# HAZARDOUS BUILDING MATERIALS SURVEY

# OF

# 324 MAIN STREET
# VANCOUVER, BRITISH COLUMBIA

Prepared for:
The City of Vancouver
Facility Design & Management
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## 1.0 INTRODUCTION

Further to your request, EHS Partnerships Ltd. (EHS$^P$) completed a pre-renovation hazardous building material assessment of the commercial building located at 324 Main Street in Vancouver, British Columbia (to be referred as herafter as "the Subject Building").

The assessment was limited to include only those areas of the Subject Building that were identified to EHS$^P$ to form 324 Main Street and that are detailed on the drawings provided in **Appendix II** of this report.

The assessment was conducted between March 19, 2012 and March 23, 2012 by Vanessa Kernel, Project Coordinator for EHS$^P$, and Kristen Bannerholt, Technician for EHS$^P$, under the direction of Lance Pizzariello, Project Manager and Associate for EHS$^P$.

## 2.0 SCOPE OF WORK

The survey was completed to determine the presence and extent of asbestos-containing materials (ACM) and lead-based paint (LBPs), and to identify potential sources of polychlorinated biphenyls (PCB) in fluorescent light ballasts, mercury in thermostats and fluorescent light tubes, and ozone-depleting substances (ODS) in items or systems such as air conditioning units and refrigerators.

Only limited demolition was conducted during the survey to identify concealed hazardous building materials within wall, ceiling, floor and foundation cavities.

As part of the survey, EHS$^P$ reviewed previous sample results provided by the City of Vancouver (to be referred as herafter as "previous sample results").

## 3.0 REGULATIONS AND GUIDELINES

### 3.1 Applicable Federal Legislation

#### 3.1.1 Transportation of Dangerous Goods

The transportation of hazardous wastes is governed under the Transportation of Dangerous Goods (TDG) Act and Regulations which outline the requirements for storage, handling, and transportation of hazardous waste, amongst other products.

## 3.2 Provincial Regulations & Guidelines

In British Columbia, the management of hazardous materials in the work place is regulated by WorkSafeBC under the Workers' Compensation Act (effective April 15, 1998), as amended by the Workers' Compensation (Occupational Health and Safety) Amendment Act (effective October 1, 1999).

### 3.2.1 Hazardous Wastes

In British Columbia, environmental matters pertaining to waste generally fall under the jurisdiction of the British Columbia Ministry of Environment (MoE), pursuant to the Environmental Management Act. The key waste regulation under the Environmental Management Act relating to hazardous building materials is the Hazardous Waste Regulation (HWR), including amendments up to B.C. Reg. 63/2009, April 1, 2009.

The HWR provides the requirements for the proper handling, storage, transportation, treatment, recycling and disposal of hazardous wastes in the province. The regulation also outlines the materials and criteria to be used to characterize waste as hazardous.

### 3.2.2 Asbestos-Containing Materials (ACMs)

ACMs are regulated under Part 6 (sections 6.1 to 6.32 - Asbestos) of British Columbia Occupational Health and Safety Regulation (BC Reg.) 296/97.

Additionally, the Workers' Compensation Board of British Columbia has published "*Safe Handling of Asbestos, A Manual of Standard Practices"*. This manual outlines basic information on asbestos and asbestos products, health hazards requirements for worker protection, safe work procedures and principles that should be followed in selecting the most suitable technique for the safe abatement of ACM. This document provides a guide to current practices that are to be followed in the Province of British Columbia.

### 3.2.3 Lead-Based Paint (LBPs)

LBPs are regulated under Part 6 (sections 6.59 to 6.69 - Lead) of British Columbia Occupational Health and Safety Regulation (BC Reg.) 296/97. These sections of the regulation apply to any workplace where a worker is or may be exposed to potentially hazardous levels of inorganic lead.

Additionally, WorkSafeBC has recently published a lead coating and paint safety manual entitled, "*Lead-Containing Paint and Coatings, Preventing Exposure in the Construction Industry*", dated June 2011. This manual outlines basic information on lead and lead-containing products, health hazards requirements for worker protection, safe work procedures and principles that should be followed in selecting the most suitable technique for the safe abatement of lead contamination, providing a general guide to current practices that are to be followed in the Province of British Columbia.

3.2.4 Ozone-Depleting Substances (ODSs)

Provincial regulatory framework detailing the requirements for the safe management, storage and disposal of ozone-depleting substances are provided by the British Columbia Ministry of Envrionment and that are specifically outlined in the Ozone-Depleting Substances and Other Halocarbons Regulation including amendments up to B.C. Reg. 4/2010, January 14, 2010.

## 4.0 METHODOLOGY

When sampling for hazardous building materials, room numbers on the drawings provided by the City of Vancouver were assigned by EHS$^{P}$ to ensure continuity and accuracy of information compiled during the survey.

All work was conducted in accordance with standards outlined by WorkSafeBC, and the National Institute for Occupational Safety and Health (NIOSH).

### 4.1 Asbestos-Containing Materials

The assessment determined the extent of ACM within generally accessible spaces the Subject Building. The survey was completed on a room-by-room basis to provide a complete inventory within these generally accessible spaces.

Asbestos sample locations were referenced to the drawings provided by the City of Vancouver. Room number reference drawings are presented in Appendix II.

The systems which were reviewed included, but were not limited to:

- Mechanical: Building mechanical systems such as the heating, ventilating and air conditioning (HVAC) systems were inspected for the presence of ACM. The inspection included insulation on ductwork, pipe work and fittings, such as steam, condensate, chilled water, glycol, and domestic hot and cold water.

- Structural: The method of construction was determined, including interior room areas, mezzanines and roofing support systems. Fireproofing, fire-stop and other materials installed as a part of the structure were reviewed.

- Architectural: The presence of ACM was assessed in building materials and finishes such as floor and ceiling tiles, texture coats, asbestos sheet materials, wall joint compound, condensation control applications, spray-applied acoustical materials, and spray-applied insulation on areas of the structure.

Materials suspected of containing asbestos were sampled. Multiple samples of drywall joint compound were collected, homogenized, and combined for composite analysis. The asbestos samples were analyzed for asbestos type and percentage content using Polarized Light Microscopy in accordance with (NIOSH) methodologies and United States Environmental Protection Agency dispersion staining techniques (EPA/600/R-93/116).

### 4.2 Lead-Based Paint

Lead sample locations were referenced to the drawings provided by the City of Vancouver. Room number reference drawings are presented in Appendix II.

A Niton X-Ray Fluorescence (XRF) spectroscopy detector was used to make measurements on various painted surfaces inside the facility. The Niton XRF is designed to detect and quantify the amount of lead present primarily in painted surfaces. Measurements were made following Niton XRF standard operating procedures for lead paint measurement.

### 4.3 Polychlorinated Biphenyls (PCB)

During the survey, the Subject Building was visually assessed for the presence of PCBs in fluorescent light ballasts.

### 4.4 Mercury-Containing Materials

During the survey, the Subject Building was visually assessed for the presence of mercury-containing thermostats, sensors, and other equipment.

### 4.5 Ozone Depleting Substances (ODS)

During the survey, the Subject Building was visually assessed for the presence of potential sources of ODSs, including air conditioning units, water coolers, refrigerators, and freezers.

## 5.0 RESULTS AND DISCUSSION

### 5.1 Asbestos

Twenty-two (22) samples of materials suspected of containing asbestos were collected and submitted for analysis. One (1) of these samples were found to be asbestos-containing. Table 1: Results of Asbestos Analysis, provides details of the sampling program and analysis results.

The laboratory reports are provided in Appendix I.

**Table 1: Results of Asbestos Analysis**

| Sample Number | Sample Location / Description | Asbestos Detected: Yes/No; Type |
|---|---|---|
| S4-17 | Fourth Floor, Lobby 440 / Stipple on Ceiling | No |
| S4-18 | Fourth Floor, Corridor 441 / Stipple on Ceiling | No |
| S4-19 | Fourth Floor, Corridor 441 / Grout Between Green Ceramic Tiles | No |
| S4-20 | Fourth Floor, Corridor 441 / Black Interior Window Caulking | No |
| S4-21 | Fourth Floor, Pipe Service Corridor / Mortar Between Bricks | No |
| S4-22 | Fourth Floor, Room 449 / 2'x2' Plaster Ceiling Tiles | No |
| S4-23 | Fourth Floor, Room 448 / Brown Mastic Puck holding 4'x8' Tiles | No |
| S4-24 | Fourth Floor, Room 448 / 4'x8' Ceiling Tiles (Spaghetti Texture) | No |
| S4-26 | Fourth Floor, Room 447 / Black Mastic Pucks holding 1'x1' Ceiling Tiles | No |
| S4-27 | Fourth Floor, Room 447 / 2'x4' Pinhole Ceiling Tile | No |
| S4-29 | Fourth Floor, Room 446 / Plaster on Perimeter Wall | No |

| Sample Number | Sample Location / Description | Asbestos Detected: Yes/No; Type |
|---|---|---|
| S4-30 | Fourth Floor, Room 447 / Plaster on Interior Wall | No |
| S4-31 | Fourth Floor, South East Stairwell / Firestop around Wall Penetration for Electrical | No |
| S5-07 | Fifth Floor, Offices 503 / Interior Drywall Joint Compound | No |
| S5-08 | Fifth Floor, Offices 503 / Drywall Joint Compound from Perimeter Wall | No |
| S5-09 | Fifth Floor, Open Space 504 / Plaster from Perimeter Wall | No |
| S5-10 | Fifth Floor, Lobby 502 / Stipple on Ceiling | No |
| **S5-11** | **Fifth Floor, Open Space 504 / Residual Stipple on Ceiling** | **Yes; Chrysotile 10.0 %** |
| S5-12 | Fifth Floor, Open Space 504 / Plaster on Ceiling | No |
| S5-13 | Fifth Floor, Open Space 504 / 1'x1' Ceiling Tile (Pinholes) | No |
| S6-01 | Sixth Floor, Backroom 602 / Plaster from Perimeter Wall | No |
| S6-02 | Sixth Floor, Open Space 601 / Plaster from Interior Wall | No |

Note: * denotes that the asbestos content was verified with point counting.
** asbestos was identified in the floor tile only, not the mastic.

Based on the above-listed sample results, previous sample results and on our visual observations, EHS$^{P}$ offers the following conclusions regarding the presence and extent of confirmed and presumed ACMs within the Subject Building:

***Hot Water Heating (HWH) System***

| | |
|---|---|
| Fittings of the HWH System: | Asbestos is presumed to be present in thermal mechanical insulation on fittings of the HWH pipes currently enclosed within inaccessible pipe chases throughout the Subject Building. |
| Straight Run Pipes of the HWH System: | Asbestos is presumed to be present in the thermal mechanical insulation on the straight runs of the HWH pipes currently enclosed within inaccessible pipe chases of the Subject Building. |
| Gaskets of the HWH: | The gaskets of the HWH system are presumed to be asbestos containing. |

***Chilled Water (CW) System***

| | |
|---|---|
| Fittings of the CW System: | Asbestos is presumed to be present in thermal mechanical insulation on fittings of the CW pipes currently enclosed within inaccessible pipe chases throughout the Subject Building. |
| Straight Run Pipes of the CW System: | Asbestos is presumed to be present in thermal mechanical insulation on the straight run of the CW pipes currently enclosed within inaccessible pipe chases of the Subject Building. |
| Gaskets of the CW System: | The gaskets of the CW system are presumed to be asbestos containing. |

***Domestic Water (DW) System***

| | |
|---|---|
| Fittings of the DW System: | Asbestos is presumed to be present in thermal mechanical insulation on fittings of the DW pipes that are enclosed within inaccessible pipe chases throughout the Subject Building. |
| Straight Run Pipes of the DW System: | Asbestos is presumed to be present in thermal mechanical insulation on the straight runs of the DW pipes that are enclosed within inaccessible pipe chases of the Subject Building. |

| | |
|---|---|
| Gaskets of the DW System: | The gaskets of the DW system are presumed to be asbestos containing. |
| ***Storm Water (SW) Drainage System*** | |
| Fittings of the SW Drainage System: | Fittings of the SW Drainage system are not insulated. |
| Straight Runs of the SW Drainage System: | Straight run pipes of the SW Drainage system are not insulated. |
| Gaskets of the SW Drainage System: | The gaskets of the SW Drainage system pipes are presumed to be asbestos containing. |
| ***Sewage (S) Drainage System*** | |
| Fittings of the S Drainage System: | Fittings of the S Drainage system are not insulated. |
| Straight Run Pipes of the S Drainage System: | Straight run pipes of the S Drainage system are not insulated. |
| Gaskets of the S Drainage System: | The gaskets of the S Drainage pipes are presumed to be asbestos containing. |
| ***Air Delivery Ducts*** | Asbestos was detected in Duct Joint Mastic painted black on Air Delivery Ducts throughout the Subject Building. |
| ***Flooring Systems*** | |
| | Asbestos was not detected in the flooring systems of the Subject Building. |
| ***Drywall Systems*** | |
| | Asbestos containing Drywall Joint Compound was not detected in the Subject Building. |

***Plaster Systems***

Asbestos was detected in residual stipple ceiling of the Fith Floor.

Asbestos was not detected in plaster applications of the ceilings, interior walls, or perimeter walls of the Subject Building.

***Acoustic Ceiling Tile Systems***

Asbestos was not detected in Acoustic Ceiling Tiles or Mastic Pucks of the Subject Building.

***Window Systems***

Asbestos was detected in window caulking throughout the Subject Building.

## 5.2 Lead-Based Paint

Forty-seven (47) surfaces suspected of containing lead-based paint were identified within the Subject Building and were analyzed for lead content. Five (5) of the painted surfaces were found to be lead-based. Table 2: Results of XRF Analysis, provides details of the sampling program and analysis.

**Table 2: XRF Paint Measurements**

| Sample | Location (1) | Colour | Results ($mg/cm^2$) (2) | Lead-Based Paint (3) (Yes/No) |
|---|---|---|---|---|
| L-133 | Fourth Floor, South West Stairwell: Fire Escape Door | Cream | 0.09 | No |
| L-134 | Fourth Floor, Lobby 440: Elevator Door | Blue | 0.5 | No |
| L-135 | Fourth Floor, Lobby 440: Door to Jails | Cream | 0.19 | No |
| **L-136** | **Fourth Floor, Corridor 441: Ceramic Wall Bricks** | **Green** | **2.1** | **Yes** |
| L-137 | Fourth Floor, Corridor 441: Concrete Floor | Red | 0.02 | No |
| L-138 | Fourth Floor, Corridor 441: Elevator Door | Green | 0.22 | No |

| Sample | Location (1) | Colour | Results ($mg/cm^2$) (2) | Lead-Based Paint (3) (Yes/No) |
|---|---|---|---|---|
| L-139 | Fourth Floor, Corridor 441: Doors | Green | 0.21 | No |
| L-140 | Fourth Floor, Corridor 441: Metal Grate | Black | 0.02 | No |
| L-141 | Fourth Floor, Washroom 450: Ceramic Floor Tiles | | 0.02 | No |
| **L-142** | **Fourth Floor, Washrooom 450: Ceramic Wall Tiles** | **Black** | **40.8** | **Yes** |
| **L-143** | **Fourth Floor, Janitors Closet 454: Ceramic Tiles** | **White** | **2.7** | **Yes** |
| **L-144** | **Fourth Floor, Washroom 453: Ceramic Tiles** | **Off-White** | **29.7** | **Yes** |
| L-145 | Fourth Floor, Washroom 453: Walls | Beige | 0.15 | No |
| L-146 | Fourth Floor, Washroom 453: Lockers | Green | 0.02 | No |
| L-147 | Fourth Floor, Exterior Window Frame | Cream | 0.27 | No |
| L-148 | Fourth Floor, South East Stairwell: Trim at Base of Wall | Black | 0.22 | No |
| L-162 | Fifth Floor, Lobby 502: Elevator Door | Blue | 0.17 | No |
| L-163 | Fifth Floor, Lobby 502: Door to Stairwell | Blue | 0.13 | No |
| L-164 | Fifth Floor, Open Space 504: Wall | White | 0.04 | No |
| L-165 | Fifth Floor, Open Space 504: Door | Cream | 0.78 | No |
| **L-166** | **Fifth Floor, Open Space 504: Ceramic Wall Bricks** | **Painted White** | **2.9** | **Yes** |
| L-167 | Fifth Floor, Open Space 504: Metal Gate | Black | 0.08 | No |
| L-168 | Fifth Floor, Open Space 504: Elevator Door | Blue | 0.22 | No |
| L-169 | Fifth Floor, Open Space 504: Door to Stairwell | Blue | 0.39 | No |
| L-170 | Fifth Floor, Offices 503: Window Grills | White | 0.51 | No |
| L-171 | Fifth Floor, Open Space 504: Concrete Floor | Grey | 0.08 | No |
| L-172 | Fifth Floor, Open Space 504: Ceiling | Black | 0.02 | No |
| L-173 | Fifth Floor, Open Space 504: Ducting | Black | 0.57 | No |
| L-174 | Fifth Floor, Offices 503: Ceramic Tiles on Backsplash | White | 0.04 | No |

| Sample | Location (1) | Colour | Results ($mg/cm^2$) (2) | Lead-Based Paint (3) (Yes/No) |
|---|---|---|---|---|
| L-175 | Sixth Floor, South West Stairwell: Wall | Tan | 0.64 | No |
| L-176 | Sixth Floor, Lobby 600: Elevator Door | Blue | 0.9 | No |
| L-177 | Sixth Floor, Lobby 600: Door | Blue | 0.49 | No |
| L-178 | Sixth Floor, Open Space 601: Ceramic Floor Tiles | Grey | 0.02 | No |
| L-179 | Sixth Floor, Open Space 601: Ceramic Floor Tiles | Red | 0.02 | No |
| L-180 | Sixth Floor, Open Space 601: Bricks at Base of Wall | White | 0.02 | No |
| L-181 | Roof, Mechanical Room: Paint at Base of Wall | Grey | 0.02 | No |
| L-182 | Roof, Mechanical Room: Walls | White | 0.04 | No |
| L-183 | Roof, Mechanical Room: Railing | Green | 0.07 | No |
| L-184 | Roof, Mechanical Room: Concrete Floor | Grey | 0.05 | No |
| L-185 | Roof, Mechanical Room: Door | Grey | 0.31 | No |
| L-186 | South East Stairwell: Door | **Cream** | **0.42** | No |
| L-187 | South East Stairwell: Wall | Cream | 0.1 | No |
| L-188 | South East Stairwell: Railing | Black | 0.32 | No |
| L-189 | South East Stairwell: Paint at Base of Wall | Black | 0.23 | No |
| L-190 | South East Stairwell: Window Grill | Cream | 0.49 | No |
| L-191 | South East Stairwell: Concrete Floor | Red | 0.02 | No |
| L-195 | Fourth Floor, Lobby 440: Wall | Cream | 0.02 | No |

**Notes:**

(1) locations reference the room number reference drawings presented in Appendix I

(2) milligrams per square centimetre

(3) based on Hazardous Products Act and U.S. HUD classification of 1.0 $mg/cm^2$

(4) < - denotes less than the instrument's detection limit

(5) bolded values indicate that the paint surface tested is considered lead paint according to the Hazardous Products Act and U.S. HUD classification.

Lead-based paint was identified on the following materials:

- Green Ceramic Wall Bricks located on walls throughout the Subject Building;
- 3”x3” Black Ceramic Tiles
- 3”x3” White Ceramic Tiles
- 3”x3” Off-White Ceramic Wall Tiles

### 5.3 Polychlorinated Biphenyls (PCB)

Fluorescent lamp ballasts were identified throughout the Subject Building. The lamp ballasts are presumed to contain PCBs.

### 5.4 Mercury

Mercury-containing thermostats were identified within the Subject Building.

Thermostats within the mechanical systems of the mechanical rooms are suspected to be mercury-containing.

Fluorescent light tubes throughout the Subject Building are presumed to contain mercury vapour.

### 5.5 Ozone-Depleting Substances (ODS)

Within the Subject Building, the following equipment is presumed to be ODS-containing:

- One (1) Air Conditioning Unit; and
- Built in fridges and commercial fridges on the Sixth Floor.

## 6.0 RECOMMENDATIONS

### 6.1 Asbestos-Containing Materials

If disturbed through renovations, identified ACMs should be abated in accordance with the requirements of WorkSafeBC, specifically but not limited to include those requirements prescribed through Parts 5.48-5.59 – Controling Exposure, and Parts 6.1-6.32 – Asbestos.

EHS$^{P}$ recommends reference to WorkSafeBC publication “*Safe Handling of Asbestos, A Manual of Standard Practices”*. This document provides a guide to current practices that are to be followed in the Province of British Columbia, providing basic information on asbestos and asbestos products, health hazards and requirements for worker protection, safe work procedures and principles that should be followed in selecting the most suitable technique for the safe abatement of ACMs.

Asbestos-containing wastes should be managed in accordance with the British Columbia Ministry of Environment and should be transported in accordance with the requirements of the Federal Transportation of Dangerous Goods Act.

The work should be completed by qualified hazardous material workers. Throughout the abatement activities, appropriate air monitoring and inspection should be conducted by qualified personnel to ensure all contamination is contained and ACM are disposed of appropriately. It is recommended that a proper scope of work and asbestos removal specifications be written to ensure the complete and proper removal of all ACM.

### 6.2 Lead-Based Paint

The disturbance of identified LBPs should be controlled through use of safe work procedures. Work procedures should be developed in accordance with the requirements of WorkSafeBC, specifically but not limited to include those requirements prescribed through Parts 5.48-5.59 – Controling Exposure, and Parts 6.59-6.69 – Lead.

Additionally, toxicity Characteristic Leaching Procedure (TCLP) testing should be performed on lead-containing waste that may be generated through work on lead-based paint, to facilitate the proper management of lead-containing wastes.

EHS[P] recommends reference WorkSafeBC publication entitled, "*Lead-Containing Paint and Coatings, Preventing Exposure in the Construction Industry*", dated June 2011. This manual outlines basic information on lead and lead-containing products, health hazards requirements for worker protection, safe work procedures and principles that should be followed in selecting the most suitable technique for the safe abatement of lead contamination, providing a general guide to current practices that are to be followed in the Province of British Columbia.

### 6.3 Polychlorinated Biphenyls (PCB)

When taken out of service, the PCB-content of each ballast shoud be verified through comparison to the criteria outlined in the Environment Canada Report EPS 2/CC/2 (revised) August 1991, "*Identification of Lamp Ballasts Containing PCBs*" to assess their likelihood of PCB content.

If identified to contain PCBs, the PCB-containing light ballasts should be removed in accordance with the requirements of WorkSafeBC. PCB-containing wastes should be managed in accordance with the requirements of the British Columbia Ministry of Environment and should be transported in accordance with the requirements of the Federal Transportation of Dangerous Goods Act.

For fixtures that are operational and are to be sold for reuse, documentation is required confirming that the purchasers understand the ballasts are PCB-containing, and the purchaser assumes all liability and responsibility associated with the fixtures.

### 6.4 Mercury

Identified mercury-containing fixtures pose no risk to workers or occupants provided the mercury containers remain intact and undisturbed.

When taken out of service, the mercury-containing equipment should be removed in accordance with the requirements of WorkSafeBC. Mercury-containing wastes should be managed in accordance with the requirements of the British Columbia Ministry of Environment and should be transported in accordance with the requirements of the Federal Transportation of Dangerous Goods Act.

### 6.5 Ozone-Depleting Substances

When taken out of service, equipment identified to contain ODSs should be stored, transported and/or disposed of in accordance with the requirements of WorkSafeBC and the British Columbia Ministry of Environment, namely those requirement outlined in Ozone-Depleting Substances and Other Halocarbons Regulation including amendments up to B.C. Reg. 4/2010, January 14, 2010.

Additionally, wastes that contain ozone-depleting substances should be transported in accordance with the requirements of the Federal Transportation of Dangerous Goods Act.

***************CAUTIONARY NOTE***************

Only limited demolition was conducted during the assessment. Additional hazardous materials are likely present within ceiling, wall and/or floor cavities of the Subject Building. If any additional suspect hazardous materials are found during renovation and/or demolition activities, they should be positively identified, extracted and disposed of appropriately.

## 7.0 LIMITATIONS

The conclusions and recommendations contained in this assessment report are based upon professional opinions with regard to the subject matter. These opinions are in accordance with currently accepted environmental assessment standards and practices applicable to these locations and are subject to the following inherent limitations:

1. The data and findings presented in this report are valid as of the dates of the investigations. The passage of time, manifestation of latent conditions or occurrence of future events may warrant further exploration at the property, analysis of the data, and re-evaluation of the findings, observations, and conclusions expressed in this report.

2. Because of the limitations stated above, the findings, observations and conclusions expressed by EHS$^{P}$ in this report are not, and should not be, considered an opinion concerning compliance of any past or present owner or operator of the site with any federal, provincial or local laws or regulations.

3. No warranty or guarantee, whether expressed or implied, is made with respect to the data or the reported findings, observations, and conclusions, which are based solely upon site conditions in existence at the time of investigation.

4. EHS$^{P}$ assessment reports present professional opinions and findings of a scientific and technical nature. While attempts were made to relate the data and findings to applicable environmental laws and regulations, the report shall not be construed to offer legal opinion or representations as to the requirements of, nor compliance with, environmental laws, rules, regulations or policies of federal, provincial, or local governmental agencies. Any use of the assessment report constitutes acceptance of the limits of EHS$^{P}$'s liability. EHS$^{P}$'s liability extends only to its client and not to other parties who may obtain this assessment report. Issues raised by the report should be reviewed by appropriate legal counsel.

## 8.0 CLOSURE

We trust the information presented in this report meets your requirements. If you have any questions please feel free to contact the undersigned at 604.763.1642. Thank you for the opportunity to be of service.

**EHS PARTNERSHIPS LTD.**

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