

Conseil Scolaire Viamonde

Revised Pre-Renovation Designated Substances and Hazardous Materials Survey

École élémentaire Pierre-Elliott-Trudeau
65 Grace Street, Toronto, Ontario

June 25, 2024

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1 Introduction

Arcadis Canada Inc. (Arcadis) was by Conseil scolaire Viamonde (CSV) to conduct a pre-renovation designated substances and hazardous materials survey in designated areas of École élémentaire Pierre Elliott Trudeau located at 65 Grace Street in Toronto, Ontario.

The information in this report is to be provided to all bidders on a project in accordance with the requirements of the *Occupational Health and Safety Act*.

The building is a three-storey masonry structure including with a partial basement and tunnel system that was reported to have been constructed in 1962.

It is our understanding that designated areas of the building are scheduled for renovations. The survey was limited to inspecting and testing materials in areas referred to in this report as the “*designated study areas*”, that may be affected by the renovation project based on information provided by CSV.

The designated study areas are shown on the floor plans provided in Appendix A.

The survey was undertaken to report on the presence or suspected presence of readily observable designated substances and hazardous materials.

1.1 Scope of Work

The scope of work for our investigation included:

- review of existing information;
- investigation of readily-accessible areas in the designated study areas for the presence of designated substances and hazardous materials used in building construction materials;
- obtaining representative bulk samples of materials suspected of containing asbestos and paint chip samples;
- laboratory analyses of bulk samples for asbestos content;
- laboratory analyses of paint chip samples for lead content; and
- preparation of a report outlining the findings of the investigation.

Mr. Dwayne Kellyman of Arcadis visited the site on June 11, 2024, and November 24, 2023, Mr. Viraj Daruwala Rebecca Hao of Arcadis visited the site on July 13, 2023, and Ms. Emily Morgan of Arcadis visited the site on July 12, 2023, to conduct the designated substances and hazardous materials survey at École élémentaire Pierre-Elliott-Trudeau.

2 Regulatory Discussion and Methodology

Ontario Occupational Health and Safety Act (OHSA)

The Ontario *Occupational Health and Safety Act* (OHSA) sets out, in very general terms, the duties of employers and others to protect workers from health and safety hazards on the job. These duties include, but are not limited to:

- taking all reasonable precautions to protect the health and safety of workers [clause 25(2)(h)];
- ensuring that equipment, materials and protective equipment are maintained in good condition [clause 25(1)(b)];
- providing information, instruction and supervision to protect worker health and safety [clause 25(2)(a)]; and
- acquainting a worker or a person in authority over a worker with any hazard in the work and in the handling, storage, use, disposal and transport of any article, device, equipment or a biological, chemical or physical agent [clause 25(2)(d)].

In addition, Section 30 of the OHSA deals with the presence of designated substances on construction projects. Compliance with the OHSA and its regulations requires action to be taken where there is a designated substance hazard on a construction project.

Section 30 of the OHSA requires the owner of a project to determine if designated substances are present on a project and, if so, to inform all potential contractors as part of the bidding process. Contractors who receive this information are to pass it onto other contractors and subcontractors who are bidding for work on the project.

Regulation for Construction Projects, O.Reg. 213/91

The *Regulation for Construction Projects*, O.Reg. 213/91, applies to all construction projects. The following sections of the regulation would apply to situations where there is the potential for workers to be exposed to designated substances:

- Section 14 (5) A competent person shall perform tests and observations necessary for the detection of hazardous conditions on a project.
- Section 21 (1) A worker shall wear such protective clothing and use such personal protective equipment or devices as are necessary to protect the worker against the hazards to which the worker may be exposed.
- (2) A worker's employer shall require the worker to comply with subsection (1).
- (3) A worker required to wear personal protective clothing or use personal protective equipment or devices shall be adequately instructed and trained in the care and use of the clothing, equipment or device before wearing or using it.

Section 30 Workers who handle or use substances likely to endanger their health shall be provided with washing facilities with clean water, soap and individual towels.

Section 46 (1) A project shall be adequately ventilated by natural or mechanical means,
(a) if a worker may be injured by inhaling a noxious dust or fume;
(2) If it is not practicable to provide natural or mechanical ventilation in the circumstances described in clause (1)(a), respiratory protective equipment suitable for the hazard shall be provided and be used by the workers.

Section 59 If the dissemination of dust is a hazard to a worker, the dust shall be adequately controlled or each worker who may be exposed to the hazard shall be provided with adequate personal protective equipment.

Regulation for Designated Substances (O.Reg. 490/09)

The *Designated Substance Regulation* (O.Reg. 490/09) specifies occupational exposure limits (OELs) for designated substances and requires an assessment and a control program to ensure compliance with these OELs.

Although, O.Reg. 490/09 and the OELs do not apply to an employer on a construction project, or to their workers at the project, employers still have a responsibility to protect the health of their workers and to comply with the OHSA and other applicable regulations. Section 25(2)(h) of the OHSA requires that employers take "every precaution reasonable in the circumstances for the protection of a worker".

Other regulatory requirements (and guidelines) which apply to control of exposure to designated substances and hazardous materials are referenced in the sections below.

2.1 Asbestos

Asbestos has been widely used in buildings, both in friable applications (materials which can be crumbled, pulverized or powdered by hand pressure, when dry) such as pipe and tank insulation, sprayed-on fireproofing and acoustic texture material and in non-friable manufactured products such as floor tile, gaskets, cement board and so on. The use of asbestos in friable applications was curtailed around the mid-1970s and, as such, most buildings constructed prior to about 1975 contain some form of friable construction material with an asbestos content. The use of asbestos in certain non-friable materials continued beyond the mid-1970s.

Control of exposure to asbestos is governed in Ontario by Regulation 278/05 – *Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations*. Disposal of asbestos waste (friable and non-friable materials) is governed by Ontario Regulation 278/05 and by Ontario Regulation 347, *Waste Management – General*. O.Reg. 278/05 classifies asbestos work operations into three types (Type 1, 2 and 3), as shown in Table C-1 in Appendix C, and specifies procedures to be followed in conducting asbestos abatement work.

2.2 Lead

Lead is a heavy metal that can be found in construction materials such as paints, coatings, mortar, concrete, pipes, solder, packings, sheet metal, caulking, glazed ceramic products and cable splices. Lead has been used historically in exterior and interior paints.

The *Surface Coating Materials Regulations* (SOR/2016-193) made pursuant to the *Canada Consumer Product Safety Act* states that a surface coating material must not contain more than 90 mg/kg total lead. Health Canada defines a lead-containing surface coating as a paint or similar material that dries to a solid film that contains over 90 mg/kg dry weight of lead.

Information from the United States Occupational Health and Safety Administration (OSHA) suggests that the improper removal of lead paint containing 600 mg/kg lead results in airborne lead concentrations that exceed half of the permissible exposure limit. Lead concentrations as low as 90 mg/kg may present a risk to pregnant women and children⁽¹⁾.

The *National Plumbing Code* allowed lead as an acceptable material for pipes until 1975 and in solder until 1986.

The Ministry of Labour *Guideline, Lead on Construction Projects*, dated April 2011, provides guidance in the measures and procedures that should be followed when handling lead containing materials during construction projects. In the guideline, lead-containing construction operations are classified into three groups - Type 1 (low risk), Type 2 (medium risk) and Type 3 (high risk) based on presumed airborne concentrations of lead, as shown in Appendix C, Table C-2. Any operation that may expose a worker to lead that is not a Type 1, Type 2, or Type 3b operation, is classified as a Type 3a operation.

2.3 Mercury

Mercury has been used in electrical equipment such as alkaline batteries, fluorescent light bulbs (lamps), high intensity discharge (HID) lights (mercury vapour, high pressure sodium and metal halide), “silent switches” and in instruments such as thermometers, manometers and barometers, pressure gauges, float and level switches and flow meters. Mercury-containing lamps, the bulk of which are 1.22 m (four foot) fluorescent lamps contain between 7 and 40 mg of mercury each. Mercury compounds have also been used historically as additives in latex paint to protect the paint from mildew and bacteria during production and storage.

The intentional addition of mercury to Canadian-produced consumer paints for interior use was prohibited in 1991. Mercury may have remained in paints after 1991, however, as a result of impurities in the paint ingredients or cross-contamination due to other manufacturing processes. The *Surface Coating Materials Regulations* made under the *Hazardous Products Act* set a maximum total mercury concentration of 10 mg/kg (0.001 percent) for surface coating materials (including paint). This criterion level applies to the sale and importation of new surface coating materials.

⁽¹⁾ *Lead-Containing Paints and Coatings: Preventing Exposure in the Construction Industry*. WorkSafe BC, 2011.

Mercury-containing thermostats and silent light switches are mercury tilt switches which are small tubes with electrical contacts at one end of the tube. A mercury tilt switch is usually present when no switch is visible. Mercury switches often have the word "TOP" stamped on the upper end of the switch, which is visible after removing the cover plate. If mercury switches are to be removed, the entire switch should be removed and placed into a suitable container for storage and disposal.

Waste light tubes generated during renovations or building demolition and waste mercury from equipment must either be recycled or disposed of in accordance with the requirements of Ont. Reg. 347 - *Waste Management, General*.

Waste mercury in amounts less than 5 kg (per month) are exempt from the generator registration requirements prescribed by O.Reg. 347 – *Waste Management – General*. Waste mercury from mercury switches or gauges should, however, be properly collected and shipped to a recycling facility or disposed of as a hazardous waste. Removal of mercury-containing equipment (e.g., switches, gauges, controls, etc.) should be carried out in a manner which prevents spillage and exposure to workers.

2.4 Silica

Silica exists in several forms of which crystalline silica is of most concern with respect to potential worker exposures. Quartz is the most abundant type of crystalline silica. Some commonly used construction materials containing silica include brick, refractory brick, concrete, concrete block, cement, mortar, rock and stone, sand, fill dirt, topsoil and asphalt containing rock or stone.

The Ministry of Labour *Guideline, Silica on Construction Projects*, dated April 2011, provides guidance in controlling exposure to silica dust during construction activities. In the guideline, silica-containing construction operations are classified into three groups - Type 1 (low risk), Type 2 (medium risk) and Type 3 (high risk) based on presumed airborne concentrations of respirable crystalline silica in the form of cristobalite, tridymite, quartz and tripoli as shown in Appendix C, Table C-3.

2.5 Vinyl Chloride

Vinyl chloride vapours may be released from polyvinyl chloride (PVC) products in the event of heating or as a result of decomposition during fire. PVC is used in numerous materials that may be found in building construction, including, for example, piping, conduits, siding, window and door frames, plastics, garden hoses, flooring and wire and cable protection.

2.6 Acrylonitrile

Acrylonitrile is used to produce nitrile-butadiene rubber, acrylonitrile-butadiene-styrene (ABS) polymers and styrene-acrylonitrile (SAN) polymers. Products made with ABS resins which may be found in buildings include telephones, bottles, packaging, refrigerator door liners, plastic pipe, building panels and shower stalls. Acrylonitrile can be released into the air by combustion of products containing ABS.

2.7 Other Designated Substances

Isocyanates are a class of chemicals used in the manufacture of certain types of plastics, foams, coatings and other products. Isocyanate-based building construction materials may include rigid foam products such as foam-core panels and spray-on insulation and paints, coatings, sealants and adhesives. Isocyanates may be inhaled if they are present in the air in the form of a vapour, a mist or a dust.

Benzene is a clear, highly flammable liquid used mainly in the manufacture of other chemicals. The commercial use of benzene as a solvent has practically been eliminated, however it continues to be used as a solvent and reactant in laboratories.

Arsenic is a heavy metal used historically in pesticides and herbicides. The primary use in building construction materials was its use in the wood preservative chromated copper arsenate (CCA). CCA was used to pressure treat lumber since the 1940's. Pressure-treated wood containing CCA is no longer being produced for use in most residential settings.

Ethylene oxide is a colourless gas at room temperature. It has been used primarily for the manufacture of other chemicals, as a fumigant and fungicide and for sterilization of hospital equipment.

Coke oven emissions are airborne contaminants emitted from coke ovens and are not a potential hazard associated with building construction materials.

2.8 Polychlorinated Biphenyls (PCBs)

The management of equipment classified as waste and containing Polychlorinated Biphenyls (PCBs) at concentrations of 50 parts per million (mg/kg) or greater is regulated by Ontario Regulation 362, *Waste Management – PCBs*. Under this regulation, PCB waste is defined as any waste material containing PCBs in concentrations of 50 mg/kg or greater. Any equipment containing PCBs at or greater than this level, such as transformers, switchgear, light ballasts and capacitors, which is removed from service due to age, failure or as a result of decommissioning, is considered to constitute a PCB waste. Although current federal legislation (effective 1 July 1980) has prohibited the manufacture and sale of new equipment containing PCBs since that time, continued operation of equipment supplied prior to this date and containing PCBs is still permitted. Handling, storage and disposition of such equipment is, however, tightly regulated and must be managed in accordance with provincial and federal government requirements as soon as it is taken out of service or becomes unserviceable.

In most institutional, commercial facilities and in smaller industrial facilities, the primary source of equipment potentially containing PCBs is fluorescent and H.I.D. light ballasts. Small transformers may also be present. In larger industrial facilities, larger transformers and switch gear containing, or potentially containing, PCBs may also be present.

PCBs were also commonly added to industrial paints from the 1940s to the late 1970s. PCBs were added directly to the paint mixture to act as a fungicide, to increase durability and flexibility, to improve resistance to fires and to increase moisture resistance. The use of PCBs in new products was banned in Canada in the 1970s. PCB amended paints were used in speciality industrial/institutional applications prior to the 1970s including government buildings

and equipment such as industrial plants, radar sites, ships as well as non-government rail cars, ships, grain bins, automobiles and appliances.

Removal of in-service equipment containing PCBs, such as fluorescent light ballasts, capacitors and transformers, is subject to the requirements of the federal *PCB Regulations* (discussed below).

The *PCB Regulations*, which came into force on 5 September 2008, were made under the *Canadian Environmental Protection Act, 1999* (CEPA 1999) with the objective of addressing the risks posed by the use, storage and release to the environment of PCBs, and to accelerate their destruction. The *PCB Regulations* set different end-of-use deadlines for equipment containing PCBs at various concentration levels.

The Regulations Amending the PCB Regulations and Repealing the Federal Mobile PCB Treatment and Destruction Regulations were published on 23 April 2014, in the *Canada Gazette, Part II*, and came into force on 1 January 2015. The most notable part of the amendments is the addition of an end-of-use deadline date of 31 December 2025 for specific electrical equipment located at electrical generation, transmission and distribution facilities.

When the PCB materials are classified as waste, jurisdiction falls under the Ontario Ministry of the Environment and Climate Change (MOECC) and O.Reg. 362. All remedial and PCB management work must be carried out under the terms of a Director's Instruction issued by an MOECC District Office (for quantities of PCB fluid greater than 50 litres). The PCB waste stream, regardless of quantity, must be registered with the MOECC, in accordance with O.Reg. 347, *General - Waste Management*. O.Reg. 362 applies to any equipment containing greater than 1 kg of PCBs.

2.9 Ozone-Depleting Substances (ODS) and Other Halocarbons

Ontario Regulation 463/10 – *Ozone Depleting Substances and Other Halocarbons*, applies to the use, handling and disposal of Class 1 ozone-depleting substances, including various chlorofluorocarbons (CFCs), halons and other halocarbons, Class 2 ozone-depleting substances, including various hydrochlorofluorocarbons (HCFCs) and halocarbons, and other halocarbons, including fluorocarbons (FCs) and hydrofluorocarbons (CFCs). The most significant requirements for handling of ozone-depleting substances (ODS) and other Halocarbons, which include, for example, refrigerants used in refrigeration equipment and chillers, include the following:

- certification is required for all persons testing, repairing, filling or emptying equipment containing ODS and other halocarbons;
- the discharge of a Class 1 ODS or anything that contains a Class 1 ODS to the natural environment or within a building is prohibited;
- the making, use of, selling of or transferring of a Class 1 ODS is restricted to certain conditions;
- the discharge of a solvent or sterilant that contains a Class 2 ODS is prohibited;
- the making, use of, selling of or transferring of a solvent or sterilant that contains a Class 2 ODS is restricted to certain conditions;

- fire extinguishing equipment that contains a halon may be discharged to fight fires, except fires for firefighting training purposes;
- portable fire extinguishing equipment that contains a halon may be used or stored if the extinguisher was sold for use for the first time before 1 January 1996;
- records of the servicing and repair of equipment containing ODS and other halocarbons must be prepared and maintained by the owner of the equipment; and
- equipment no longer containing ODS and other halocarbons must be posted with a notice completed by a certified person.

Ontario Regulation 347, *General – Waste Management*, has also been amended to provide for more strict control of CFCs. The requirements under the amended regulation apply primarily to the keeping of records for the receipt or recycling of CFC waste.

2.10 Mould

Moulds are forms of fungi that are found everywhere both indoors and outdoors all year round. Outdoors, moulds live in the soil, on plants and on dead and decaying matter. More than 1000 different kinds of indoor moulds have been found in buildings. Moulds spread and reproduce by making spores, which are all small and light-weight, able to travel through air, capable of resisting dry, adverse environmental conditions, and hence capable of surviving a long time. Moulds need moisture and nutrients to grow and their growth is stimulated by warm, damp and humid conditions.

Control of exposure to mould is required under Section 25(2)(h) of the Ontario *Occupational Health and Safety Act*, which states that employers shall take every precaution reasonable in the circumstances for the protection of workers. Recommended work practices are outlined in the following documents:

- *Mould Guidelines for the Canadian Construction Industry*. Standard Construction Document CCA 82 2004. Canadian Construction Association.
- *Mould Abatement Guidelines*. Environmental Abatement Council of Ontario. Edition 3. 2015.

3 Results and Discussion

3.1 Asbestos

Arcadis reviewed a report prepared by Arcadis for CSV titled *Survey of Asbestos-Containing Materials, École élémentaire Pierre-Elliott Trudeau, 65 Grace Street, Toronto, Ontario* January 6, 2020. Information and/or bulk sample analysis results obtained from these reports were utilized by Arcadis during the course of our investigation and in the preparation of this report.

During the course of our site investigation, additional representative bulk samples of material were collected by Arcadis staff. The samples were forwarded to EMSL Canada Inc. for asbestos analyses. Results of bulk sample analysis for asbestos content are provided in Table 3.1. Table 3.1 also include sample results obtained from the existing report and include results that are outside of the designated study areas, which are provided for references purposes only. Laboratory reports from this investigation are provided in Appendix B. Locations of accessible asbestos-containing materials and roof plans are shown on the floor plan provided in Appendix A.

Table 3-1 Summary of Results of Analyses of Bulk Samples for Asbestos Content

École élémentaire Pierre-Elliott-Trudeau

Sample No.	Sample Location	Sample Description	Asbestos Content
1A	Room 120	12" grey ceramic floor tile - grout	None detected
1B	Room 122	12" grey ceramic floor tile - grout	None detected
1C	Room 126	12" grey ceramic floor tile - grout	None detected
2A	Room 120	12" grey ceramic floor tile – mortar bed	None detected
2B	Room 122	12" grey ceramic floor tile – mortar bed	None detected
2C	Room 126	12" grey ceramic floor tile – mortar bed	None detected
3A	Room 120	4" white ceramic wall tile - grout	None detected
3B	Room 122	4" white ceramic wall tile - grout	None detected
3C	Room 120	4" white ceramic wall tile - grout	None detected
4A	Room 120	4" white ceramic wall tile – mortar bed	None detected
4B	Room 122	4" white ceramic wall tile – mortar bed	None detected
4C	Room 120	4" white ceramic wall tile – mortar bed	None detected
1A-Tar	North Elevation	Asphaltic roof membrane	None detected (PLM) None detected (TEM)
1B-Tar felts	North Elevation	Asphaltic roof membrane	None detected
1B-Tar	North Elevation	Asphaltic roof membrane	None detected
1C-Tar felts	North Elevation	Asphaltic roof membrane	None detected
1C-Tar	North Elevation	Asphaltic roof membrane	None detected

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Sample No.	Sample Location	Sample Description	Asbestos Content
2A	North Elevation	Kraft vapor barrier	None detected (PLM) None detected (TEM)
2B	North Elevation	Kraft vapor barrier	None detected
2C	North Elevation	Kraft vapor barrier	None detected
3A	North Elevation	Exterior caulking at metal flashing	None detected
3B	North Elevation	Exterior caulking at metal flashing	None detected
3C	North Elevation	Exterior caulking at metal flashing	None detected
4A	North Elevation	Exterior white caulking at column	None detected
4B	North Elevation	Exterior white caulking at column	None detected
4C	North Elevation	Exterior white caulking at column	None detected
5A	North Elevation	Exterior black caulking at condenser unit	None detected
5B	North Elevation	Exterior black caulking at condenser unit	None detected
5C	North Elevation	Exterior black caulking at condenser unit	None detected
6A	North Elevation	Exterior brick mortar	None detected
6B	North Elevation	Exterior brick mortar	None detected
6C	North Elevation	Exterior brick mortar	None detected
BB-01A	123A	Black baseboard	None detected
BB-01A	123A	Black baseboard mastic	None detected
BB-01B	123A	Black baseboard	None detected
BB-01B	123A	Black baseboard mastic	None detected
BB-01C	123A	Black baseboard	None detected
BB-01C	123A	Black baseboard mastic	None detected
VFT-02A	123A	12" grey vinyl floor tiles	None detected
VFT-02A	123A	12" grey vinyl floor tiles mastic	None detected (PLM Grav.) None detected (TEM Grav.)
VFT-02B	123A	12" grey vinyl floor tiles	None detected
VFT-02B	123A	12" grey vinyl floor tiles mastic	None detected
VFT-02C	123A	12" grey vinyl floor tiles	None detected
VFT-02C	123A	12" grey vinyl floor tiles mastic	None detected
ACT-03A	C102	12" acoustic ceiling tiles – small and big holes	None detected
ACT-03B	C102	12" acoustic ceiling tiles – small and big holes	None detected
ACT-03C	C102	12" acoustic ceiling tiles – small and big holes	None detected

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Sample No.	Sample Location	Sample Description	Asbestos Content
MA-04A	109	9" vinyl floor tile mastic	None detected
MA-04B	109	9" vinyl floor tile mastic	None detected
MA-04C	109	9" vinyl floor tile mastic	None detected
PLA-05A	C102	Textured plaster (skim coat)	None detected
PLA-05A	C102	Textured plaster (base coat)	2% Chrysotile
PLA-05B	112	Textured plaster (skim coat)	None detected
PLA-05C	112	Textured plaster (skim coat)	None detected
PLA-05D	107	Textured plaster (skim coat)	None detected
PLA-05E	107	Textured plaster (skim coat)	None detected
MA-06A	C102	12" ceiling tiles yellow mastic	None detected
MA-06A	C102	12" ceiling tiles yellow mastic	None detected
MA-06A	C102	12" ceiling tiles yellow mastic	None detected
GT-07A	107	Ceramic tile grout	None detected
GT-07A	107	Ceramic tile grout	None detected
GT-07A	107	Ceramic tile grout	None detected
MA-08A	003	9" brown vinyl floor tile mastic	None detected
MA-08A	003	9" brown vinyl floor tile mastic	None detected
MA-08A	003	9" brown vinyl floor tile mastic	None detected
ACT-09A	002	12"x12" acoustic ceiling tiles with random pinholes and small fissures	None detected
ACT-09B	002	12"x12" acoustic ceiling tiles with random pinholes and small fissures	None detected
ACT-09C	002	12"x12" acoustic ceiling tiles with random pinholes and small fissures	None detected
FT-10A	121	12"x12" off-white vinyl floor tiles with grey flecks	None detected (PLM Grav.) None detected (TEM Grav.)
FT-10A	121	12"x12" off-white vinyl floor tiles with grey flecks mastic	None detected
FT-10B	121	12"x12" off-white vinyl floor tiles with grey flecks	None detected
FT-10B	121	12"x12" off-white vinyl floor tiles with grey flecks mastic	None detected
FT-10C	121	12"x12" off-white vinyl floor tiles with grey flecks	None detected
FT-10C	121	12"x12" off-white vinyl floor tiles with grey flecks mastic	None detected

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Sample No.	Sample Location	Sample Description	Asbestos Content
MS-11A	121	Mastic adhesive 12"x12" off-white vinyl floor tiles with grey flecks	None detected
MS-11B	121	Mastic adhesive 12"x12" off-white vinyl floor tiles with grey flecks	None detected
MS-11C	121	Mastic adhesive 12"x12" off-white vinyl floor tiles with grey flecks	None detected
CT-12A	121	2'x4' acoustic ceiling tile with pinholes and fissures	None detected
CT-12B	121	2'x4' acoustic ceiling tile with pinholes and fissures	None detected
CT-12C	121	2'x4' acoustic ceiling tile with pinholes and fissures	None detected
SF-13A	C104	Yellow vinyl sheet flooring	None detected (PLM Grav.) None detected (TEM Grav.)
SF-13B	C104	Yellow vinyl sheet flooring	None detected
SF-13C	C104	Yellow vinyl sheet flooring	None detected
MS-14A	C104	Yellow vinyl sheet flooring mastic	None detected
MS-14B	C104	Yellow vinyl sheet flooring mastic	None detected
MS-14C	C104	Yellow vinyl sheet flooring mastic	None detected
CLK-10A	121	Exterior window caulking	<0.25% Chrysotile ⁽¹⁾ 0.12% Chrysotile ⁽¹⁾
CLK-10B	121	Exterior window caulking	2% Chrysotile
1A	Corridor C003	2' x 4' ceiling tile - pinhole	None detected ⁽²⁾
1B	Corridor C003	2' x 4' ceiling tile - pinhole	None detected ⁽²⁾
1C	Corridor C003	2' x 4' ceiling tile - pinhole	None detected ⁽²⁾
2A	Room 010	12" x 12" vinyl floor tile – grey with grey fleck	None detected (PLM) ⁽²⁾ None detected (TEM) ⁽²⁾
2B	Room 010	12" x 12" vinyl floor tile – grey with grey fleck	None detected ⁽²⁾
2C	Room 010	12" x 12" vinyl floor tile – grey with grey fleck	None detected ⁽²⁾
3A	Room 010	Black mastic under 12" vinyl floor tile	None detected ⁽²⁾
3B	Room 010	Black mastic under 12" vinyl floor tile	None detected ⁽²⁾
3C	Room 010	Black mastic under 12" vinyl floor tile	None detected ⁽²⁾
4A	Corridor C003	Black mastic under 12" vinyl floor tile	None detected ⁽²⁾
4B	Corridor C003	Black mastic under 12" vinyl floor tile	None detected ⁽²⁾
4C	Corridor C003	Black mastic under 12" yellow vinyl floor tile	None detected ⁽²⁾

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Sample No.	Sample Location	Sample Description	Asbestos Content
5A	Room 010	Black mastic under 9" white vinyl floor tile	None detected ⁽²⁾
5B	Room 101D	Black mastic under 9" white vinyl floor tile	None detected ⁽²⁾
5C	Room 010	Black mastic under 9" white vinyl floor tile	None detected ⁽²⁾
6A	Room 015	Black mastic under 9" grey vinyl floor tile	None detected ⁽²⁾
6B	Room 015A	Black mastic under 9" grey vinyl floor tile	None detected ⁽²⁾
6C	Room 015B	Black mastic under 9" grey vinyl floor tile	None detected ⁽²⁾
7A	Room 009	2" blue ceramic tile - grout	None detected ⁽²⁾
7B	Room 009	2" blue ceramic tile - grout	None detected ⁽²⁾
7C	Room 009	2" blue ceramic tile - grout	None detected ⁽²⁾
8A	Room 009	2" blue ceramic tile – mastic only	None detected ⁽²⁾
8B	Room 009	2" blue ceramic tile – mastic only	None detected ⁽²⁾
8C	Room 009	2" blue ceramic tile – mastic only	None detected ⁽²⁾
9A	Room 106	Vinyl sheet flooring – blue with blue and white specks	None detected (PLM) ⁽²⁾ None detected (TEM) ⁽²⁾
9B	Room 106	Vinyl sheet flooring – blue with blue and white specks	None detected ⁽²⁾
9C	Room 106	Vinyl sheet flooring – blue with blue and white specks	None detected ⁽²⁾
10A	Room 106	Vinyl baseboard - blue	None detected (PLM) ⁽²⁾ None detected (TEM) ⁽²⁾
10B	Room 106	Vinyl baseboard - blue	None detected ⁽²⁾
10C	Room 106	Vinyl baseboard - blue	None detected ⁽²⁾
11A	Room 106	Vinyl baseboard mastic	None detected ⁽²⁾
11B	Room 106	Vinyl baseboard mastic	None detected ⁽²⁾
11C	Room 106	Vinyl baseboard mastic	None detected ⁽²⁾
12A	Room 009	Block-filler paint	None detected ⁽²⁾
12B	Room 011	Block-filler paint	<0.25% chrysotile ^(1,2)
12C	Room 015	Block-filler paint	None detected ⁽²⁾
12D	Room 101D	Block-filler paint	None detected ⁽²⁾
12E	Corridor C201	Block-filler paint	None detected ⁽²⁾
12F	Corridor C301	Block-filler paint	None detected ⁽²⁾
13A	Room 010A	concrete block mortar	None detected ⁽²⁾
13B	Corridor C101	concrete block mortar	None detected ⁽²⁾
13C	Corridor C201	concrete block mortar	None detected ⁽²⁾

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Sample No.	Sample Location	Sample Description	Asbestos Content
14A	Exterior Rm 101A	Brick mortar	None detected ⁽²⁾
14B	Exterior Rm 101B	Brick mortar	None detected ⁽²⁾
14C	Exterior Rm 106	Brick mortar	None detected ⁽²⁾
1-A	Room 009	Thermal insulation on pipe straight – aircell	35% chrysotile ⁽²⁾
2-A	Room 009	Thermal insulation on pipe straight – black paper	None detected ⁽²⁾
2-B	Room 009	Thermal insulation on pipe straight – black paper	None detected ⁽²⁾
2-C	Room 009	Thermal insulation on pipe straight – black paper	None detected ⁽²⁾
3-A	Room 009	Thermal insulation on pipe straight – beige paper	1% chrysotile ⁽²⁾
1-A	Room 119	Brick mortar	None detected (PLM) ⁽²⁾ None detected (TEM) ⁽²⁾
1-B	Room 119	Brick mortar	None detected ⁽²⁾
1-C	Room 118	Brick mortar	None detected ⁽²⁾
2-A	Room 118	Concrete block mortar	None detected (PLM) ⁽²⁾ None detected (TEM) ⁽²⁾
2-B	Room 314	Concrete block mortar	None detected ⁽²⁾
2-C	Room 003	Concrete block mortar	None detected ⁽²⁾
3-A	Room 117	Heating unit insulating paper	None detected ⁽²⁾
3-B	Room 113	Heating unit insulating paper	None detected ⁽²⁾
3-C	Room 119	Heating unit insulating paper	None detected ⁽²⁾
4-A	Room C-3	Soft beige window caulking	None detected (PLM) ⁽²⁾ None detected (TEM) ⁽²⁾
4-B	Room 103M	Soft beige window caulking	None detected ⁽²⁾
4-C	Room 103H	Soft beige window caulking	None detected ⁽²⁾
1A-CT	Room 003H	12"x12" ceiling tile, large pinholes	None detected ⁽²⁾
1B-CT	Room 105	12"x12" ceiling tile, large pinholes	None detected ⁽²⁾
1C-CT	Room 205	12"x12" ceiling tile, large pinholes	None detected ⁽²⁾
2A-CT	Corridor 201	12"x12" ceiling tile, small pinholes	None detected ⁽²⁾
2B-CT	Corridor 201	12"x12" ceiling tile, small pinholes	None detected ⁽²⁾
2C-CT	Corridor 3	12"x12" ceiling tile, small pinholes	None detected ⁽²⁾
3A-PL	Room 003C	Plaster smooth	None detected ⁽²⁾
3B-PL	Room 101	Plaster smooth	None detected ⁽²⁾
3C-PL	Room 106	Plaster smooth	None detected ⁽²⁾

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Sample No.	Sample Location	Sample Description	Asbestos Content
7A-JC	Room 113	Drywall joint compound	None detected ⁽²⁾
7B-JC	Room 102	Drywall joint compound	1.5% chrysotile ⁽²⁾
8A-VFT	Corridor 003	12"x12" vinyl floor tile, tan w/ grey streaks	2.3% chrysotile ⁽²⁾
9A-IP	Room 015	Insulation paper at light fixture	69% chrysotile ⁽²⁾
11A-PC	Exterior S02	Parging cement on exterior columns	1.8% chrysotile ⁽²⁾
12A-AC	Corridor 001	Acoustical spray	None detected ⁽²⁾
12B-AC	Corridor 001	Acoustical spray	None detected ⁽²⁾
12C-AC	Stairwell A1	Acoustical spray	None detected ⁽²⁾
12D-AC	Room 107	Acoustical spray	None detected ⁽²⁾
12E-AC	Room 203A	Acoustical spray	None detected ⁽²⁾
13A-IP	Room 101B	Insulation paper inside of air duct/vent	None detected ⁽²⁾
13B-IP	Room 101B	Insulation paper inside of air duct/vent	None detected ⁽²⁾
13C-IP	Room 101B	Insulation paper inside of air duct/vent	None detected ⁽²⁾
17A-SCT	Room 114	2'x4' suspended ceiling tile, wavy fissures	None detected ⁽²⁾
17B-SCT	Room 114	2'x4' suspended ceiling tile, wavy fissures	None detected ⁽²⁾
17C-SCT	Room 114	2'x4' suspended ceiling tile, wavy fissures	None detected ⁽²⁾
19A-VFT	Room 211	12"x12" vinyl floor tile, black w/ white streaks	None detected ⁽²⁾
19B-VFT	Room 209	12"x12" vinyl floor tile, black w/ white streaks	None detected ⁽²⁾
19C-VFT	Room 212	12"x12" vinyl floor tile, black w/ white streaks	None detected ⁽²⁾
20A-VFT	Room 211	12"x12" vinyl floor tile, dark brown w/ brown streaks	None detected ⁽²⁾
20B-VFT	Room 211	12"x12" vinyl floor tile, dark brown w/ brown streaks	None detected ⁽²⁾
20C-VFT	Room 211	12"x12" vinyl floor tile, dark brown w/ brown streaks	None detected ⁽²⁾
21A-VFT	Room 211	12"x12" vinyl floor tile, beige-yellow w/ beige streaks	None detected ⁽²⁾
21B-VFT	Room 211	12"x12" vinyl floor tile, beige-yellow w/ beige streaks	None detected ⁽²⁾
21C-VFT	Room 211	12"x12" vinyl floor tile, beige-yellow w/ beige streaks	None detected ⁽²⁾
S.01	N/A	9" vinyl floor tile, brown	3% chrysotile ⁽²⁾
S.02	N/A	Transite panel board	25% chrysotile ⁽²⁾
S.11	N/A	MJC on water line	60% chrysotile ⁽²⁾
S.13	N/A	Duct steam parging	30% chrysotile ^(2,3)

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Sample No.	Sample Location	Sample Description	Asbestos Content
S.22	N/A	9" vinyl floor tile, white/black	2% chrysotile ⁽²⁾
S.23	N/A	9" vinyl floor tile, grey	3% chrysotile ⁽²⁾
B1-parg-1A	Stair B1	Parging on interior columns at door	None detected ⁽²⁾
B1-parg-1B	Stair B1	Parging on interior columns at door	None detected ⁽²⁾
B1-parg-1C	Stair B1	Parging on interior columns at door	None detected ⁽²⁾
001-parg-1D	Entrance 001	Parging on interior columns at door	None detected ⁽²⁾
S03-parg-2A	Entrance S03	Parging on foundation	None detected ⁽²⁾
S03-parg-2B	Entrance S03	Parging on foundation	None detected ⁽²⁾
S03-parg-2C	Entrance S03	Parging on foundation	None detected ⁽²⁾
202-parg-3	Entrance S02	Parging on concrete header	None detected ⁽²⁾
B1-CLK-1	Stair B1	Exterior caulking around window frames	4.5% chrysotile ^(2,3)
C1-CLK-2	Stair C1	Interior caulking around window frames	3.1% chrysotile ^(2,3)
B1-CLK-3	Stair B1	Interior caulking around window muntins	1.2% chrysotile ^(2,3)
S04-CLK-4	Exit S04	Interior caulking around door frame	1.4% chrysotile ^(2,3)
114-M-1A	Room 114	9" vinyl floor tile mastic – black colour	None detected (TEM) ⁽²⁾
114-M-1B	Room 114	9" vinyl floor tile mastic – black colour	None detected ⁽²⁾
117A-1C	Room 117A	12" vinyl floor tile mastic – black colour	None detected ⁽²⁾
114-M-2A	Room 114	Baseboard mastic – brown colour	None detected (TEM) ⁽²⁾
114-M-2B	Room 114	Baseboard mastic – brown colour	None detected ⁽²⁾
114-M-2C	Room 114	Baseboard mastic – brown colour	None detected ⁽²⁾
114-CLK-3A	Room 114	Caulking on interior window frames – grey colour - hard	3.1% chrysotile ⁽²⁾
114-CLK-4A	Room 114	Caulking on door frame – white colour	None detected (TEM) ⁽²⁾
117B-CLK-4B	Room 117A	Caulking on door frame – white colour	None detected ⁽²⁾
117B-CLK-4C	Room 117A	Caulking on door frame – white colour	None detected ⁽²⁾
114-CLK-5A	Room 114	Caulking on exterior window frame – grey colour - soft	10.8% chrysotile ⁽²⁾
118-TH-6A	Room 118	Mastic on 12" ceiling tile – brown colour	None detected (TEM) ⁽²⁾
118-TH-6B	Room 118	Mastic on 12" ceiling tile – brown colour	None detected ⁽²⁾

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Sample No.	Sample Location	Sample Description	Asbestos Content
118-TH-6C	Room 118	Mastic on 12" ceiling tile – brown colour	None detected ⁽²⁾
118-TH-7A	Room 118	Caulking on exterior window frame – beige colour - hard	32.4% chrysotile ^(2,3)
114-BB-1A	Room 114	Vinyl baseboard – black colour	None detected (TEM) ⁽²⁾
114-BB-1B	Room 114	Vinyl baseboard – black colour	None detected ⁽²⁾
114-BB-1C	Room 114	Vinyl baseboard – black colour	None detected ⁽²⁾

NOTES:

- (1) Asbestos-containing material" is defined as material that contains 0.5% or more asbestos by dry weight."
- (2) Sample results taken from a report prepared by Arcadis for the CSV titled "Survey of Asbestos-Containing Materials, École élémentaire Pierre-Elliott Trudeau, 65 Grace Street, Toronto, Ontario" January 6, 2020.
- (3) Material collected in the area have since been removed and are provided here for references purposes only.

Bulk samples were analyzed by Polarized Light Microscopy (PLM) analysis, except where "TEM" is noted, in which case Transmission Electron Microscopy analysis was also performed.

< = less than.

Chrysotile = Chrysotile asbestos.

Determination of the locations of asbestos-containing material was made based on the review of existing information, results of bulk sample analysis, visual observations and physical characteristics of the applications as well as our knowledge of the uses of asbestos in building materials.

Based on visual observations and results of laboratory analyses of samples collected by Arcadis Canada Inc., the following asbestos-containing materials were found to be present in the designated study areas:

- 9" x 9" vinyl floor tiles in Rooms 002, 003, 003B, 003C, 003D, 003E, 003F, 003G, 003H, 109 and 121A;
- Thermal insulation on pipe fittings above ceilings in Rooms 002 and 121;
- Thermal insulation on pipe fittings above ceilings in corridors C101 and C102;
- Cement panels applied to walls in Room 012.
- Drywall joint compound on bulkheads in Rooms 121, 123, and 125;
- Drywall joint compound on a column in Corridor C104;
- Drywall joint compound applied to walls in Room 119, 121, 122, 123, 123A, 125, C103, C104, C105;
- Drywall joint compound on ceilings in Rooms 003C, 003D, 003E, 003F, 003G, 123, and 119, 125 and corridor C103;

- Textured plaster applied to ceilings in Rooms 107, 107A, 107B, 108, 111, 112, 112A, and 112B and Corridor C101;
- Caulking on interior and exterior sides of window frames and glazing seal located between glass and window frames in Rooms 119, 121, 123, 125, 107 and 112; and
- Textured parging cement on exterior concrete columns, beams, soffits, fascia and headers outside Rooms 012, 003, 003B, 119, 121, 121B, 123, 124, 125, 126, 107, 107B, 107C, 112, and 112B.

It should be noted that grout and mortar beds associated with ceramic floor tiles in Room 111 was not sampled to avoid causing damage to the ceramic tile applications however the ceramic tiles should not be affected by the proposed renovations. Ceramic tile applications outside elevator in Corridor C102 were reported to have been recently installed and therefore associated grout and mortar were not sampled and should not be affected by the proposed renovations.

Asbestos-containing thermal insulation applied to pipe fittings is a white-coloured cementitious material. Asbestos-containing thermal insulation applied to pipe straights is “Air-Cell” insulation or “Anti-sweat” insulation. “Aircell” is a trade name for a grey-coloured corrugated paper-like type of pipe insulation, usually found on heating and domestic hot water piping. “Anti-sweat” insulation is a layered paper-like material, typically brown in colour that may contain intermittent layers of black tar-like paper and/or intermittent layers of a white paper-like material, usually found on domestic cold-water lines and sanitary and rain water piping.

Glass fibre insulation is readily visually distinguishable (typically yellow in colour) from asbestos-containing insulation materials and was, therefore, not tested for asbestos content.

Vinyl floor tiles and cement board are non-friable materials. The removal, alteration and/or disturbance of these non-friable asbestos-containing materials can be performed as a Type 1 operation as specified in O. Reg. 278/05 if the material is wetted and the work is done only using non-powered, hand-held tools (see Table C-1 in Appendix C). If the removal, alteration and/or disturbance work is done using power tools that are attached to dust-collecting devices equipped with HEPA filters, then the work is classified as Type 2. If the power tools do not have HEPA filtered dust collecting devices, then the work is Type 3.

Thermal insulation is a friable material. The removal, alteration and/or disturbance of less than 1 m² of friable asbestos-containing materials is classified as a Type 2 enclosure operation as specified in O.Reg. 278/05. The removal, alteration and/or disturbance of more than 1 m² of friable asbestos-containing materials is classified as a Type 3 operation.

Textured plaster and parging cement is a non- or semi-friable material which can become friable when disturbed. According to the Ministry of Labour “*A Guide to the Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations*”, dated November 2007, wetting does not adequately control the spread of dust and fibres during the breaking, cutting, drilling, abrading, grinding, sanding, or vibrating of asbestos containing plaster (as well as stucco and other hard finishes) by means of non-powered hand-held tools. As such, Type 1 procedures cannot be used for work on these materials. The removal, alteration and/or disturbance should therefore

be classified as a Type 2 or Type 3 operation depending on the tools used, and the amount of material to be removed.

The removal, alteration and/or disturbance of less than one square meter of drywall in which asbestos-containing joint filling compounds have been used is classified as a Type 1 operation. The removal, alteration and/or disturbance of one square meter or more of drywall with asbestos-containing joint compounds is a Type 2 operation.

Asbestos may also be present in materials which were not sampled during the course of the asbestos survey carried out by Arcadis, including, but not limited to, areas outside the designated study areas, which include components of electrical equipment (e.g. electric wiring insulation, non-metallic sheathed cable, electrical panel partitions, arc chutes, high-grade electrical paper, etc.), threaded pipe sealants, mortar, concrete, asphaltic pavement. Confirmatory testing of any such materials could be undertaken as the need arises (i.e., at the time of renovations, modifications or demolition) or the materials can be assumed to contain asbestos based on findings in adjacent areas.

If any materials which may contain asbestos and which were not tested during the course of the designated substances and hazardous materials survey are discovered during any construction activities, the work shall not proceed until such time as the required notifications have been made and an appropriate course of action is determined.

3.2 Lead

Arcadis reviewed reports prepared by Arcadis for the CSV titled “Pre-Renovation Designated Substances and Hazardous Materials Survey, École élémentaire Pierre-Elliott-Trudeau” dated February 13, 2020, and “Pre-Renovation Designated Substances and Hazardous Materials Survey, École élémentaire Pierre-Elliott-Trudeau” dated April 18, 2016. Information and paint sample analysis results taken from these reports was utilized by Arcadis during the course of our investigation and in the preparation of this report.

During the course of our site investigations, additional representative bulk samples of paint were collected by Arcadis staff. The samples were forwarded to EMSL Canada Inc. for lead analyses. Results of bulk sample analysis for lead content are provided in Table 3.2. Laboratory reports from this investigation are provided in Appendix B.

Table 3.2. Summary of Results of Analyses of Bulk Samples for Lead

Sample No.	Sample Location	Sample Description	Lead Content (mg/kg)
LS-1	Room 111	Beige wall paint	110
LS_2	Room 121	Purple paint on gypsum board	<80
P-1	Exterior west wall in Corridor C201 adjacent to Stairwell B2	Black paint on brick	460⁽¹⁾
P-1A	Room 113	Paint on rad unit	1,000⁽²⁾
P-1B	Room 212	Paint on concrete block	100⁽²⁾
P-1C	Room 114	Paint on louvre/window frame	6,000⁽²⁾

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Sample No.	Sample Location	Sample Description	Lead Content (mg/kg)
114-P-1	Room 114	Paint on metal door frame – cream colour	76 ⁽²⁾
114-P-2	Room 114	Paint on concrete block wall – cream colour	800 ⁽²⁾
118-P-3	Room 118	Paint on interior window frame – light blue colour	830 ⁽²⁾
Paint 1	Interior window of B1	--	250 ⁽²⁾
Paint 2	Exterior window of 123A	--	<110 ⁽²⁾
Paint 3	Interior column of C1	--	170 ⁽²⁾

NOTE:

- (1) Sample results taken from a report prepared by Arcadis for the CSV titled “Pre-Renovation Designated Substances and Hazardous Materials Survey, École élémentaire Pierre-Elliott-Trudeau” dated February 13, 2020.
- (2) Sample results taken from a report prepared by Arcadis for the CSV titled “Pre-Renovation Designated Substances and Hazardous Materials Survey, École élémentaire Pierre-Elliott-Trudeau” dated April 18, 2016.

< = less than.

mg/kg = milligrams lead per kilogram paint.

1 mg/kg = 1 part per million (ppm).

Lead was detected in 10 of the 12 paint samples. Lead was not detected (less than the laboratory detection limits of 80 and 110 mg/kg of lead) in the remaining two paint samples however lead may still be present in these two paint samples.

Lead may also be present in lead pipe, mortar, glazing on ceramic tiles, in the solder on the seals of bell joints of any cast iron drainpipe and in the solder on the sweated-on joints between copper pipe and fittings.

The Ministry of Labour *Guideline – Lead on Construction Projects*, dated April 2011, provides guidance in the measures and procedures that should be followed when handling lead containing materials during construction projects. In the guideline, lead-containing construction operations are classified into three groups - Type 1 (low risk), Type 2 (medium risk) and Type 3 (high risk) based on presumed airborne concentrations of lead, as shown in Appendix C, Table C-2. Any operation that may expose a worker to lead that is not a Type 1, Type 2, or Type 3b operation, is classified as a Type 3a operation.

In addition, the *EACO Lead Abatement Guidelines, 2014 — Edition 1*, Environmental Abatement Council of Ontario, also provides guidance and recommended work practices.

3.3 Mercury

During the course of our site investigation, fluorescent lights were observed in the designated study areas. Mercury should be assumed to be present as a gas in all fluorescent light tubes and in all paint applications, albeit at low levels. The fluorescent light tubes should be recycled for mercury, if the lights are removed.

Proper procedures for removing and handling mercury-containing fluorescent light tubes typically involve:

- ensuring that electrical power to light fixtures has been disconnected and locked out;
- taking all necessary precautions to ensure that fluorescent lamp tubes are removed in a manner that prevents breakage; and
- transporting fluorescent lamp tubes to a licensed processing location for separation and recovery of mercury.

The measures and procedures outlined in the MOL *Guideline, Lead on Construction Projects* for control of potential exposure to lead in paint during construction activities will also serve to control potential exposure to any mercury in paint.

3.4 Silica

Materials observed in the designated study areas which should be considered to contain silica included plaster, grout, mortar beds, gypsum board and associated joint compounds, concrete block, concrete, terrazzo, and mortar.

Silica can also be assumed to be present in any gravel ballast on roofs and will also be found in asphalt roofing materials if rock or stone are present in the asphalt.

The Ministry of Labour *Guideline, Silica on Construction Projects*, April 2011, provides guidance in controlling exposure to silica dust during construction activities. In the guideline, silica-containing construction operations are classified into three groups - Type 1 (low risk), Type 2 (medium risk) and Type 3 (high risk) based on presumed airborne concentrations of silica, as shown in Appendix C, Table C-3.

Additional precautionary measures should also be implemented for certain types of materials (e.g., plaster and texture coat materials, including non-asbestos applications, concrete block, etc.). For minor disturbances such as drilling, a HEPA-filtered attachment should be used. For removal of more than a minor amount of material, enclosures should be constructed for dust control and separation of the work area from adjacent areas.

3.5 Vinyl Chloride

As mentioned in Section 2.5 above, vinyl chloride would only be a potential exposure concern in the event of combustion of PVC products.

3.6 Acrylonitrile

As mentioned in Section 2.6 above, acrylonitrile would only be a potential exposure concern in the event of combustion of ABS products.

3.7 Other Designated Substances

No other designated substances (benzene, isocyanates, arsenic, ethylene oxide and coke oven emissions) were observed to be present in the designated study areas, and none would be expected to be encountered in any building materials in a form that would represent an exposure concern. Arsenic may be present at low levels in paint applications. The measures and procedures outlined in the *MOL Guideline, Lead on Construction Projects* for control of potential exposure to lead in paint during construction activities will also serve to control potential exposure to any arsenic (or mercury) in paint.

3.8 Polychlorinated Biphenyls (PCBs)

Fluorescent lights were observed in the designated study areas during the course of our site investigations. Light ballasts, such as those associated with the type of fluorescent lights (T8s) observed in the designated study areas, are usually an electronic type which do not contain PCBs, however, this would be confirmed by an electrician at the time of dismantling of the lights.

3.9 Ozone-Depleting Substances (ODS) and Other Halocarbons

During the course of the site investigation, one domestic refrigerator was observed in Room 119 that may contain refrigerants that are ODS.

If any ODS-containing equipment is to be removed, then they must be handled in the following manner:

- any equipment designated for disposal as scrap must be drained of its contents by a licensed technician and equipped with a label indicating that the equipment no longer contains any refrigerant. The specific requirements for information on the label, as specified in the regulation, must be adhered to;
- equipment designated for relocation to another facility owned by the Conseil scolaire Viamonde must be drained and labelled, as above; and
- any equipment that is drained to facilitate relocation to another facility owned by Conseil scolaire Viamonde must be tested for leaks prior to re-filling. The equipment must be re-filled within six months of the leak test.

3.10 Mould

The investigation for mould included a visual inspection of readily-accessible surfaces throughout the designated study areas to determine if any mould was evident. The inspection of mould did not include intrusive inspections of wall cavities. Readily evident suspect mould was not observed in the designated study areas during the course of the site investigation. During renovations or interior demolition work, any mould-impacted materials uncovered/discovered should be remediated following the measures and procedures outlined in the *Canadian Construction Association Standard Construction Document CCA-82 2004 - Mould Guidelines for the Canadian Construction Industry*.

4 Limitations and Service Constraints

The opinions, conclusions and recommendations presented in this report are limited to the information obtained during the performance of the specific scope of service identified in the report. To the extent that Arcadis relied upon any information prepared by other parties not under direct contract to Arcadis, no representation as to the accuracy or completeness of such information is made. This report is an instrument of professional service and the services described in the report were performed in accordance with generally accepted standards and level of skill and care ordinarily exercised by members of the profession working under similar conditions including comparable budgetary and schedule constraints. No warranty, guarantee or certification express or implied, is intended or given with respect to Arcadis' services, opinions, conclusions or recommendations.

Arcadis' observations, the results of any testing and Arcadis' opinions, conclusions and recommendations apply solely to conditions existing at the specific times when and specific locations where Arcadis' investigative work was performed. Arcadis affirms that data gathered and presented in this report was collected in an appropriate manner in accordance with generally accepted methods and practices. Arcadis cannot be responsible for decisions made by our client solely on the basis of economic factors. Observation and testing activities such as those conducted by Arcadis are inherently limited and do not represent a conclusive or complete characterization. Arcadis analyzed only the substances, conditions and locations described in the report at the time indicated. Conditions in other parts of the project site, building or area may vary from conditions at the specific locations where observations were made and where testing was performed by Arcadis. Additionally, other building material hazards which were not identified by Arcadis, may also be present un-accessed areas and in walls, ceilings, cavities, and floors.

This report is expressly for the sole and exclusive use of the Client for whom this report was originally prepared and for the particular purpose outlined in the report. Reuse of this report or any portion thereof for other than its intended purpose, or if modified, or if used by third parties, shall be at the user's sole risk. This report must be presented in its entirety.

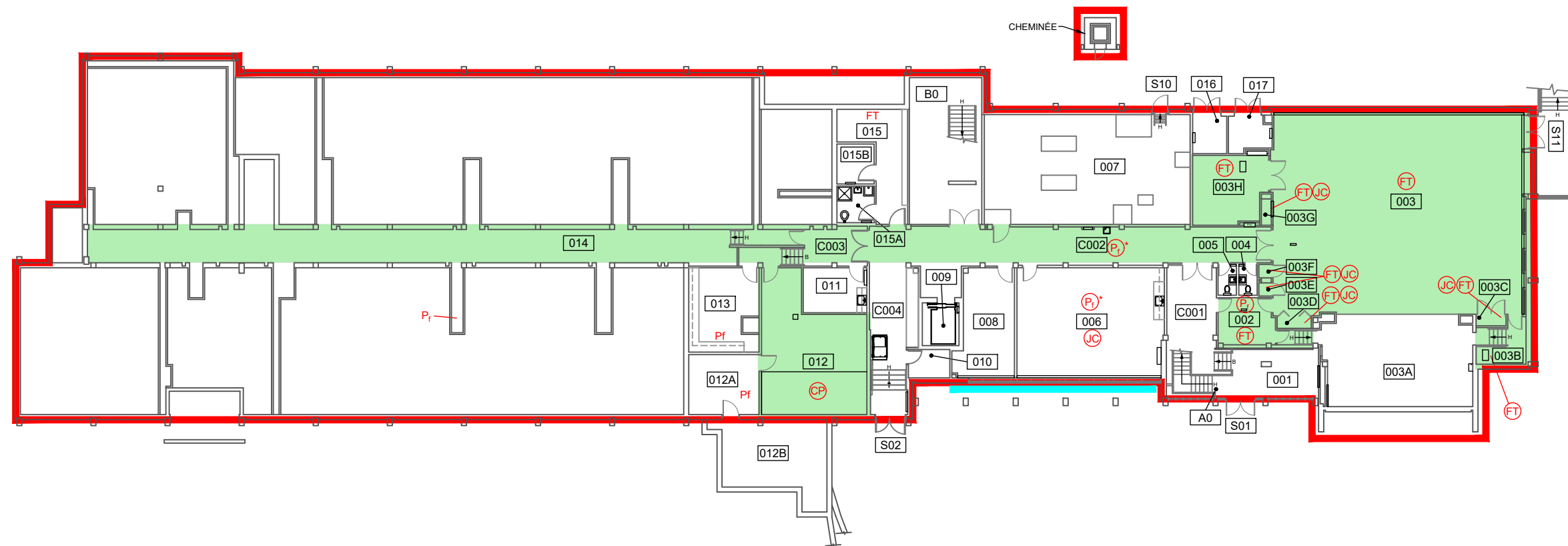
The survey did not include for identification of asbestos in process materials, equipment (including electrical equipment and wiring), furniture (e.g., chairs, tabletops, chalkboards, etc.), nor material outside of the building (e.g., asphaltic pavement).

This report is not intended to be used as a scope of work or technical specification for remediation of designated substances or hazardous materials.

Appendix A

Floor Plans

CITY (Read) DIV/GRUPP (Read) DB (Read) LD (Opt) PIC (Opt) PM (Read) TM (Opt) LVR (Opt) ONI (Off) REF
 C:\Users\byrappa\Documents\Projects\2024\01\01\ARC_ENV_2024\01-DWG\30173487 TRUDEAU\30173487 CSV PE Trudeau.dwg LAYOUT: BASEMENT FLOOR SAVED: 6/25/2024 6:26 PM ACADVER: 24.3S
 (LMS TECH) PAGESETUP: ... PLOTSTYLETABLE: PLT\FULL.CTB PLOTTED: 6/25/2024 7:47 PM BY: BYRAPPA, BYRAREDDY
 XREFS: IMAGES: PROJECTNAME: ...



SOUS - SOL

LEGEND:

- 25 FUNCTIONAL SPACE
- THROUGHOUT FUNCTIONAL SPACE
- * ABOVE CEILING ASSEMBLY
- FT ASBESTOS FLOORING
- CP ASBESTOS CEMENT PRODUCT
- Pf ASBESTOS ON PIPE FITTINGS
- P ASBESTOS ON PIPE STRAIGHTS
- JC ASBESTOS DRYWALL JOINT COMPOUND
- EQ ASBESTOS ON MECHANICAL EQUIPMENT
- OA OTHER ASBESTOS MATERIALS
- ASBESTOS CEMENT PARING ON EXTERIOR COLUMNS, BEAM AND SOFFITS
- ASBESTOS CAULKING ON INTERIOR AND EXTERIOR WINDOW FRAMES AND ASBESTOS GLAZING SEAL ON WINDOWS
- STUDY AREA

NOTES:

REVISIONS:

No.	Date:	By:	Revisions

REFERENCE:

1.



Conseil Scolaire Viamonde

REVISED PRE-RENOVATION DESIGNATED SUBSTANCES AND HAZARDOUS MATERIALS SURVEY

LOCATIONS OF ASBESTOS-CONTAINING MATERIALS AND STUDY AREAS

ÉCOLE ÉLÉMENTAIRE PIERRE ELLIOTT TRUDEAU

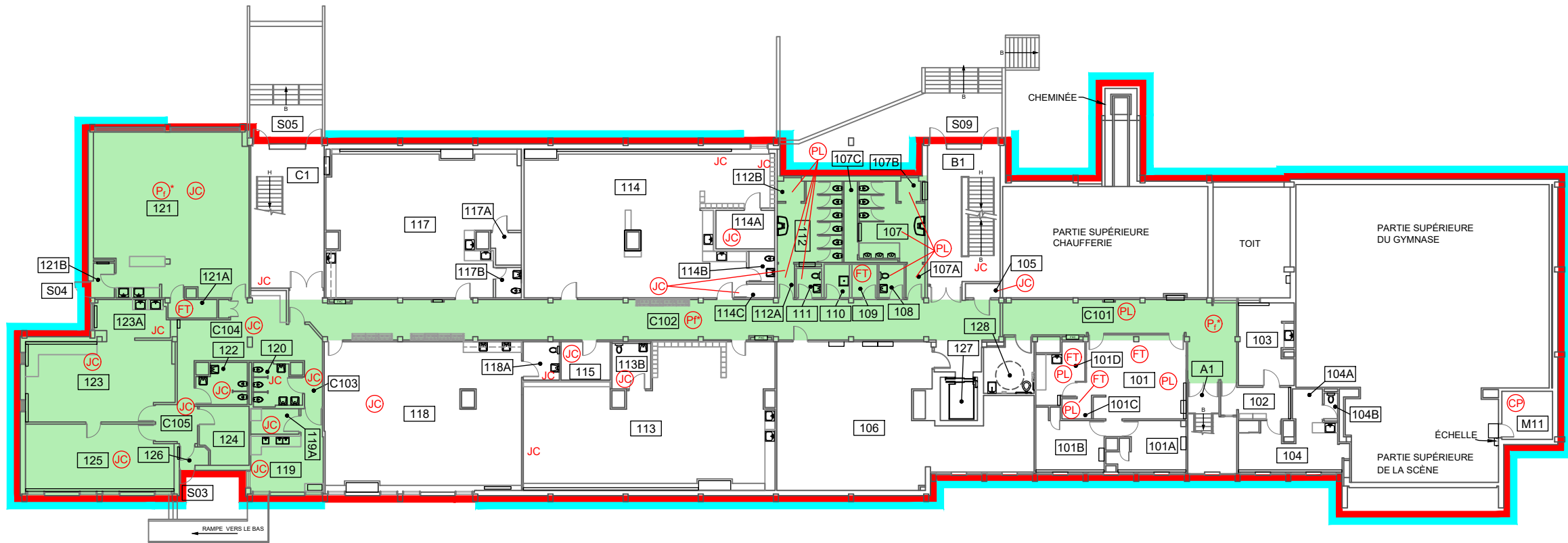
65 GRACE STREET, TORONTO, ONTARIO

BASEMENT FLOOR PLAN

Drawn By: V.P.	Approved By: V.D.	Project No: 30173487
Date: JUNE 2024	Scale: N.T.S.	Drawing No: 30173487-1

CITY (Read) DWGGROUP (Read) DB (Read) LD (Opt) PIC (Opt) PM (Read) TM (Opt) LXR (Opt) OFF=REF
 C:\Users\byrapp\p\346\DC\ACC\Docs\Arcadis ACC US\ACA-99999999-CONSEIL SCOLAIRE VIAMONDE - NORTH YORK CONI Project Files\10_WIP\101_ARC_ENV\2024\01-DWG\30173487 TRUDEAU\30173487 CSI/PE Trudeau.dwg LAYOUT: FIRST FLOOR SAVED: 6/25/2024 7:49 PM ACADVER: 24.3S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: PLTULLC1B PLOTTED: 6/28/2024 9:43 AM BY: BYRAPP/PA BYRAREDDY

XREFS: IMAGES: PROJECTNAME: ---



REZ-DE-CHAUSSÉE

LEGEND:

- 25 FUNCTIONAL SPACE
- THROUGHOUT FUNCTIONAL SPACE
- * ABOVE CEILING ASSEMBLY
- FT ASBESTOS FLOORING
- CP ASBESTOS CEMENT PRODUCT
- P ASBESTOS ON PIPE FITTINGS
- JC ASBESTOS DRYWALL JOINT COMPOUND
- EQ ASBESTOS ON MECHANICAL EQUIPMENT
- PL ASBESTOS CONTAINING TEXTURED PLASTER
- ASBESTOS CEMENT PARGING ON EXTERIOR COLUMNS, BEAM AND SOFFITS.
- ASBESTOS CAULKING ON INTERIOR AND EXTERIOR WINDOW FRAMES AND ASBESTOS GLAZING SEAL ON WINDOWS
- STUDY AREA

NOTES:

REVISIONS:

No.	Date:	By:	Revisions

REFERENCE:

1.



Conseil Scolaire Viamonde

REVISED PRE-RENOVATION DESIGNATED SUBSTANCES AND HAZARDOUS MATERIALS SURVEY

LOCATIONS OF ASBESTOS-CONTAINING MATERIALS AND STUDY AREAS

ÉCOLE ÉLÉMENTAIRE PIERRE ELLIOTT TRUDEAU

65 GRACE STREET, TORONTO, ONTARIO

FIRST FLOOR PLAN

Drawn By: V.P	Approved By: V.D	Project No: 30173487
Date: JUNE 2024	Scale: N.T.S	Drawing No: 30173487-2

Appendix B

Laboratory Reports



EMSL Canada Inc.

2756 Slough Street Mississauga, ON L4T 1G3
Phone/Fax: (289) 997-4602 / (289) 997-4607
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EMSL Canada Order 552311105
Customer ID: 55DCSL97
Customer PO: 30173487
Project ID:

Attn: Emily Morgan
ARCADIS Canada Inc.
121 Granton Drive
Unit 12
Richmond Hill, ON L4B 3N4
Proj: 30173487 - PE Trudeau

Phone: (905) 882-5984
Fax: (905) 882-8962
Collected:
Received: 7/20/2023
Analyzed: 7/27/2023

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: BB-01a-Baseboard **Lab Sample ID:** 552311105-0001

Sample Description: Black baseboard + yellow mastic / Room 123A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Black	0.0%	100.0%	None Detected	

Client Sample ID: BB-01a-Mastic **Lab Sample ID:** 552311105-0001A

Sample Description: Black baseboard + yellow mastic / Room 123A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: BB-01b-Baseboard **Lab Sample ID:** 552311105-0002

Sample Description: Black baseboard + yellow mastic / Room 123A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Black	0.0%	100.0%	None Detected	

Client Sample ID: BB-01b-Mastic **Lab Sample ID:** 552311105-0002A

Sample Description: Black baseboard + yellow mastic / Room 123A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: BB-01c-Baseboard **Lab Sample ID:** 552311105-0003

Sample Description: Black baseboard + yellow mastic / Room 123A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Black	0.0%	100.0%	None Detected	

Client Sample ID: BB-01c-Mastic **Lab Sample ID:** 552311105-0003A

Sample Description: Black baseboard + yellow mastic / Room 123A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: VFT-02a-Vinyl Floor Tile **Lab Sample ID:** 552311105-0004

Sample Description: 12x12 grey VFT + yellow mastic / Room 123A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	7/26/2023	Gray/Beige	0.0%	100%	None Detected	
TEM Grav. Reduction	7/27/2023	Gray/Beige	0.0%	100.0%	None Detected	



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EMSL Canada Order 552311105
Customer ID: 55DCSL97
Customer PO: 30173487
Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: VFT-02a-Mastic **Lab Sample ID:** 552311105-0004A

Sample Description: 12x12 grey VFT + yellow mastic / Room 123A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Orange	0.0%	100.0%	None Detected	

Client Sample ID: VFT-02b-Vinyl Floor Tile **Lab Sample ID:** 552311105-0005

Sample Description: 12x12 grey VFT + yellow mastic / Room 123A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Gray	0.0%	100.0%	None Detected	

Client Sample ID: VFT-02b-Mastic **Lab Sample ID:** 552311105-0005A

Sample Description: 12x12 grey VFT + yellow mastic / Room 123A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: VFT-02c-Vinyl Floor Tile **Lab Sample ID:** 552311105-0006

Sample Description: 12x12 grey VFT + yellow mastic / Room 123A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Gray	0.0%	100.0%	None Detected	

Client Sample ID: VFT-02c-Mastic **Lab Sample ID:** 552311105-0006A

Sample Description: 12x12 grey VFT + yellow mastic / Room 123A

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: ACT-03a **Lab Sample ID:** 552311105-0007

Sample Description: 12x12 accoustic ceiling tile / Room C102

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Gray/White	95.0%	5.0%	None Detected	

Client Sample ID: ACT-03b **Lab Sample ID:** 552311105-0008

Sample Description: 12x12 accoustic ceiling tile / Room C102

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Gray/White	95.0%	5.0%	None Detected	

Client Sample ID: ACT-03c **Lab Sample ID:** 552311105-0009

Sample Description: 12x12 accoustic ceiling tile / Room C102

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Gray/White	95.0%	5.0%	None Detected	



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Customer ID: 55DCSL97
Customer PO: 30173487
Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: MA-04a **Lab Sample ID:** 552311105-0010

Sample Description: Black mastic only / Room 109

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Black	0.0%	100.0%	None Detected	

Client Sample ID: MA-04b **Lab Sample ID:** 552311105-0011

Sample Description: Black mastic only / Room 109

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Black	0.0%	100.0%	None Detected	

Client Sample ID: MA-04c **Lab Sample ID:** 552311105-0012

Sample Description: Black mastic only / Room 109

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Black	0.0%	100.0%	None Detected	

Client Sample ID: PLA-05a-Skim Coat **Lab Sample ID:** 552311105-0013

Sample Description: Plaster (2 layers) / Room C102

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	White	0.0%	100.0%	None Detected	

Client Sample ID: PLA-05a-Base Coat **Lab Sample ID:** 552311105-0013A

Sample Description: Plaster (2 layers) / Room C102

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Tan	0.0%	98.0%	2% Chrysotile	

Client Sample ID: PLA-05b-Skim Coat **Lab Sample ID:** 552311105-0014

Sample Description: Plaster (2 layers) / Room 112

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	White	0.0%	100.0%	None Detected	

Client Sample ID: PLA-05b-Base Coat **Lab Sample ID:** 552311105-0014A

Sample Description: Plaster (2 layers) / Room 112

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023					Positive Stop (Not Analyzed)

Client Sample ID: PLA-05c-Skim Coat **Lab Sample ID:** 552311105-0015

Sample Description: Plaster (2 layers) / Room 112

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	White	0.0%	100.0%	None Detected	



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Customer ID: 55DCSL97
Customer PO: 30173487
Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: PLA-05c-Base Coat **Lab Sample ID:** 552311105-0015A

Sample Description: Plaster (2 layers) / Room 112

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023					Positive Stop (Not Analyzed)

Client Sample ID: PLA-05d-Skim Coat **Lab Sample ID:** 552311105-0016

Sample Description: Plaster (2 layers) / Room 107

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	White	0.0%	100.0%	None Detected	

Client Sample ID: PLA-05d-Base Coat **Lab Sample ID:** 552311105-0016A

Sample Description: Plaster (2 layers) / Room 107

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023					Positive Stop (Not Analyzed)

Client Sample ID: PLA-05e-Skim Coat **Lab Sample ID:** 552311105-0017

Sample Description: Plaster (2 layers) / Room 107

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	White	0.0%	100.0%	None Detected	

Client Sample ID: PLA-05e-Base Coat **Lab Sample ID:** 552311105-0017A

Sample Description: Plaster (2 layers) / Room 107

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023					Positive Stop (Not Analyzed)

Client Sample ID: MA-06a **Lab Sample ID:** 552311105-0018

Sample Description: Yellow mastic / Room C102

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: MA-06b **Lab Sample ID:** 552311105-0019

Sample Description: Yellow mastic / Room C102

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: MA-06c **Lab Sample ID:** 552311105-0020

Sample Description: Yellow mastic / Room C102

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Yellow	0.0%	100.0%	None Detected	



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Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: GT-07a **Lab Sample ID:** 552311105-0021

Sample Description: Grey grout / Room 107

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Gray	0.0%	100.0%	None Detected	

Client Sample ID: GT-07b **Lab Sample ID:** 552311105-0022

Sample Description: Grey grout / Room 107

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Gray	0.0%	100.0%	None Detected	

Client Sample ID: GT-07c **Lab Sample ID:** 552311105-0023

Sample Description: Grey grout / Room 107

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Gray	0.0%	100.0%	None Detected	

Client Sample ID: MA-08a **Lab Sample ID:** 552311105-0024

Sample Description: Brown tile mastic / Room 003

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Black	0.0%	100.0%	None Detected	

Client Sample ID: MA-08b **Lab Sample ID:** 552311105-0025

Sample Description: Brown tile mastic / Room 003

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Black	0.0%	100.0%	None Detected	

Client Sample ID: MA-08c **Lab Sample ID:** 552311105-0026

Sample Description: Brown tile mastic / Room 003

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Black	0.0%	100.0%	None Detected	

Client Sample ID: ACT-09a **Lab Sample ID:** 552311105-0027

Sample Description: Ceiling tile 12x12 / Room 002

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Gray/White	80.0%	20.0%	None Detected	

Client Sample ID: ACT-09b **Lab Sample ID:** 552311105-0028

Sample Description: Ceiling tile 12x12 / Room 002

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Gray/White	80.0%	20.0%	None Detected	



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Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: ACT-09c **Lab Sample ID:** 552311105-0029

Sample Description: Ceiling tile 12x12 / Room 002

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Gray/White	80.0%	20.0%	None Detected	

Client Sample ID: FT-10A-Vinyl Floor Tile **Lab Sample ID:** 552311105-0030

Sample Description: 12"x12" off-white vinyl floor tiles with grey flecks / Room 121

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	7/26/2023	Beige	0.0%	100%	None Detected	
TEM Grav. Reduction	7/27/2023	Beige	0.0%	100.0%	None Detected	

Client Sample ID: FT-10A-Mastic **Lab Sample ID:** 552311105-0030A

Sample Description: 12"x12" off-white vinyl floor tiles with grey flecks / Room 121

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Black/Yellow	0.0%	100.0%	None Detected	

Client Sample ID: FT-10B-Vinyl Floor Tile **Lab Sample ID:** 552311105-0031

Sample Description: 12"x12" off-white vinyl floor tiles with grey flecks / Room 121

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Gray/Beige	0.0%	100.0%	None Detected	

Client Sample ID: FT-10B-Mastic **Lab Sample ID:** 552311105-0031A

Sample Description: 12"x12" off-white vinyl floor tiles with grey flecks / Room 121

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Black/Yellow	0.0%	100.0%	None Detected	Results include inseperable black and yellow mastics

Client Sample ID: FT-10C-Vinyl Floor Tile **Lab Sample ID:** 552311105-0032

Sample Description: 12"x12" off-white vinyl floor tiles with grey flecks / Room 121

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Gray/Beige	0.0%	100.0%	None Detected	

Client Sample ID: FT-10C-Mastic **Lab Sample ID:** 552311105-0032A

Sample Description: 12"x12" off-white vinyl floor tiles with grey flecks / Room 121

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Black/Yellow	0.0%	100.0%	None Detected	Results include inseperable black and yellow mastics

Client Sample ID: MS-11A **Lab Sample ID:** 552311105-0033

Sample Description: Masric adhesive 12"x12" off-white vinyl floor tiles with grey flecks / Room 121

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Black/Yellow	0.0%	100.0%	None Detected	Results include inseperable black and yellow mastics



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Customer ID: 55DCSL97
Customer PO: 30173487
Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: MS-11B **Lab Sample ID:** 552311105-0034

Sample Description: Masric adhesive 12"x12" off-white vinyl floor tiles with grey flecks / Room 121

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Black/Yellow	0.0%	100.0%	None Detected	Results include inseperable black and yellow mastics

Client Sample ID: MS-11C **Lab Sample ID:** 552311105-0035

Sample Description: Masric adhesive 12"x12" off-white vinyl floor tiles with grey flecks / Room 121

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Black/Yellow	0.0%	100.0%	None Detected	Results include inseperable black and yellow mastics

Client Sample ID: CT-12A **Lab Sample ID:** 552311105-0036

Sample Description: 2'x4' acoustic ceiling tile with pinholes and fissures / Room 121

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Gray/White	80.0%	20.0%	None Detected	

Client Sample ID: CT-12B **Lab Sample ID:** 552311105-0037

Sample Description: 2'x4' acoustic ceiling tile with pinholes and fissures / Room 121

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Gray/White	80.0%	20.0%	None Detected	

Client Sample ID: CT-12C **Lab Sample ID:** 552311105-0038

Sample Description: 2'x4' acoustic ceiling tile with pinholes and fissures / Room 121

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Gray/White	80.0%	20.0%	None Detected	

Client Sample ID: SF-13A **Lab Sample ID:** 552311105-0039

Sample Description: Yellow vinyl sheet flooring / Room C104

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	7/26/2023	Gray/Tan/Beige	0.0%	100%	None Detected	
TEM Grav. Reduction	7/27/2023	Gray/Tan/Beige	0.0%	100.0%	None Detected	

Client Sample ID: SF-13B **Lab Sample ID:** 552311105-0040

Sample Description: Yellow vinyl sheet flooring / Room C104

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Yellow	40.0%	60.0%	None Detected	

Client Sample ID: SF-13C **Lab Sample ID:** 552311105-0041

Sample Description: Yellow vinyl sheet flooring / Room C104

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Yellow	40.0%	60.0%	None Detected	



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Customer ID: 55DCSL97
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Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: MS-14A **Lab Sample ID:** 552311105-0042

Sample Description: Mastic adhesive to yellow vinyl sheet flooring / Room C104

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023				Not Submitted	

Client Sample ID: MS-14B **Lab Sample ID:** 552311105-0043

Sample Description: Mastic adhesive to yellow vinyl sheet flooring / Room C104

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: MS-14C **Lab Sample ID:** 552311105-0044

Sample Description: Mastic adhesive to yellow vinyl sheet flooring / Room C104

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/26/2023	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: CLK-10A **Lab Sample ID:** 552311105-0045

Sample Description: Exterior Window Caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	7/26/2023	Gray/White/Green	0.0%	100%	<0.25% Chrysotile	
TEM Grav. Reduction	7/27/2023	Gray/White/Green	0.00%	99.88%	0.12% Chrysotile	

Client Sample ID: CLK-10B **Lab Sample ID:** 552311105-0046

Sample Description: Exterior Window Caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/27/2023	Gray	0.0%	98.0%	2% Chrysotile	

Client Sample ID: CLK-10C **Lab Sample ID:** 552311105-0047

Sample Description: Exterior Window Caulking

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	7/27/2023				Positive Stop (Not Analyzed)	



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EMSL Canada Order 552311105
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Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Analyst(s):

Claire Byers PLM (48)
Khue Nguyen TEM Grav. Reduction (4)
Shannon Clegg PLM (1)
Vanessa Gallego PLM (2)
PLM Grav. Reduction (4)

Reviewed and approved by:

Matthew Davis or other approved signatory
or Other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Fife, WA NVLAP Lab Code 600324-0, WA C1075

Initial report from: 07/27/2023 10:37:58



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Unit 12
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Proj: PE Trudeau PS / 30173487

Phone: (905) 882-5984
Fax: (905) 882-8962
Collected:
Received: 11/27/2023
Analyzed: 12/04/2023

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: 1A **Lab Sample ID:** 552318514-0001

Sample Description: Asphaltic roof membrane/North Elevation - Tar

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	12/04/2023	Black	0.0%	100%	None Detected	
TEM Grav. Reduction	12/04/2023	Black	0.0%	100.0%	None Detected	

Client Sample ID: 1B-Tar Felt **Lab Sample ID:** 552318514-0002

Sample Description: Asphaltic roof membrane/North Elevation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	12/04/2023	Black	20.0%	80.0%	None Detected	

Client Sample ID: 1B-Tar **Lab Sample ID:** 552318514-0002A

Sample Description: Asphaltic roof membrane/North Elevation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	12/04/2023	Black	0.0%	100.0%	None Detected	

Client Sample ID: 1C-Tar Felt **Lab Sample ID:** 552318514-0003

Sample Description: Asphaltic roof membrane/North Elevation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	12/04/2023	Black	20.0%	80.0%	None Detected	

Client Sample ID: 1C-Tar **Lab Sample ID:** 552318514-0003A

Sample Description: Asphaltic roof membrane/North Elevation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	12/04/2023	Black	0.0%	100.0%	None Detected	

Client Sample ID: 2A **Lab Sample ID:** 552318514-0004

Sample Description: Kraft vapor barrier/North Elevation - Tart Paper

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM Grav. Reduction	12/04/2023	Brown/Black	0.0%	100%	None Detected	
TEM Grav. Reduction	12/04/2023	Brown/Black	0.0%	100.0%	None Detected	

Client Sample ID: 2B **Lab Sample ID:** 552318514-0005

Sample Description: Kraft vapor barrier/North Elevation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	12/04/2023	Brown/Black	45.0%	55.0%	None Detected	



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Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: 2C **Lab Sample ID:** 552318514-0006

Sample Description: Kraft vapor barrier/North Elevation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	12/04/2023	Brown/Black	45.0%	55.0%	None Detected	

Client Sample ID: 3A **Lab Sample ID:** 552318514-0007

Sample Description: Exterior caulking at metal flashing/North Elevation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	12/04/2023	White	0.0%	100.0%	None Detected	

Client Sample ID: 3B **Lab Sample ID:** 552318514-0008

Sample Description: Exterior caulking at metal flashing/North Elevation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	12/04/2023	White	0.0%	100.0%	None Detected	

Client Sample ID: 3C **Lab Sample ID:** 552318514-0009

Sample Description: Exterior caulking at metal flashing/North Elevation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	12/04/2023	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 4A **Lab Sample ID:** 552318514-0010

Sample Description: Exterior white caulking at column/North Elevation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	12/04/2023	White	0.0%	100.0%	None Detected	

Client Sample ID: 4B **Lab Sample ID:** 552318514-0011

Sample Description: Exterior white caulking at column/North Elevation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	12/04/2023	White	0.0%	100.0%	None Detected	

Client Sample ID: 4C **Lab Sample ID:** 552318514-0012

Sample Description: Exterior white caulking at column/North Elevation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	12/04/2023	White	0.0%	100.0%	None Detected	

Client Sample ID: 5A **Lab Sample ID:** 552318514-0013

Sample Description: Exterior black caulking at condenser unit/North Elevation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	12/04/2023	Black	0.0%	100.0%	None Detected	



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Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: 5B-Caulking **Lab Sample ID:** 552318514-0014

Sample Description: Exterior black caulking at condenser unit/North Elevation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	12/04/2023	Black	0.0%	100.0%	None Detected	

Client Sample ID: 5B-Foam **Lab Sample ID:** 552318514-0014A

Sample Description: Exterior black caulking at condenser unit/North Elevation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	12/04/2023	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 5C **Lab Sample ID:** 552318514-0015

Sample Description: Exterior black caulking at condenser unit/North Elevation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	12/04/2023	Black	0.0%	100.0%	None Detected	

Client Sample ID: 6A **Lab Sample ID:** 552318514-0016

Sample Description: Exterior brick mortar/North Elevation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	12/04/2023	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 6B **Lab Sample ID:** 552318514-0017

Sample Description: Exterior brick mortar/North Elevation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	12/04/2023	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 6C **Lab Sample ID:** 552318514-0018

Sample Description: Exterior brick mortar/North Elevation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	12/04/2023	Gray	0.0%	100.0%	None Detected	



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Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Analyst(s):

- Diana Costantino PLM (4)
- Khue Nguyen TEM Grav. Reduction (2)
- Natalie D'Amico PLM Grav. Reduction (2)
- Nickesh Mistry PLM (15)

Reviewed and approved by:

Matthew Davis or other approved signatory
or Other Approved Signatory

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Samples analyzed by EMSL Canada Inc. Mississauga, ON NVLAP Lab Code 200877-0

Initial report from: 12/04/2023 14:55:27



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EMSL Canada Order 552409007
Customer ID: 55DCSL97
Customer PO: 30173487
Project ID:

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Fax: (905) 882-8962
Collected:
Received: 6/12/2024
Analyzed: 6/12/2024
Proj: 30173487 / École élémentaire Pierre-Elliott-Trudeau

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: 1A **Lab Sample ID:** 552409007-0001

Sample Description: Room 120/12" grey ceramic floor tile - grout

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	6/12/2024	Brown	0.0%	100.0%	None Detected	

Client Sample ID: 1B **Lab Sample ID:** 552409007-0002

Sample Description: Room 122/12" grey ceramic floor tile - grout

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	6/12/2024	Brown	0.0%	100.0%	None Detected	

Client Sample ID: 1C **Lab Sample ID:** 552409007-0003

Sample Description: Room 126/12" grey ceramic floor tile - grout

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	6/12/2024	Brown	0.0%	100.0%	None Detected	

Client Sample ID: 2A **Lab Sample ID:** 552409007-0004

Sample Description: Room 120/12" grey ceramic floor tile - mortar bed

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	6/12/2024	Brown	0.0%	100.0%	None Detected	

Client Sample ID: 2B **Lab Sample ID:** 552409007-0005

Sample Description: Room 122/12" grey ceramic floor tile - mortar bed

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	6/12/2024	Brown	0.0%	100.0%	None Detected	

Client Sample ID: 2C-Mortar 1 **Lab Sample ID:** 552409007-0006

Sample Description: Room 126/12" grey ceramic floor tile - mortar bed

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	6/12/2024	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 2C-Mortar 2 **Lab Sample ID:** 552409007-0006A

Sample Description: Room 126/12" grey ceramic floor tile - mortar bed

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	6/12/2024	Brown	0.0%	100.0%	None Detected	



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Customer PO: 30173487
Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: 3A **Lab Sample ID:** 552409007-0007

Sample Description: Room 120/4" white ceramic wall tile - grout

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	6/12/2024	White	0.0%	100.0%	None Detected	

Client Sample ID: 3B **Lab Sample ID:** 552409007-0008

Sample Description: Room 122/4" white ceramic wall tile - grout

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	6/12/2024	White	0.0%	100.0%	None Detected	

Client Sample ID: 3C **Lab Sample ID:** 552409007-0009

Sample Description: Room 120/4" white ceramic wall tile - grout

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	6/12/2024	White	0.0%	100.0%	None Detected	

Client Sample ID: 4A-Joint Compound **Lab Sample ID:** 552409007-0010

Sample Description: Room 120/4" white ceramic wall tile - mortar bed

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	6/12/2024	White	0.0%	100.0%	None Detected	

Client Sample ID: 4A-Thinset **Lab Sample ID:** 552409007-0010A

Sample Description: Room 120/4" white ceramic wall tile - mortar bed

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	6/12/2024	White	0.0%	100.0%	None Detected	

Client Sample ID: 4B-Joint Compound **Lab Sample ID:** 552409007-0011

Sample Description: Room 122/4" white ceramic wall tile - mortar bed

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	6/12/2024	White	0.0%	100.0%	None Detected	

Client Sample ID: 4B-Thinset **Lab Sample ID:** 552409007-0011A

Sample Description: Room 122/4" white ceramic wall tile - mortar bed

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	6/12/2024	White	0.0%	100.0%	None Detected	

Client Sample ID: 4C-Joint Compound **Lab Sample ID:** 552409007-0012

Sample Description: Room 120/4" white ceramic wall tile - mortar bed

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	6/12/2024	White	0.0%	100.0%	None Detected	



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Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: 4C-Thinset

Lab Sample ID: 552409007-0012A

Sample Description: Room 120/4" white ceramic wall tile - mortar bed

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	6/12/2024	White	0.0%	100.0%	None Detected	

Analyst(s):

Diana Costantino PLM (6)
Nickesh Mistry PLM (10)

Reviewed and approved by:

Matthew Davis or other approved signatory
or Other Approved Signatory

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Samples analyzed by EMSL Canada Inc. Mississauga, ON NVLAP Lab Code 200877-0

Initial report from: 06/13/2024 08:37



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Phone: (905) 882-5984
Fax: (905) 882-8962
Received: 7/20/2023 09:40 AM
Collected:

Project: 30173487 - PE Trudeau

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

<i>Client SampleDescription</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>RDL</i>	<i>Lead Concentration</i>
LS-01 552311075-0001		7/24/2023 Site: Beige Wall Paint / Room 111	0.2505 g	80 ppm	110 ppm
LS-02 552311075-0002		7/24/2023 Site: Gypsum Board / Room 121	0.2586 g	80 ppm	<80 ppm

Rowena Fanto, Lead Supervisor
or other approved signatory

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* Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.008% wt based on the minimum sample weight per our SOP. "<" (less than) result signifies the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. Definitions of modifications are available upon request.
Samples analyzed by EMSL Canada Inc. Mississauga, ON AIHA LAP, LLC-ELLAP Accredited #196142

Initial report from 07/28/2023 16:11:12

Appendix C

Summary of Asbestos, Lead and Silica Work Classifications

TABLE C-1
SUMMARY OF CLASSIFICATION OF
TYPE 1, 2 AND 3 OPERATIONS
(Ont. Reg. 278/05)

TYPE 1 OPERATIONS

- removing less than 7.5 m² asbestos-containing ceiling tiles;
- removing non-friable asbestos-containing material other than ceiling tiles, if the material is removed without being broken, cut, drilled, abraded, ground, sanded or vibrated;
- breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if the material is wetted and the work is done only using non-powered, hand-held tools; and
- removing less than 1 m² of drywall in which asbestos-containing joint compounds have been used.

TYPE 2 OPERATIONS

- removing all or part of a false ceiling to obtain access to a work area, if asbestos-containing material is likely to be lying on the surface of the false ceiling;
- removal of one square metre or less of friable asbestos-containing material;
- enclosing friable asbestos-containing material;
- applying tape or a sealant or other covering to asbestos-containing pipe or boiler insulation;
- removing 7.5 m² or more asbestos-containing ceiling tiles (if removed without being broken, cut, drilled, abraded, ground, sanded or vibrated);
- breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if the material is not wetted and the work is done only using non-powered, hand-held tools;
- removal of one square metre or more of drywall in which asbestos-containing joint compounds have been used;
- breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if the work is done using power tools that are attached to dust-collecting devices equipped with HEPA filters;
- cleaning or removing filters used in air-handling equipment in a building that has asbestos-containing sprayed fireproofing.

TABLE C-1 (Continued)
SUMMARY OF CLASSIFICATION OF
TYPE 1, 2 AND 3 OPERATIONS
(Ont. Reg. 278/05)

TYPE 3 OPERATIONS

- removal of more than one square metre of friable asbestos-containing material;
- spray application of a sealant to friable asbestos-containing material;
- cleaning or removing air-handling equipment, including rigid ducting but not including filters, in a building that has sprayed asbestos-containing fireproofing;
- repairing or demolishing a kiln, metallurgical furnace or similar structure that is made in part of asbestos-containing refractory materials;
- breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing materials, if the work is done using power tools that are not attached to dust-collecting devices equipped with HEPA filters.

TABLE C-2
SUMMARY OF CLASSIFICATION OF
LEAD-CONTAINING CONSTRUCTION TASKS
MOL GUIDELINE – LEAD ON CONSTRUCTION PROJECTS, APRIL 2011

Type 1 Operations	Type 2 Operations		Type 3 Operations	
	Type 2a	Type 2b	Type 3a	Type 3b
<0.05 mg/m ³	>0.05 to 0.50 mg/m ³	>0.50 to 1.25 mg/m ³	>1.25 to 2.50 mg/m ³	>2.50 mg/m ³

Note: The classification of Type 1, 2 and 3 operations is based on presumed airborne concentrations of lead, as shown above.

TYPE 1 OPERATIONS

- application of lead-containing coatings with a brush or roller;
- removal of lead-containing coatings with a chemical gel or paste and fibrous laminated cloth wrap;
- removal of lead-containing coatings or materials using a power tool that has an effective dust collection system equipped with a HEPA filter;
- installation or removal of lead-containing sheet metal;
- installation or removal of lead-containing packing, babbitt or similar material;
- removal of lead-containing coatings or materials using non-powered hand tools, other than manual scraping or sanding;
- soldering.

TYPE 2 OPERATIONS

Type 2a Operations

- welding or high temperature cutting of lead-containing coatings or materials outdoors. This operation is considered a Type 2a operation only if it is short-term, not repeated, and if the material has been stripped prior to welding or high temperature cutting. Otherwise it will be considered a Type 3a operation;
- removal of lead-containing coatings or materials by scraping or sanding using non-powered hand tools;
- manual demolition of lead-painted plaster walls or building components by striking a wall with a sledgehammer or similar tool.

Type 2b Operations

- spray application of lead-containing coatings.

TABLE C-2 (Continued)
SUMMARY OF CLASSIFICATION OF
LEAD-CONTAINING CONSTRUCTION TASKS
MOL GUIDELINE – LEAD ON CONSTRUCTION PROJECTS, APRIL 2011

TYPE 3 OPERATIONS

Type 3a Operations

- welding or high temperature cutting of lead-containing coatings or materials indoors or in a confined space;
- burning of a surface containing lead;
- dry removal of lead-containing mortar using an electric or pneumatic cutting device;
- removal of lead-containing coatings or materials using power tools without an effective dust collection system equipped with a HEPA filter;
- removal or repair of a ventilation system used for controlling lead exposure;
- demolition or cleanup of a facility where lead-containing products were manufactured;
- an operation that may expose a worker to lead dust, fume or mist that is not a Type 1, Type 2, or Type 3b operation

Type 3b Operations

- abrasive blasting of lead-containing coatings or materials;
- removal of lead-containing dust using an air mist extraction system.

TABLE C-3
SUMMARY OF CLASSIFICATION OF SILICA-CONTAINING CONSTRUCTION TASKS
MOL GUIDELINE, SILICA ON CONSTRUCTION PROJECTS, APRIL 2011

	Type 1 Operations	Type 2 Operations	Type 3 Operations
Cristobalite and Tridymite	>0.05 to 0.50 mg/m ³	>0.50 to 2.50 mg/m ³	>2.5 mg/m ³
Quartz and Tripoli	>0.10 to 1.0 mg/m ³	>1.0 to 5.0 mg/m ³	>5.0 mg/m ³

Note: The classification of silica-containing construction tasks is based on presumed concentrations of respirable crystalline silica, as shown above.

TYPE 1 OPERATIONS

- The drilling of holes in concrete or rock that is not part of a tunnelling operation or road construction.
- Milling of asphalt from concrete highway pavement.
- Charging mixers and hoppers with silica sand (sand consisting of at least 95 per cent silica) or silica flour (finely ground sand consisting of at least 95 per cent silica).
- Any other operation at a project that requires the handling of silica-containing material in a way that may result in a worker being exposed to airborne silica.
- Entry into a dry mortar removal or abrasive blasting area while airborne dust is visible for less than 15 minutes for inspection and/or sampling.
- Working within 25 metres of an area where compressed air is being used to remove silica-containing dust outdoors.

TYPE 2 OPERATIONS

- Removal of silica containing refractory materials with a jackhammer.
- The drilling of holes in concrete or rock that is part of a tunnelling or road construction.
- The use of a power tool to cut, grind, or polish concrete, masonry, terrazzo or refractory materials.
- The use of a power tool to remove silica containing materials.
- Tunnelling (operation of the tunnel boring machine, tunnel drilling, tunnel mesh installation).
- Tuckpoint and surface grinding.
- Dry mortar removal with an electric or pneumatic cutting device.
- Dry method dust cleanup from abrasive blasting operations.
- The use of compressed air outdoors for removing silica dust.
- Entry into area where abrasive blasting is being carried out for more than 15 minutes.

TABLE C-3 (Continued)
SUMMARY OF CLASSIFICATION OF SILICA-CONTAINING CONSTRUCTION TASKS
MOL GUIDELINE, SILICA ON CONSTRUCTION PROJECTS, APRIL 2011

TYPE 3 OPERATIONS

- Abrasive blasting with an abrasive that contains ≥ 1 per cent silica.
- Abrasive blasting of a material that contains ≥ 1 per cent silica.

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