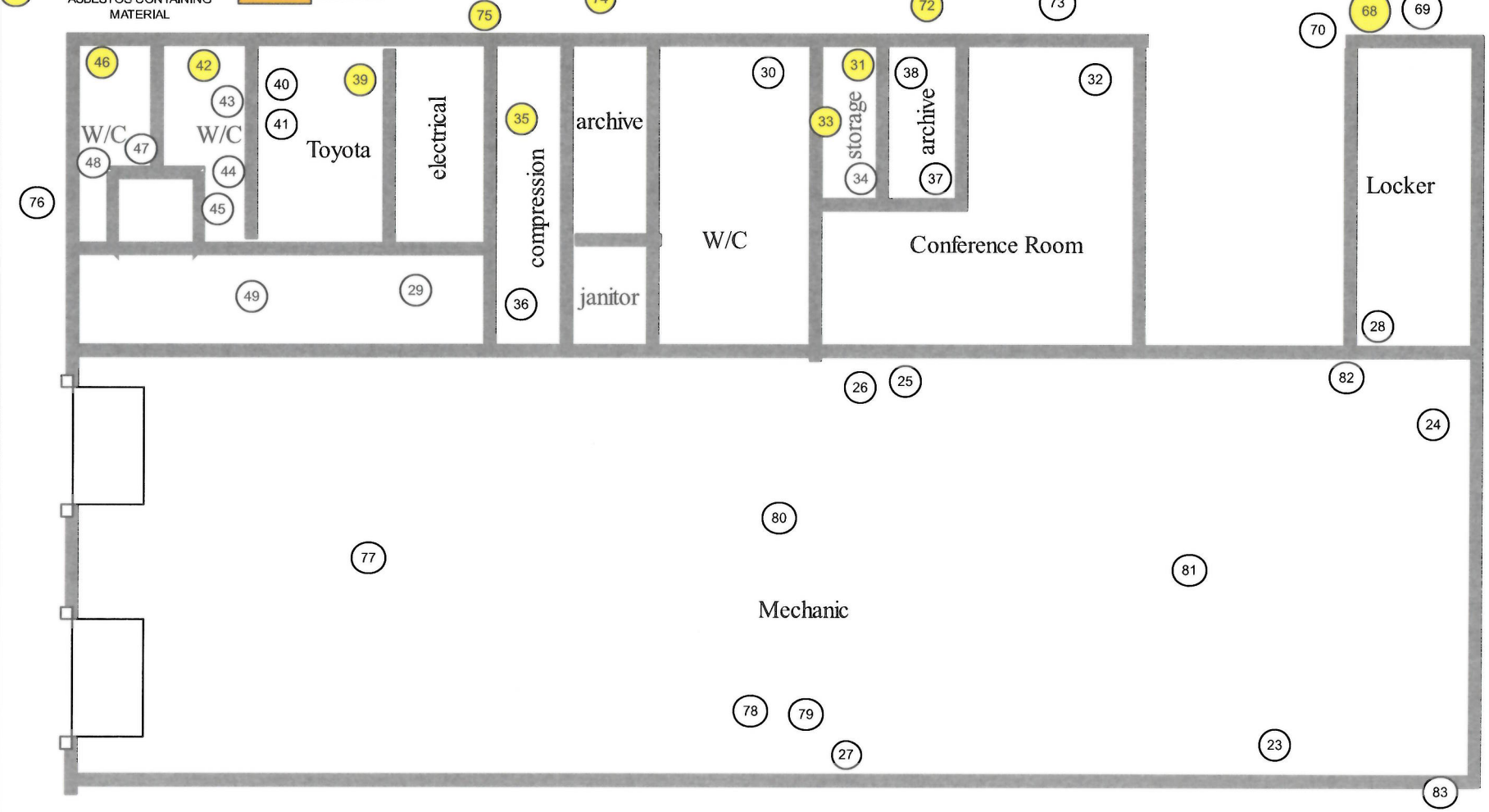
Drawing Title: FLOOR PLAN & SAMPLING LOCATIONS

LEGEND

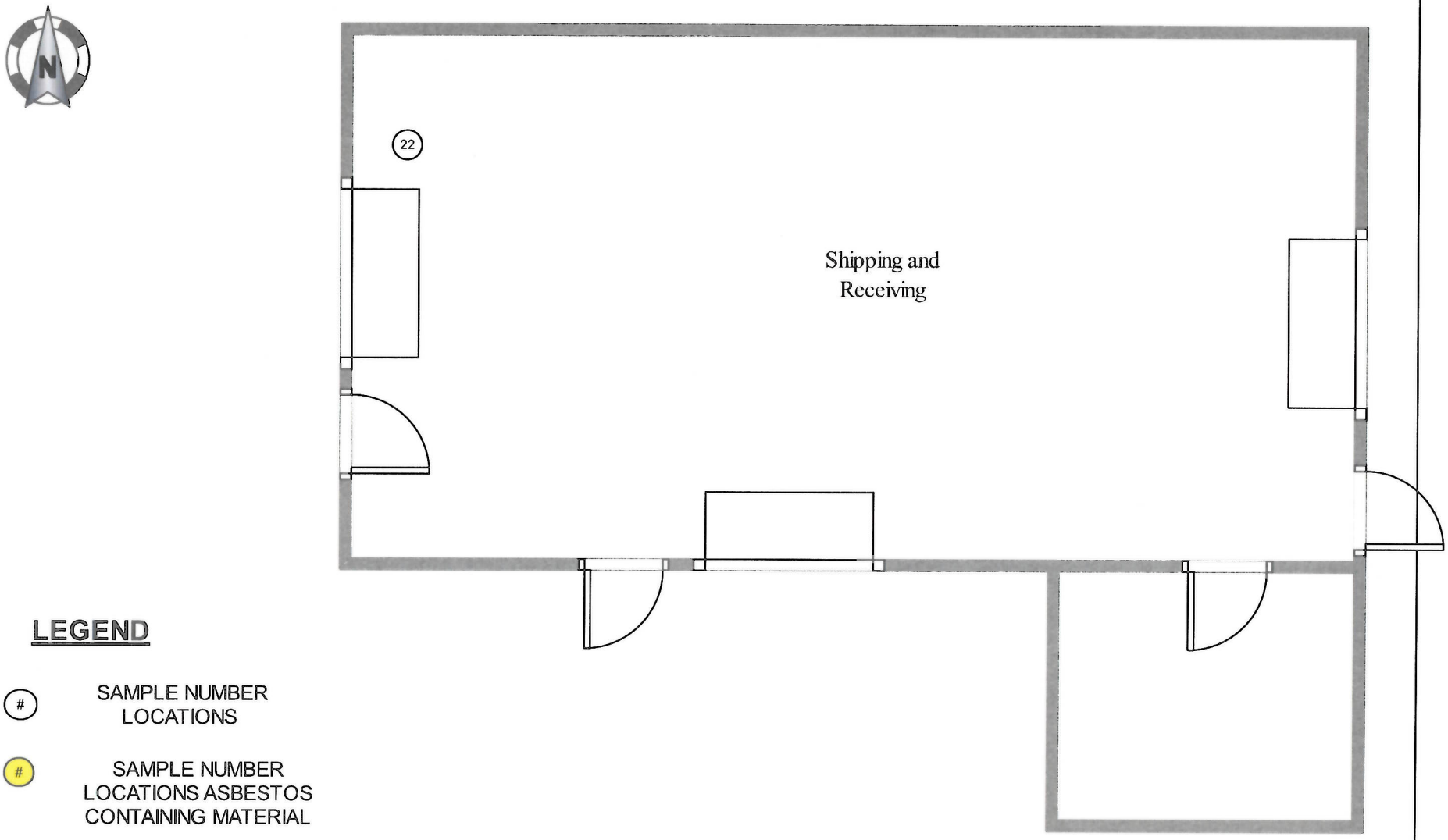
(#) SAMPLE NUMBER LOCATIONS — LP# — SAMPLE NUMBER LOCATIONS FOR LEAD ANALYSIS

(#) SAMPLE NUMBER LOCATIONS ASBESTOS CONTAINING MATERIAL — LP# — LEAD-CONTAINING PAINT / COATING IDENTIFIED

AS3



EPOCH ENVIRONMENTAL CONSULTING Unit 100 - 42 Fawcett Road, Coquitlam, BC	**Project No:** E2021-161-01	**Client Job No:**	**Drawing No.:** FIGURE 3
	Lab No: EAC2021-01-1788	**Checked By:** CS	
	Address: 820 Dock Road Delta, BC	**Drawn By:** KZ	**Drawing Title:** FLOOR PLAN & SAMPLING LOCATIONS
		DWG Scale: Not to Scale	
		Inspection Date: August 23, 2021	
		Client Name: AECOM Canada Ltd	



LEGEND

(#) SAMPLE NUMBER LOCATIONS

(#) SAMPLE NUMBER LOCATIONS ASBESTOS CONTAINING MATERIAL

EPOCH ENVIRONMENTAL CONSULTING Unit 100 - 42 Fawcett Road, Coquitlam, BC	**Project No:** E2021-161-01	**Client Job No:**	**Drawing No.:** FIGURE 4
	Lab No: EAC2021-01-1788	**Checked By:** CS **Drawn By:** KZ **DWG Scale:** Not to Scale	**Drawing Title:** FLOOR PLAN & SAMPLING LOCATIONS
	Address: 820 Dock Road Delta, BC	**Inspection Date:** August 23, 2021 **Client Name:** AECOM Canada Ltd	

Appendix C

Guidelines, Standards and Regulations

WORK SAFE BC

WorkSafe Bulletin

Asbestos hazards in demolition, renovation, and salvage

Asbestos causes more worker deaths than any other workplace disease – what can you do?

Asbestos is extremely hazardous to people's health. Demolishing or renovating houses containing asbestos products can release asbestos fibres, which are extremely fine and can stay in the air for hours.

Unprotected workers exposed to asbestos-contaminated air can breathe in the fibres. This may cause serious health problems, such as lung disease and cancer.

What is asbestos?

Asbestos is a strong, fire-resistant mineral fibre. In the past, asbestos was used as insulation against heat or noise, and for fire protection. It was also added to materials such as cement and plaster to give them more structural strength.

Where was asbestos used in older homes?

Until the late 1980s, more than 3,000 products containing asbestos were used in house construction. The drawing on the back of this page shows potential sources of asbestos once commonly used in residential construction. When demolishing or renovating older houses, there is a high probability of encountering asbestos-containing materials, which may release asbestos fibres and put unprotected workers at risk.

What are my responsibilities as an employer or owner/builder?

You are responsible for ensuring the health and safety of all workers present at your workplace. You are also responsible for protecting the public from any asbestos-contaminated air.

When doing any demolition, renovation, or salvage work, you must follow WorkSafeBC OHS regulations, specifically Part 20: Demolition and Part 6: Asbestos.

What do I have to do before demolishing, renovating, or salvaging buildings or structures?

1. You must have a qualified person inspect the site to identify any asbestos that may be handled, disturbed, or removed. OHS Guideline G6.6-3 outlines the acceptable qualifications for persons conducting asbestos hazard assessments.
2. You must submit to WorkSafeBC a Notice of Project form for asbestos at least 24 hours before any asbestos removal or other work begins.
3. You must have trained and qualified asbestos-removal workers properly remove and dispose of all material containing asbestos.

You should receive written confirmation that the asbestos specified for removal on the Notice of Project form has been properly removed.

For more information, refer to OHS Guideline G20.112, which explains the hazards associated with the uncontrolled release of asbestos. It also provides information on the following topics:

- What constitutes a compliant asbestos inspection.
- Arranging for and confirming the safe removal of asbestos.
- What to do if you encounter more materials suspected to contain asbestos during demolition or salvage work.

What should I do if I find more asbestos-containing material once work has started?

Stop work immediately. Have trained and qualified asbestos-removal workers properly remove these materials before resuming work.

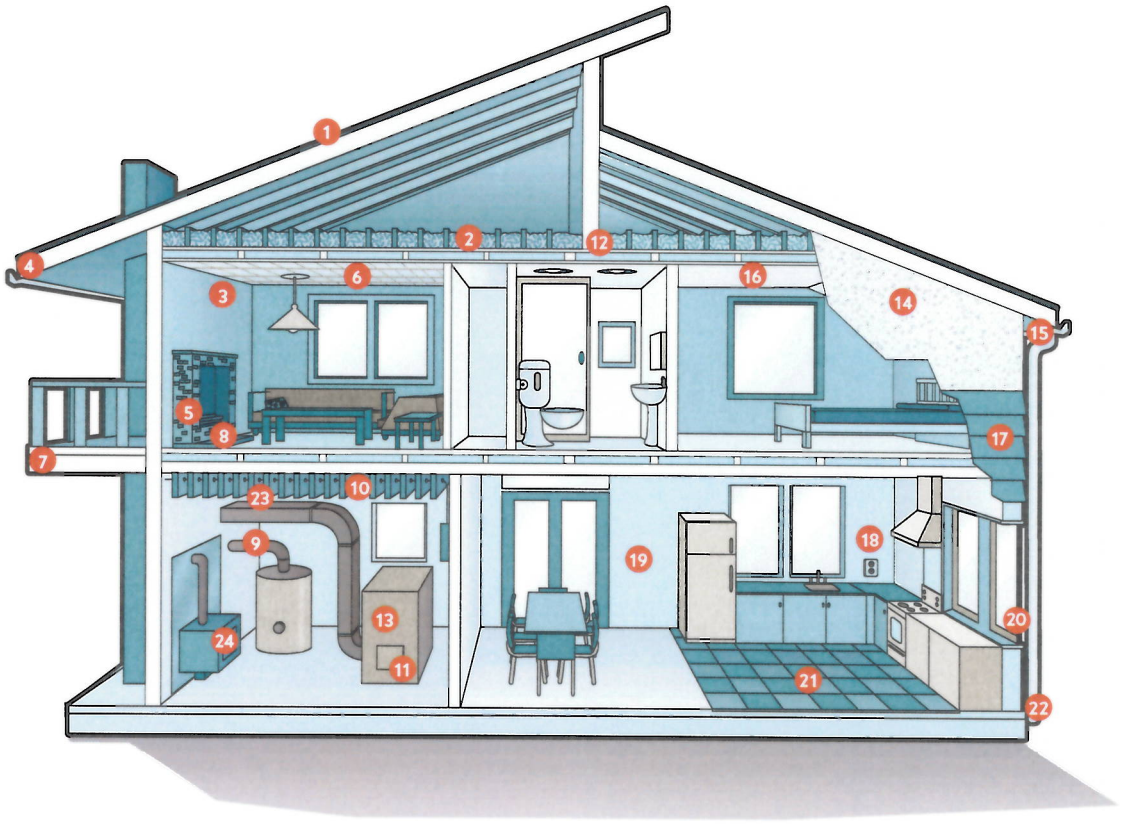
Where can I find additional information about asbestos and Notice of Project forms?

You can submit a Notice of Project form online at worksafebc.com. Asbestos survey and removal companies can be found in the Yellow Pages under Asbestos Abatement & Removal, Health & Safety Consultants, or Environmental Consultants.

For more information about asbestos and what your responsibilities are, check out hiddenkiller.ca or go to worksafebc.com for the following resources:

- *Safe Work Practices for Handling Asbestos* booklet
- Safety at Work Construction webpage
- OHS Guideline G6.8: Procedures for abatement of asbestos-containing material during house and building demolition/renovation

Potential sources of asbestos in the home.



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

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.

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.

Workers and Human Exposure:

Health Canada and the new ***Canada Consumer Product Safety Act (formerly Canadian Hazardous Product Act (CHPA)***, under the Surface Coating Material Regulations (SOR/2005-109) defines that surface paint in ***new*** materials containing lead greater than 0.009% wt. (90 ppm or mg/kg) is to be considered lead-containing paints.

State of California Division of Occupational Safety and Health Administration (Cal/OSHA) suggests that removal of lead-containing paint/coating which equals or exceeds 600 ppm or mg/kg (0.06 % wt. or ~0.04 mg/cm^2) requires safe work procedures worker protection (HEPA respirator and coveralls) and an exposure control plan be implemented.

Lead-based paint is defined as paint or other surface coatings that contain lead equal to or exceeding 0.5 percent (%) by weight (5000 ppm or mg/kg) as per the U.S. Department of ***Housing and Urban Development*** (HUD) and the U.S. Environmental Protection Agency (EPA).

Disposal Requirement:

When paints have been identified to be lead-based paints, the paint will require waste characterization for disposal through TCLP Leachability Tests. Additional waste characteristic testing (TCLP) testing is recommended for lead-based paints. The purpose of this test is to determine the TCLP concentration for disposal requirement with respect to "leachability" or "mobility" of paints, or any materials (excluding ceramic tiles and metals). If the lead-containing paints exceed a leaching lead concentration of 5.0 mg/L, the paint and substrate (**excludes ceramic tiles and metals**) will be classified as Hazardous waste and therefore will require proper disposal in accordance to the Ministry of Environment.

X-Ray Fluorescence (XRF) Lead Detection Methodology:

Surface paints and coatings resulting below the limit of detection (<LOD) in mg/cm^2 by XRF analysis cannot be assumed to not contain lead unless further laboratory analysis methods can prove otherwise. Bulk or paint chip samples may be collected and analyzed by a lead-analysis laboratory to determine concentration by laboratory methodologies.

Any detectable amount of lead in paints or coatings may pose a health risk when the material is disturbed, depending on the method.