

Appendix F - Designated Substance Survey

DESIGNATED SUBSTANCES & HAZARDOUS MATERIALS SURVEY



Niagara Regional Police Services – Port Colborne
501 Fielden Avenue, Port Colborne, Ontario

Prepared for:



The Regional Municipality of Niagara
Campbell West Building
2201 St. David's Road
Thorold, Ontario, L2V 4T7

SPL Project No: 10000949-230 (BLDG0068)
July 10, 2015

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SPL Consultants Limited (SPL) was retained by The Regional Municipality of Niagara (hereafter referred to as Niagara) to carry out Designated Substances & Hazardous Materials Surveys (DSSs) within 42 Niagara owned and leased buildings within The Regional Municipality of Niagara, Ontario.

The purpose of these surveys is to determine the presence/absence of designated substances within Niagara owned/leased buildings. The purpose of this report is to provide designated substances information to contractors and/or maintenance personnel to ensure complete and correct procedures are followed during their handling and/or removal as part of future renovation or construction activities. Survey results for each building are reportedly separately.

The following report discusses the methodologies and findings of the survey of Niagara Regional Police Services (NRPS) located at 501 Fielden Avenue, Port Colborne, Ontario.

We trust that the attached report is satisfactory for your purposes at this time. Please contact the undersigned should you have any questions or concerns.

Very truly yours,

SPL Consultants Limited

Original Signed By

**Glenn Wood, Ph.D., CIH, ROH
Occupational Hygienist**

EXECUTIVE SUMMARY

SPL Consultants Limited was retained by The Regional Municipality of Niagara to carry out a Designated Substances & Hazardous Materials Survey within 42 Niagara owned and leased buildings within The Regional Municipality of Niagara, Ontario.

This Designated Substances & Hazardous Materials Survey was conducted for NRPS – Port Colborne, located on the east side of Fielden Avenue, south of Killaly Street, addressed at 501 Fielden Avenue, Port Colborne, Ontario. The building onsite is a one-storey police building, reportedly constructed in 1986 and renovated in 2001.

Mr. Simon Pullia of SPL conducted the investigation on December 1, 2014.

A summary of the results of SPL's site inspection and bulk sampling is presented below.

Asbestos

Based on the laboratory results, none of the eleven (11) homogeneous building materials sampled, collected and analysed are considered to be asbestos-containing (defined as material that contains 0.5% or more asbestos by dry weight).

Analytical results are provided in **Appendix A**. Sample locations are provided in **Drawing 1** attached.

Lead

Based on the laboratory analysis, detectable concentrations of lead were identified in two (2) of the three (3) samples collected and analyzed. The following paints are considered to be lead-containing:

- Yellow paint.
 - 1.2% Lead; Sample Number BLDG0068-Pb2.
- Brown paint.
 - 0.040% Lead; Sample Number BLDG0068-Pb3.

Analytical results are provided in **Appendix A**. Sample locations are provided in **Drawing 1** attached.

Lead is also expected to be present in the following building components:

- in lead acid batteries in emergency lighting throughout the building;
- as a component in ceramic building products such as tiles and bricks;
- as a component of the solder on sweated joints between copper pipe and fittings;
- as a component of the solder on wire connections of electric components;
- as a component of solder used to seal the bell fitting of cast iron rain water leader pipes; and
- as a malleable metal sheeting/flashing around roof edges, vent stacks, HVAC fixtures, etc.

Silica

Crystalline Silica should be assumed to be present in sandblasting abrasives, brick, concrete, cement, mortar, granite, sandstone, slate, rock and stone, sand, topsoil, and asphalt.

Arsenic

Arsenic was formerly used as an additive in paint. It should be assumed that all lead-containing paint has the potential to contain arsenic.

Mercury

Although no samples were analyzed for mercury, it is presumed to be present in the following:

- in liquid filled reservoirs in thermostats;
- as a gas in fluorescent light tubes; and
- as a bactericide or stabilizer in paints and caulking.

Polychlorinated Biphenyls (PCBs)

Fluorescent light ballasts were inspected in a number of locations at the time of the site investigation. The labels on the ballasts indicated that the ballasts had 'No PCBs'. As such, the fluorescent ballasts located within the building are not expected to be PCB-containing.

As the building was constructed in 1986, PCB-containing caulking is not expected to be present within the building.

Man-Made Mineral Fibres

Fibreglass insulation was observed around mechanical pipe straights and ductwork throughout the building.

Radioactive Materials

Smoke detectors were observed in various locations throughout the building. These devices are expected to contain a radioactive source.

Ozone Depleting Substances (ODSs)

An exterior air conditioning unit was observed to contain the refrigerant R-22, which is classified as an ozone depleting substance (ODS).

Miscellaneous Hazardous Materials

Miscellaneous hazardous materials such as polymers, bleach, toners, glues, cleaners, detergents, floor finishers and polishes, etc. were noted in various locations within the building onsite. Individually, these materials are flammable, poisonous and/or corrosive and require appropriate storage, handling and disposal considerations. Material Safety Data Sheets (MSDS) were not available for review by SPL at the time of the site assessment, however they should be referred to for detailed descriptions and materials composition of the chemicals used onsite.

Recommendations

Except for asbestos, all other Designated Substance Regulations apply to industrial establishments and not to construction. Due to this condition, it is imperative that any contractor retained for renovations has a proven record in managing designated substances and operates under a control program. All designated substances must be handled in accordance with the appropriate guidelines and regulations.

Asbestos-containing materials were not observed within the building at the time of this site investigation. For the purposes of renovations, suspect friable and non-friable building materials discovered and not discussed in this report should be treated as asbestos until proven otherwise and other substances, self-evident as designated substances, should be handled in an appropriate fashion.

Special precautions should be taken when disturbing any concrete or painted surfaces given the presence of silica, lead and potentially arsenic. All designated substances must be handled in accordance with the appropriate guidelines and regulations. The Ministry of Labour (MOL) has published guidelines for handling and controlling lead and silica in construction and it is recommended that these guidelines be followed when removing and cutting into the concrete. Coring, sawing or breaking up the materials containing silica, lead and potentially arsenic should be completed only with appropriate dust suppression methods, proper respiratory protection and general worker safety precautions as outlined in the MOL Guidance documents and in the Occupational Health and Safety Act.

The presence of mercury within assembled units (e.g. fluorescent light bulbs) should not be considered a hazard provided that the assembled units remain sealed and intact. Avoid direct skin contact with mercury and avoid inhalation of mercury vapour. Dispose of mercury following applicable legislative requirements.

It is the intention of the federal government to phase out the use of ODSs by the year 2030 in order to protect the upper atmosphere. The MOE has issued Regulation 356 regarding the use, disposal and recycling of ODS's. Recapturing of ODS's during servicing must be done by licensed personnel.

An exterior air conditioning unit was observed to contain the refrigerant R-22, which is classified as an ozone depleting substance (ODS). In the event of removal, the unit should be recycled following Ontario Regulation 189/94, *Refrigerants* (O. Reg. 189/94), as amended. All equipment containing ODSs must be serviced by an individual holding a valid Ozone Depletion Prevention (ODP) Card, issued by the MOE and the refrigerant drained from the unit and collected for recycling or disposal in accordance with all applicable legislation.

Atomic Energy Control Board (AECB) guidelines state that smoke detectors containing more than 5 μCi of Am-241 or any amount of Radium -226 must be disposed of through a consultant or AECB licensed waste facility. The current AECB guidelines allow for the disposal of smoke detectors with an Am-241 isotope source of less than 5.0 μCi to a regular landfill site. Smoke detectors must be disposed of in packages containing a maximum of ten smoke detectors per package.

MSDS should be reviewed when handling, storing and disposing hazardous materials such as consumer products, detergents, cleaners, floor finishers and polishes, disinfectants, toners and glues.

Man-made mineral fibres are known to irritate the eyes, skin and respiratory tract. Special precautions including respiratory protection should be used when handling and disposing these MMMFs.

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APPENDIX A: **ANALYTICAL RESULTS – ASBESTOS AND LEAD**

APPENDIX B: **SITE PHOTOGRAPHS**

1 INTRODUCTION

SPL Consultants Limited (SPL) was retained by The Regional Municipality of Niagara (hereafter referred to as Niagara) to carry out a Designated Substances & Hazardous Materials Survey (DSS) within 42 Niagara owned and leased buildings within The Regional Municipality of Niagara, Ontario.

This DSS was conducted for Niagara Regional Police Services (NRPS) – Port Colborne, located on the east side of Fielden Avenue, south of Killaly Street, addressed at 501 Fielden Avenue, Port Colborne, Ontario. The building onsite is a one-storey police building, reportedly constructed in 1986 and renovated in 2001.

Section 30 of the Ontario Occupational Health and Safety Act (OHS Act) requires that an owner determine whether any designated substances are present, prepare a list and distribute the list to prospective contractors as part of any construction tender package. This report presents the designated substance information required for the owner to comply with the Act.

Mr. Simon Pullia of SPL conducted the investigation on December 1, 2014.

1.1 PURPOSE

The purpose of these surveys is to determine the presence/absence of designated substances within Niagara owned/leased buildings. This survey is intended to form the basis of a Designated Substance list as per the requirements of Section 30 of the Occupational Health & Safety Act. The purpose of this report is to provide designated substance information to contractors and/or maintenance personnel (and in turn to their sub-trades) to ensure complete and correct procedures are followed while handling and/or removing the potential designated substances and hazardous materials if they may be disturbed during subsequent renovation or construction activities. Contractors or maintenance personnel who may work in close proximity to the identified materials and who may also disturb the materials should also be notified.

The purpose of the survey was to:

1. Determine the presence or absence of each of the designated substances;
2. Identify the locations of designated substances present;
3. In the case of asbestos, establish the type, location and condition of asbestos-containing materials (ACM).

The asbestos information in this survey report complies with the requirements of the Occupational Health & Safety Act Regulation 278/05: Designated Substance - Asbestos on Construction Projects and in Building and Repair Operations with respect to asbestos-containing materials for the structures.

1.2 SCOPE OF WORK/METHODOLOGY

The scope of this work program was to sample and analyze materials considered to be suspect or possible designated substances.

This designated substances & hazardous materials survey entailed:

- Inspection of accessible areas of the buildings to identify materials which could contain asbestos and other designated substances;
- A room-by-room survey of the accessible areas within the building;
- Bulk sampling and analysis of representative materials suspected of containing asbestos and lead;
- Assessment of the condition of the asbestos-containing materials; and
- Assessment of the likelihood of exposure to the other designated substances with recommendations for appropriate corrective action where required.

The survey did not involve destructive sampling (i.e. inspection within plaster/drywall (false) walls or ceilings, within mechanical equipment such as boilers, furnaces, heating, ventilation and air conditioning (HVAC) systems, or within electrical equipment). These areas are considered not accessible to the surveyor, and as such, materials suspected to contain asbestos may be present within these inaccessible areas.

The survey included the identification of potential friable and non-friable asbestos-containing materials within the structures. Asbestos means any of the following fibrous silicates: actinolite, amosite, anthophyllite, chrysotile, crocidolite or tremolite. According to the above-mentioned Regulation 278/05, the term ‘friable material’ is applied to a material that when dry, can be crumbled, pulverized or powdered with moderate hand pressure. Asbestos-containing materials that are friable have a greater potential to release airborne asbestos fibres when disturbed. Common friable asbestos-containing building materials used in the past include sprayed fireproofing, stucco texture coat, and thermal pipe and jacket insulation.

Non-friable asbestos-containing materials include vinyl floor tiles, gasket materials, asbestos cement (Transite™) pipe, Transite™ board and asbestos textiles. If these materials release fine dust due to deterioration or during removal, the deteriorated/disturbed material is considered friable.

2 SITE OVERVIEW

2.1 SITE DESCRIPTION

This Designated Substances & Hazardous Materials Survey was conducted for NRPS – Port Colborne, located on the east side of Fielden Avenue, south of Killaly Street, addressed at 501 Fielden Avenue, Port Colborne, Ontario. The building onsite is a one-storey police building, reportedly constructed in 1986 and renovated in 2001.

The building is approximately 5,260 square feet in size. Interior floors generally consist of vinyl floor tiles, vinyl sheet flooring, concrete and ceramic. Interior walls generally consist of drywall with joint compound and concrete block. Ceilings generally consist of suspended drywall with joint compound and lay-in ceiling tiles.

The building is heated via a natural gas fired furnace with associated forced air ventilation. Mechanical piping and ductwork generally was not insulated or insulated with non-asbestos fibreglass.

2.2 RECORDS REVIEW

No previous asbestos related or designated substance reports were provided for review during this study.

2.3 SITE INSPECTION AND SURVEYOR QUALIFICATIONS

The building was inspected by SPL representative Mr. Simon Pullia on December 1, 2014. Samples were collected for asbestos and lead analysis.

Mr. Simon Pullia has a Bachelor's Degree in Science from the University of Waterloo. He has also earned an Environmental Engineering Applications Post Graduate Certificate from Conestoga College in 2011. Simon has completed the Certificate in Project Management program at the University of Toronto; a curriculum registered with the Project Management Institute. Simon has extensive experience successfully managing and implementing a myriad of Designated Substance Surveys, Design and Inspection of Asbestos Abatement Projects, Mould Investigations, Indoor Air Quality Assessments, and Environmental Site Assessments for a wide range of diverse clients. Simon is a Participant in the AIHA (American Industrial Hygiene Association) IHPAT (Industrial Hygiene Proficiency Analytical Testing) Program for PCM (Phase Contrast Microscopy) Analysis for Asbestos.

3 METHODOLOGY

3.1 DESIGNATED SUBSTANCES REGULATIONS AND GUIDELINES

The DSS was conducted in accordance with the following regulations and guidance documents:

- Ontario Regulation (O. Reg.) 490/09 Designated Substances
- O. Reg. 278/05 Asbestos on Construction Projects and in Building and Repair Operations and the corresponding Guideline (Ontario Ministry of Labour (MOL), November 2007
- Guideline for Lead on Construction Projects (MOL, September 2004, as amended)
- Guideline for Silica on Construction Projects (MOL September 2004, as amended)
- Canadian Surface Coating Materials Projects (SOR/2005-109 dated April 19, 2005, as amended in June 2011), pursuant to the 2005 Hazardous Products Act
- The United States Department of Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead-Based Paint in Housing
- Canadian PCB Regulations (SOR / 2008-273)
- O. Reg. 362 Waste Management – PCBs

- Mercury-Containing Products Pollution Prevention Fact Sheet #21 (Ministry of Environment (MOE), September 2001)
- O. Reg. 347/90 General Waste Management
- Canadian Construction Association document CCA 82/2004
- Canadian Chlorofluorocarbon Regulations (SOR / 90-127), Ozone-depleting, Substances Regulation (SOR / 94-408) and Ozone Depleting Substances Products Regulations (SOR / 90-584)
- O. Reg. 463/10 ODS and Other Halocarbons
- Lead Guideline For Construction, Renovation, Maintenance or Repair (Environmental Abatement Council of Ontario – October 2014)

3.2 SURVEY METHODOLOGY

The survey of the building for designated substances and hazardous materials consisted of a walk through and physical examination of suspect materials in accessible areas of the building. A physical examination was completed to assess the condition of materials and to examine for underlying layers.

Observations were based on a visual inspection. When materials potentially containing asbestos were identified, the visual inspection was augmented with bulk sampling and laboratory analysis. Bulk samples were taken from representative locations of friable materials and non-friable or manufactured products suspected of containing asbestos. Building materials that have historically known to contain asbestos were assessed and sampled where appropriate during this survey. The following list outlines common asbestos-containing building materials that were assessed as part of this survey:

Sample List of Common ACMs		
Cement pipes	Taping compounds (thermal)	Fireproofing materials
Cement wall board	Heating & electrical ducts	Roofing felt
Asphalt floor tile	High temperature gaskets	Base flashing
Vinyl sheet flooring	Laboratory hoods / table tops	Thermal paper products
Vinyl floor tile	Laboratory gloves	Fire doors
Floor backing	Fire blankets	Caulking / putties
Mastic	Fire curtains	Adhesives
Acoustical plaster	Elevator equipment panels	Wallboard
Decorative plaster	Elevator brake shoes	Joint compounds
Textured paints and coatings	HVAC duct insulation	Vinyl wall coverings
Ceiling tiles and lay in panels	Boiler insulation	Roofing shingles
Spray applied insulation	Breaching insulation	Spackling compounds
Blown-in insulation	Ductwork flexible connections	Cement siding
Electric wiring insulation	Cooling towers	Electrical panel partitions
Chalkboards	Pipe insulation	Electric cloth
Packing materials (for wall floor)	Asphalt	

penetrations)	<i>Source: Managing Asbestos in Place: USEPA 20T-2003, July 1993</i>
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Sample collection was performed with consistency to obtain a general pattern of asbestos use in the structure. Homogeneous materials were visually identified and representative samples were collected in accordance with Section 3 of the O. Reg. 278/05.

In situations where asbestos-containing, or suspect asbestos-containing, materials extended into a non-accessible area, such as asbestos cement parging on mechanical pipe, it was assumed that the asbestos-containing materials were also present in these areas and were reported as such.

Asbestos samples were collected by taking a small volume of material (approximately two square centimeters in size) from either intact material or where possible, from a damaged section. The collected samples were placed in zipper storage plastic bags, sealed and forwarded to an analytical laboratory. Asbestos samples were submitted to International Asbestos Testing Laboratories for analysis of bulk asbestos by Polarized Light Microscopy (PLM) (analytical certificates are presented in **Appendix A**). IATL is accredited under the American Industrial Hygiene Association (AIHA) for bulk asbestos fibre analysis, Laboratory ID # 100188. The method and procedures for establishing whether material is asbestos-containing is determined according to the U.S. Environmental Protection Agency Method for the Determination of Asbestos in Bulk Building Materials (Test Method EPA/600/R-93/116).

Paint samples collected for lead analysis were collected by taking a small volume of the paint from building finishes. The collected samples were placed in zipper storage bags, sealed and forwarded to an analytical laboratory. Lead samples were submitted to International Asbestos Testing Laboratories for analysis of bulk lead by Atomic Absorption Spectrophotometry (AAS) (analytical certificates are presented in **Appendix A**). IATL is accredited under the American Industrial Hygiene Association (AIHA) for bulk lead analysis, Laboratory ID # 100188.

Fluorescent light ballasts were inspected by switching the light fixture off and removing the light tubes and metal cover to expose the electrical components. For ballasts which do not have a “No PCBs” indicator on the label, manufacturer’s codes were recorded in order to be compared with Environment Canada’s Identification of Lamp Ballasts Containing PCBs EPS 2/CC/2 (revised).

Other suspect designated substances and hazardous materials were identified by direct visual observation and / or by inference from observation of materials or objects which either historically or commonly contain the subject designated substance or hazardous material. Bulk samples of these materials were not collected for subsequent laboratory analysis.

4 DESIGNATED SUBSTANCES - OBSERVATIONS AND RESULTS

4.1 ASBESTOS

Asbestos is a strong mineral fibre that is resistant to heat (especially fire) and chemicals. In the past, asbestos was widely used as insulating and fireproofing material in a range of residential, commercial

and industrial structures as well as in the construction of ships, airplanes, vehicles and appliances. Asbestos is still used in non-friable materials such as transite piping and roof drains.

Certain building materials which have historically contained asbestos were not included in the survey since they were inaccessible, are used in a random fashion, or have a low risk of asbestos fibre release.

These materials include:

- 1) Buried services such as underground piping; these pipes were commonly manufactured from a non-friable form of asbestos cement but are inaccessible for sampling without excavation work. Site drawings should be consulted and reviewed to ascertain the presence or absence of such structures.
- 2) Floor levelling compounds; these materials were used in a random fashion, may or may not contain asbestos, and require demolition of floor finishes to access for sample collection. Floor levelling compounds were not observed but may be present.
- 3) Roofing materials, including asphalt-based shingles, tars, felt paper, membranes and caulking.
- 4) Packing materials in valves, fittings, etc., may be present but are inaccessible without demolition activities.

During this survey, eleven (11) homogenous building materials were suspected of containing asbestos. O. Reg. 278/05 outlines the requirement for the collection of multiple samples of each homogeneous material suspected of containing asbestos, as presented in **Table 1**.

A total of thirty-five (35) samples were collected and submitted for asbestos analysis as part of this survey. Fibrous glass insulation was not submitted for analysis as it can be identified visually and was never manufactured with asbestos.

In accordance with the analysis techniques required by O. Reg. 278/05:

- for layered materials, subsamples are taken from each individual or discrete layer and each subsample is then treated as a discrete sample; and
- if a material is found to contain greater than 0.5% asbestos, additional bulk material samples taken from the same homogeneous material are not required to be analyzed.

As per these requirements, a total of forty-four (44) samples were analyzed by the laboratory.

The method detection limit used in the analysis is 0.25% asbestos by dry weight. A summary of the analytical results from the recent representative sampling program is summarized in **Table 2**.

Based on the laboratory results, none of the eleven (11) homogeneous building materials sampled, collected and analysed are considered to be asbestos-containing (defined as material that contains 0.5% or more asbestos by dry weight).

Analytical results are provided in **Appendix A**. Sample locations are provided in **Drawing 1** attached.

General Findings

Inspection of mechanical equipment such as, furnaces, HVAC systems, or within electrical equipment was not conducted due to safety limitations. These areas are considered not accessible to the surveyor and as such materials suspected to contain asbestos may be present within these inaccessible areas, including:

- electrical wiring insulation,
- underground utilities such as sewers or drain lines,
- electrical conductors,
- high temperature gaskets,
- incandescent light fixture backing ,
- ductwork connections, and
- thermal insulators around electrical elements within baseboard heaters.

4.2 ACRYLONITRILE

Acrylonitrile is mostly used as a feedstock or chemical aid in the production of nitrile-butadiene rubber and in acrylonitrile-butadiene-styrene and styrene-acrylonitrile polymers. Acrylonitrile is also used to make other chemicals such as plastics, synthetic rubber, and acrylic fibre (e.g. clothing, blankets, carpeting) and nitrile rubber for oil-resistant hoses.

Acrylonitrile is not expected to be present in the building.

4.3 ARSENIC

Arsenic is used with other metals (chiefly copper, lead and zinc) to make alloys. Arsenic compounds are also used in pigments, animal poisons, insecticides, paints, wallpaper, ceramics, and poison gases for chemical warfare, glass making, in calico and indigo printing, pyrotechnics, integrated circuits and transistors. Arsenic is also a major waste material from the gold mining industry.

Arsenic was formerly used as an additive in paint. It should be assumed that all lead-containing paint has the potential to contain arsenic.

4.4 BENZENE

Benzene is widely used in the chemical industry as a starting material and solvent. Benzene occurs naturally in crude oil and is present in all gasoline products, automobile emissions and cigarette smoke. Benzene is highly volatile, and will release into the atmosphere over a short time.

Evidence of the presence of benzene (storage or use) was not observed on-site and therefore benzene is not expected to be present within the building.

4.5 COKE OVEN EMISSIONS

Coke oven emissions are complex mixtures of coal and coke particles, various vapours, gases and tars emitted during carbonization of coal to produce coke. The primary use of coke (pure carbon) is in the

manufacture of iron and steel. Coke is also used to synthesize calcium carbide and to manufacture graphite and electrodes.

There are no industrial furnaces, smelting operations or coal stock piles on the subject site. As such, the coke oven emissions are not a concern.

4.6 ETHYLENE OXIDE

Ethylene Oxide is an extremely flammable gas used in the manufacture of several industrial chemicals including textiles, detergents, polyurethane foam, antifreeze (especially ethylene glycol), solvents, medicinal products, adhesives, and other related products. It is also used as a fumigant and as a sterilizing agent for food (spices), cosmetics, and surgical tool and plastic devices in hospitals as an alternative to steam.

Evidence of the presence of ethylene oxide (storage or use) was not observed on-site and therefore ethylene oxide is not expected to be present within the building.

4.7 ISOCYANATES

Isocyanates are the raw materials from which all polyurethane products are made. Isocyanates are widely used in the manufacture of flexible and rigid foams, fibres, coatings such as paints and varnishes, elastomers, and also in materials used in auto body repair and building insulation.

Evidence of the presence of isocyanates (storage or use) was not observed on-site and therefore isocyanates are not expected to be present within the building.

4.8 LEAD

The Ontario Ministry of Labour (MOL) has not prescribed specific criteria for classification of lead-containing paints or other surface coatings and construction materials. In the past, the abatement industry has generally used regulations set by the federal Hazardous Products Act (HPA) and the U.S. Department of Housing and Urban Development (HUD) to determine whether a material is considered lead-containing. Until July 2005, the HPA classified all lead-containing paints and coatings as 0.5% lead by weight as determined by bulk chemical analysis. In April 2005, the HPA was amended by the Surface Coating Materials Regulation (SOR/2005-109) to harmonize with US legislation that prescribes an acceptable lead level of 0.06% (600 ppm) lead by weight or less in certain paints. In October 2010, this was further revised to 0.009% (90 ppm) lead by dry weight or less, as determined by bulk chemical analysis in accordance with good laboratory practises. Under the Surface Coating Materials Regulation (SOR/2005-109) Section 4.2, the following paints and surface coatings are excluded from the above noted acceptable lead level:

- 1) as an anti-corrosive or an anti-weathering coating applied on the interior or exterior surface of any building or equipment that is used for an agricultural or industrial purpose;
- 2) as an anti-corrosive or an anti-weathering coating applied on any structure other than a building, that is used for an agricultural, industrial or public purpose;
- 3) as a touch-up coating for metal surfaces;

- 4) on traffic signs;
- 5) for graphic art on billboards or similar displays;
- 6) for identification marks in industrial buildings; or
- 7) as materials for the purposes of arts, crafts or hobbies, other than material for use by children.

However, based on a recent publication (*EACO Lead Guideline For Construction, Renovation, Maintenance or Repair* dated October 2014) from the Environmental Abatement Council of Ontario (EACO), an industry group representing consultants and contractors in the Ontario abatement industry, various occupational and workplace safety authorities and agencies consider that any detectable amount of lead in paint and similar materials has the potential to produce an airborne hazard to workers and building occupants when these materials are disturbed. As such, for the purpose of this survey, SPL has classified any material containing detectable/measurable amounts of lead as “lead-containing” materials and recommends that all disturbances to these materials be conducted in accordance with the MOL document *Guideline, Lead on Construction Projects*.

Representative sampling of suspected lead-containing paint was collected and analyzed, as summarized in **Table 3**.

Based on the laboratory analysis, detectable concentrations of lead were identified in two (2) of the three (3) samples collected and analyzed. The following paints are considered to be lead-containing:

- Yellow paint.
 - 1.2% Lead; Sample Number BLDG0068-Pb2.
- Brown paint.
 - 0.040% Lead; Sample Number BLDG0068-Pb3.

Analytical results are provided in **Appendix A**. Sample locations are provided in **Drawing 1** attached.

Lead is also expected to be present in the following building components:

- in lead acid batteries in emergency lighting throughout the building;
- as a component in ceramic building products such as tiles and bricks;
- as a component of the solder on sweated joints between copper pipe and fittings;
- as a component of the solder on wire connections of electric components;
- as a component of solder used to seal the bell fitting of cast iron rain water leader pipes; and
- as a malleable metal sheeting/flushing around roof edges, vent stacks, HVAC fixtures, etc.

4.9 MERCURY

Mercury is used in thermometers, batteries and some electrical switches. It is also used in dental fillings and in latex paint to protect against fungal attack and mildew. Mercury vapour is also present as a vapour in fluorescent lights, metal halide lights and mercury vapour lights.

Although no samples were analyzed for mercury, it is presumed to be present in the following:

- in liquid filled reservoirs in thermostats;
- as a gas in fluorescent light tubes; and
- as a bactericide or stabilizer in paints and caulking.

4.10 SILICA

Silica, or silicon dioxide (SiO₂), is the basic component of sand, quartz and granite rock. Crystalline Silica (the designated substance) is encountered in industry in three forms: quartz, tridymite, and cristobalite. Unless proven otherwise, crystalline Silica should be assumed to be present in sandblasting abrasives, brick, concrete, cement, mortar, granite, sandstone, slate, rock and stone, sand, topsoil, and asphalt.

4.11 VINYL CHLORIDE

Vinyl chloride is the parent compound of polyvinyl chloride (PVC) which is a widely used plastic. Vinyl chloride is also used in various resins (e.g. plastic food wrap), and in the glass, rubber, and paper industries. Vinyl chloride is also formed by the degradation of the chlorinated solvents trichloroethylene (TCE), 1,1,1-trichloroethane (111TCA) and tetrachloroethylene (also known as perchloroethylene or dry cleaning solvent), especially in soil or groundwater that has been contaminated with these solvents.

No solvents, tanks or process operations that use vinyl chloride were observed or appear to have been present in the building. Vinyl chloride could be present within plastic components of the plumbing system, vinyl flooring and countertops, etc.

5 HAZARDOUS MATERIALS - OBSERVATIONS AND RESULTS

5.1 POLYCHLORINATED BIPHENYLS

A representative number of fluorescent light ballast labels in a number of locations were inspected for the presence of PCBs. Approximately 10% of all ballasts present on site were inspected. The labels on the ballasts indicated that the ballasts had 'No PCBs'. As such, the fluorescent ballasts located within the building are not expected to be PCB-containing.

As the building was constructed in 1986, PCB-containing caulking is not expected to be present within the building.

The federal government has published Regulation SOR/2008-273 (September 5, 2008), which states that any solid material containing 50 parts per million (ppm) or more of PCBs must be handled as a PCB-containing material in accordance with all applicable regulations. The Regulation phases in a ban on the use of all PCB-containing equipment (other than light ballasts or pole-mounted transformers) containing more than 500 mg/kg PCB and applies to equipment containing 50-500 mg/kg PCBs including, light ballasts and pole-mounted transformers (with the exceptions noted below) by December 31, 2025. Equipment containing 50-500 mg/kg PCBs (except for light ballasts and pole mount transformers) cannot be used or stored at or within 100 m of a drinking water treatment plant or a food or feed processing plant, child care facility, preschool, primary school, secondary school, hospital, or senior citizens' care facility. In addition, the Regulation provides labeling requirements for PCB equipment in use (except for equipment that is too small to bear a standard PCB label such light ballasts) or storage and requires all PCBs (including those in light ballasts) to be stored no longer than 30 days of being taken out of use before being sent to an authorized destruction facility. The Regulation also prescribes PCB

storage site and reporting requirements and the conditions under which an applicant may apply for extensions of certain sections of the Regulation.

PCBs were also widely used in caulking and elastic sealant materials. PCBs may be present in the caulk used in windows, door frames, masonry columns and other masonry building materials in buildings built or renovated between 1950 and 1978. In some cases, PCBs may represent a high percentage of the caulk, e.g. 100,000 parts per million (ppm) or higher.

This survey included a visual assessment for the presence of potential PCB-containing lamp ballasts and transformers only. No sampling of any equipment was completed as part of the survey.

5.2 MOULD

Significant mould and/or water damage was not observed during this investigation. If discovered, mould contaminated materials should be removed/handled in accordance with the Canadian Construction Association document CCA 82/2004. Contractors should be warned of the presence of mould and every precaution should be taken to prevent airborne exposure to workers where mould is present and where workers are likely to inhale or ingest mould.

5.3 OZONE DEPLETING SUBSTANCES (ODS)

An exterior air conditioning unit was observed to contain the refrigerant R-22, which is classified as an ozone depleting substance (ODS).

5.4 RADIOACTIVE MATERIALS

Smoke detectors were observed in various locations throughout the building. These devices are expected to contain radioactive sources. Atomic Energy Control Board (AECB) guidelines state that smoke detectors containing more than 5 µCi of Am-241 or any amount of Radium -226 must be disposed of through a consultant or AECB licensed waste facility. The current AECB guidelines allow for the disposal of smoke detectors with an Am-241 isotope source of less than 5.0 µCi to a regular landfill site. Smoke detectors must be disposed of in packages containing a maximum of ten smoke detectors per package.

5.5 MAN-MADE MINERAL FIBRES (MMMMF)

Fibreglass insulation was observed around mechanical pipe straights throughout the building.

5.6 ABOVEGROUND STORAGE TANKS (ASTs)

Aboveground storage tanks were not observed during this investigation.

5.7 UREA FORMALDEHYDE FOAM INSULATION (UFFI)

Urea formaldehyde foam insulation, known as UFFI was applied primarily to residential building during the 1970s, most extensively from 1975 to 1978. SPL did not observe evidence such as repaired holes in the walls of the buildings suggesting that UFFI may be present.

5.8 MISCELLANEOUS HAZARDOUS MATERIALS

Miscellaneous hazardous materials such as polymers, bleach, toners, glues, cleaners, detergents, floor finishers and polishes, etc. were noted in various locations within the building onsite. Individually, these materials are flammable, poisonous and/or corrosive and require appropriate storage, handling and disposal considerations. Material Safety Data Sheets (MSDS) were not available for review by SPL at the time of the site assessment, however they should be referred to for detailed descriptions and materials composition of the chemicals used onsite.

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 ASBESTOS

Asbestos-containing materials were not observed within the building at the time of this site investigation. For the purposes of renovations, suspect friable and non-friable building materials discovered and not discussed in this report should be treated as asbestos until proven otherwise and other substances, self-evident as designated substances, should be handled in an appropriate fashion.

If any potential asbestos-containing materials are encountered unexpectedly, SPL should be contacted to sample, monitor and/or document the removal of asbestos-containing materials, and to ensure that appropriate procedures are being followed.

6.2 ARSENIC

It should be assumed that all lead-containing paint has the potential to contain arsenic. As such, every precaution and procedure should be taken during demolition/renovations activities to control the time-weighted exposure of a worker to airborne/respirable arsenic.

Coring, sawing, or breaking up the materials potentially containing arsenic should be completed only with appropriate dust suppression methods, proper respiratory protection and general worker safety precautions.

6.3 LEAD

The Occupational Health & Safety Act (Regulation 490/09, as amended – Designated Substances, made under the OHS Act) regarding lead as a designated substance applies to workers where lead is present and where workers are likely to inhale, ingest or absorb lead. As such, every precaution and procedure should be taken during renovation activities to control the time-weighted exposure of a worker to airborne lead and exposure should not exceed 0.05 milligrams lead per cubic meter of air.

Coring, sawing or breaking up the materials containing lead should be completed only with appropriate dust suppression methods, proper respiratory protection and general worker safety precautions as outlined in the MOL Guidance document and in the Occupational Health and Safety Act.

The Ministry of Labour (MOL) has published a Guideline for Lead on Construction Projects, dated September 2004. This document is available online and should be referenced prior to initiating any work where exposure to airborne lead is anticipated.

6.4 SILICA

The Occupational Health & Safety Act (Regulation 490/09, as amended – Designated Substances, made under the OHS Act) regarding silica as a designated substance applies to areas of silica in respirable form where inhalation, ingestion, skin absorption or skin contact by workers is possible. Precautions and procedures should be implemented during demolition or renovation activities to reduce exposure of workers to the lowest practical level, exposure should not exceed 0.05 milligrams Cristobalite per cubic meters of air, or 0.1 milligrams Quartz or Tripoli per cubic meters of air.

Coring, sawing or breaking up the materials containing silica should be completed only with appropriate dust suppression methods, proper respiratory protection and general worker safety precautions as outlined in the MOL Guidance document and in the Occupational Health and Safety Act.

The Ministry of Labour (MOL) has published a Guideline for Silica on Construction Projects, dated September 2004. This document is available online and should be referenced prior to initiating any work where exposure to airborne silica is anticipated.

6.5 MERCURY

Precautions must be taken to prevent mercury from becoming airborne during building renovations/demolition. Exposure to mercury in industrial establishments is regulated under O. Reg. 490/09, as amended – Designated Substances, made under the OHS Act. The TWA should not exceed 0.025 mg/m³ for all forms except alkyl compounds. Alkyl compounds of mercury should not exceed 0.01 mg/m³. All waste material including switches, thermostats and thermometers, must be handled and disposed of according to O. Reg. 347, as amended, and may be subject to Leachate Criteria Testing (Schedule 4) of this Regulation.

The presence of mercury within assembled units (e.g. fluorescent light bulbs) should not be considered a hazard provided that the assembled units remain sealed and intact. Avoid direct skin contact with mercury and avoid inhalation of mercury vapour. Dispose of mercury following applicable legislative requirements.

6.6 OZONE DEPLETING SUBSTANCES (ODS)

An exterior air conditioning unit was observed to contain the refrigerant R-22, which is classified as an ozone depleting substance (ODS). In the event of removal, the unit should be recycled following Ontario Regulation 189/94, *Refrigerants* (O. Reg. 189/94), as amended. All equipment containing ODSs must be serviced by an individual holding a valid Ozone Depletion Prevention (ODP) Card, issued by the MOE and the refrigerant drained from the unit and collected for recycling or disposal in accordance with all applicable legislation.

6.7 POLYCHLORINATED BIPHENYLS (PCBs)

In the event of removal, fluorescent light ballast labels should be inspected for PCB content, and if encountered, removal of PCB-containing materials (e.g. ballasts) must be completed using health and safety procedures that will protect workers against exposure to PCBs (i.e. to avoid ingestion or inhalation of the material). The handling of PCB-containing materials must be completed in a manner to prevent release to the environment. The disposal of PCB-containing materials must be completed in accordance with Federal and Provincial regulations.

6.8 MAN-MADE MINERAL FIBRES (MMMMF)

Man-made mineral fibres are known to irritate the eyes, skin and respiratory tract. Special precautions including respiratory protection should be used when handling and disposing these MMMFs.

6.9 RADIOACTIVE MATERIALS

Atomic Energy Control Board (AECB) guidelines state that smoke detectors containing more than 5 µCi of Am-241 or any amount of Radium -226 must be disposed of through a consultant or AECB licensed waste facility. The current AECB guidelines allow for the disposal of smoke detectors with an Am-241 isotope source of less than 5.0 µCi to a regular landfill site. Smoke detectors must be disposed of in packages containing a maximum of ten smoke detectors per package.

6.10 MISCELLANEOUS HAZARDOUS MATERIALS

MSDS should be reviewed when handling, storing and disposing hazardous materials such as consumer products, detergents, cleaners, floor finishers and polishes, disinfectants, toners and glues.

All designated substances and hazardous materials must be handled in accordance with the appropriate guidelines and regulations. Designated Substance and Hazardous Material information will require updating as corrective measures are instituted and materials have been removed from various sections of the buildings.

7 LIMITATIONS

As this survey was generally non-destructive in nature, asbestos or other designated substances could be present in areas not accessible to the surveyors for identification. Contractors and maintenance personnel should be warned of the possibility of unidentified materials when breaking into enclosed areas. Suspect friable and non-friable building materials discovered in these areas should be treated as asbestos until proven otherwise and other substances, self-evident as designated substances, should be handled in an appropriate fashion. In the event of future renovation or demolition, a project-specific designated substances survey within the specific area(s) to be renovated or demolished should be conducted prior to any renovation/demolition activities.

This report is prepared for the sole use of The Regional Municipality of Niagara. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of the third party. The conclusions and recommendations contained in this assessment report are based

upon professional opinions with regard to the subject matter. These opinions are in accordance with currently accepted industry practices for designated substance surveys and regulatory requirements for sampling and identifying designated substances and are subject to the following inherent limitations:

1. The data and findings presented in this report are valid as of the date(s) of the investigation only. The passage of time, manifestation of latent conditions or occurrence of future events may warrant further exploration of the Site, analysis of the data, and re-evaluation of the findings, observations, and conclusions expressed in this report.
2. The findings, observations, conclusions, and recommendations expressed by SPL Consultants Limited in this report do not represent an opinion concerning compliance of any past or present owner or operator of the Site with any federal, provincial or local laws or regulations.
3. SPL Consultants Limited's assessment presents professional opinions and findings of a scientific and technical nature. While attempts were made to relate the data and findings to applicable environmental and occupational health & safety laws and regulations, the report shall not be construed to offer legal opinion or representations as to the requirements of, nor compliance with, environmental and occupational health and safety laws, rules, regulations or policies of federal, provincial, or local governmental agencies. SPL Consultants Limited liability extends only to its client and not to other parties who may obtain this assessment report. Issues raised by the report should be reviewed by appropriate legal counsel.

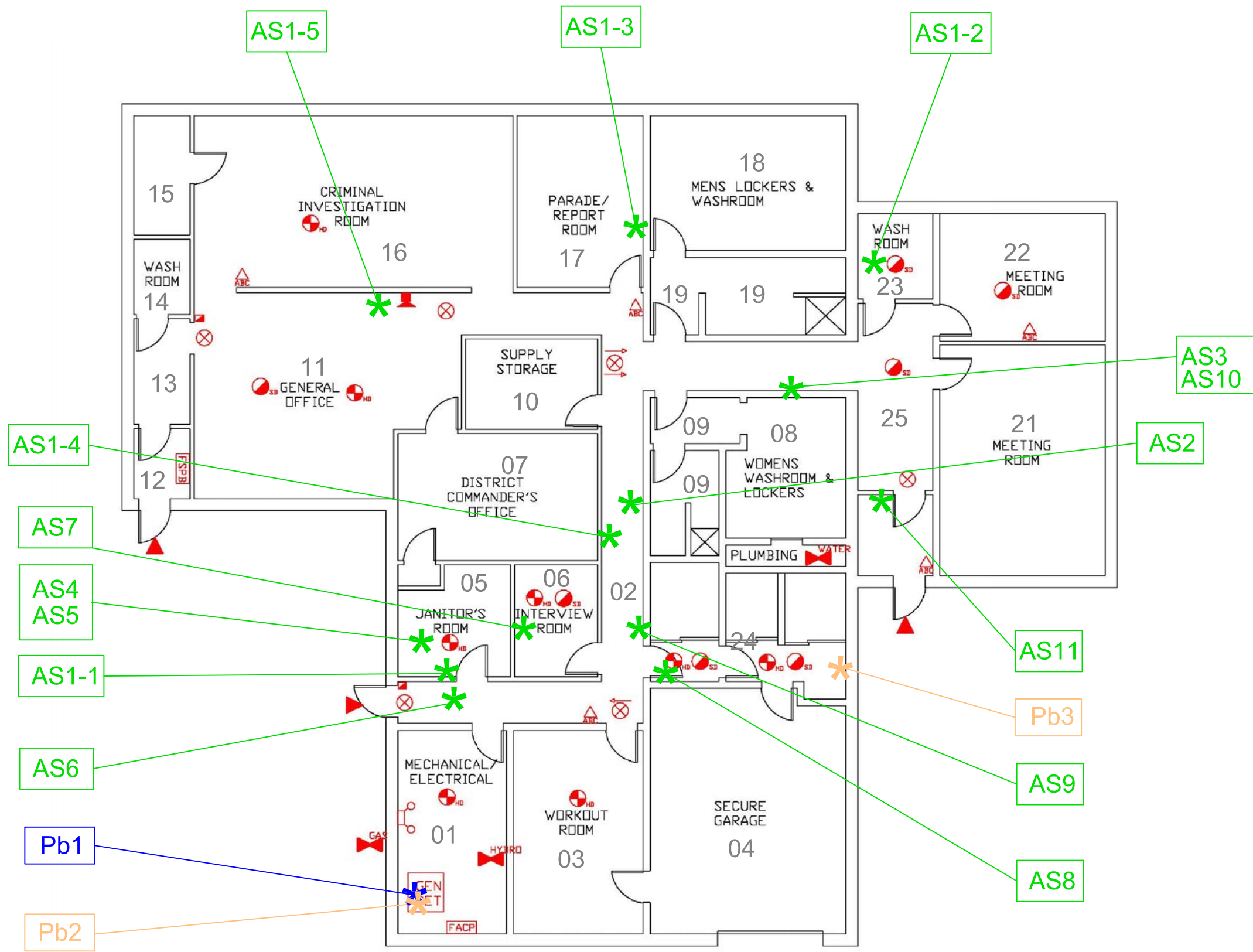
Very truly yours,

SPL CONSULTANTS LIMITED

Original Signed By
Simon Pullia, B.Sc.
Project Manager

Original Signed By
Glenn Wood, Ph.D., CIH, ROH
Occupational Hygienist

DRAWINGS




Legend:

- * Negative Asbestos Result
- * Lead Negative Result
- * Lead - Containing Result

Notes:

1. This drawing must be read in conjunction with associated report.
2. Drawing was provided to SPL by the client.
3. Asbestos-containing materials may be present in inaccessible spaces throughout the building.

Client:	Niagara Region		Project No.:	10000949-230	Drawing No.:	1
Drawn:	NS	Approved:	GW	Title: GROUND FLOOR		
Date:	July 2015	Scale:	NTS	Project: DESIGNATED SUBSTANCES SURVEY BLDG0068 - NRPS - PORT COLBORNE		
Original Size:	Tabloid	Rev:	N/A			

\\SERVER\Environmental\00 10 000 900 Projects\10000949-230 DSS - 42 Niagara Region Bldgs\02 Buildings\BLDG0068\02 Drawings\10000949-23008\kg68.dwg

TABLES

TABLE 1: O. REG. 278/05 MINIMUM ASBESTOS BULK MATERIAL SAMPLE REQUIREMENTS

Item	Type of material	Size of area of homogeneous material	Minimum number of bulk material samples to be collected
1.	Surfacing material, including without limitation, material that is applied to surfaces by spraying, by troweling or otherwise, such as acoustical plaster on ceilings and fireproofing materials on structural members	Less than 90 square metres	3
		90 or more square metres, but less than 450 square metres	5
		450 or more square metres	7
2.	Thermal insulation, except as described in item 3	any size	3
3.	Thermal insulation patch	Less than 2 linear metres or 0.5 square metres	1
4.	Other material	Any size	3

TABLE 2: SUMMARY OF ASBESTOS SAMPLING RESULTS

Sample ID	Location	Description	Friable/ Non-Friable	Asbestos Content (%)
BLDG0068-AS1-1	05	Drywall Joint Compound	Non-Friable	None Detected
BLDG0068-AS1-2	23	Drywall Joint Compound	Non-Friable	None Detected
BLDG0068-AS1-3	17	Drywall Joint Compound	Non-Friable	None Detected
BLDG0068-AS1-4	02	Drywall Joint Compound	Non-Friable	None Detected
BLDG0068-AS1-5	11	Drywall Joint Compound	Non-Friable	None Detected
BLDG0068-AS2-1	02	2'x4' Lay-in ceiling tile; Short random fissures with pinpricks	Non-Friable	None Detected
BLDG0068-AS2-2	02	2'x4' Lay-in ceiling tile; Short random fissures with pinpricks	Non-Friable	None Detected
BLDG0068-AS2-3	02	2'x4' Lay-in ceiling tile; Short random fissures with pinpricks	Non-Friable	None Detected
BLDG0068-AS3-1	25	2'x4' Lay-in ceiling tile; Deep texture with short fissures and pinpricks	Non-Friable	None Detected
BLDG0068-AS3-2	25	2'x4' Lay-in ceiling tile; Deep texture with short fissures and pinpricks	Non-Friable	None Detected
BLDG0068-AS3-3	25	2'x4' Lay-in ceiling tile; Deep texture with short fissures and pinpricks	Non-Friable	None Detected
BLDG0068-AS4-1	05	12"x12" Vinyl floor tile; White with thin red streaks	Non-Friable	None Detected
		Black Mastic	Non-Friable	None Detected
BLDG0068-AS4-2	05	12"x12" Vinyl floor tile; White with thin red streaks	Non-Friable	None Detected
		Black Mastic	Non-Friable	None Detected

Sample ID	Location	Description	Friable/ Non-Friable	Asbestos Content (%)
BLDG0068-AS4-3	05	12"x12" Vinyl floor tile; White with thin red streaks	Non-Friable	None Detected
		Black Mastic	Non-Friable	None Detected
BLDG0068-AS5-1	05	2'x4' Lay-in ceiling tile; Width-wise fissures with pinpricks	Non-Friable	None Detected
BLDG0068-AS5-2	05	2'x4' Lay-in ceiling tile; Width-wise fissures with pinpricks	Non-Friable	None Detected
BLDG0068-AS5-3	05	2'x4' Lay-in ceiling tile; Width-wise fissures with pinpricks	Non-Friable	None Detected
BLDG0068-AS6-1	02	2'x4' Lay-in ceiling tile; Deep texture with small holes	Non-Friable	None Detected
BLDG0068-AS6-2	02	2'x4' Lay-in ceiling tile; Deep texture with small holes	Non-Friable	None Detected
BLDG0068-AS6-3	02	2'x4' Lay-in ceiling tile; Deep texture with small holes	Non-Friable	None Detected
BLDG0068-AS7-1	06	Texture coat	Friable	None Detected
BLDG0068-AS7-2	06	Texture coat	Friable	None Detected
BLDG0068-AS7-3	06	Texture coat	Friable	None Detected
BLDG0068-AS8-1	24	Vinyl sheet flooring; Green/Beige	Non-Friable	None Detected
		Tan/White Mastic/Powder	Friable	None Detected
BLDG0068-AS8-2	24	Vinyl sheet flooring; Green/Beige	Non-Friable	None Detected
		Tan/White Mastic/Powder	Friable	None Detected
BLDG0068-AS8-3	24	Vinyl sheet flooring; Green/Beige	Non-Friable	None Detected
BLDG0068-AS9-1	02	Door caulking	Non-Friable	None Detected
BLDG0068-AS9-2	02	Door caulking	Non-Friable	None Detected
BLDG0068-AS9-3	02	Door caulking	Non-Friable	None Detected

Sample ID	Location	Description	Friable/ Non-Friable	Asbestos Content (%)
		Grey Cementitious	Non-Friable	None Detected
BLDG0068-AS10-1	25	Expansion joint caulking	Non-Friable	None Detected
BLDG0068-AS10-2	25	Expansion joint caulking	Non-Friable	None Detected
BLDG0068-AS10-3	25	Expansion joint caulking	Non-Friable	None Detected
BLDG0068-AS11-1	25	12"x12" Vinyl floor tile; Beige with grey and brown blots	Non-Friable	None Detected
		Black Mastic	Non-Friable	None Detected
BLDG0068-AS11-2	25	12"x12" Vinyl floor tile; Beige with grey and brown blots	Non-Friable	None Detected
		Black Mastic	Non-Friable	None Detected
BLDG0068-AS11-3	25	12"x12" Vinyl floor tile; Beige with grey and brown blots	Non-Friable	None Detected
		Black Mastic	Non-Friable	None Detected

Table 2 Notes:

- Method detection limit = 0.25%
- Description provided refers to colour and patterns observed on the surface of the material by the surveyors at the time of sampling, and should be used to identify the material in the work area. Laboratory colour descriptions on the Certificates of Analysis in some cases describe the cross-sectional colour of the material.

TABLE 3: SUMMARY OF LEAD TESTING IN PAINT

SAMPLE ID	LOCATION	DESCRIPTION	LEAD CONTENT (%)
BLDG0068-Pb1	01	Grey paint on floor	<0.0070
BLDG0068-Pb2	01	Yellow paint on piping	1.2
BLDG0068-Pb3	24	Brown paint on wall	0.040

Table 3 Notes:

- Bolded and highlighting indicates lead-containing material

APPENDIX A

ANALYTICAL RESULTS – ASBESTOS AND LEAD

CERTIFICATE OF ANALYSIS

Client:	SPL Consultants Limited 51 Constellation Court Toronto ON M9W 1K4	Report Date:	12/17/2014
		Report No.:	352416
		Project:	BLDG 0068
		Project No.:	10000949-230-0068

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5502946	Description / Location: White Joint Compound		05
Client No.: BLDG0068-AS1-1			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			100

Lab No.: 5502947	Description / Location: White Powder		23
Client No.: BLDG0068-AS1-2			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			100

Lab No.: 5502948	Description / Location: White Joint Compound		17
Client No.: BLDG0068-AS1-3			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			100

Lab No.: 5502949	Description / Location: White Joint Compound		02
Client No.: BLDG0068-AS1-4			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			100

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: R. McQuiggan

Approved By:

Date: 12/17/2014

Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client:	SPL Consultants Limited	Report Date:	12/17/2014
	51 Constellation Court	Report No.:	352416
	Toronto ON M9W 1K4	Project:	BLDG 0068
		Project No.:	10000949-230-0068

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:	5502950	Description / Location:	White Joint Compound
Client No.:	BLDG0068-AS1-5		11
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			100

Lab No.:	5502951	Description / Location:	White/Tan Ceiling Tile; 2x4
Client No.:	BLDG0068-AS2-1		02
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	40	Cellulose
		30	Fibrous Glass

Lab No.:	5502952	Description / Location:	White/Tan Ceiling Tile; 2x4
Client No.:	BLDG0068-AS2-2		02
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	40	Cellulose
		30	Fibrous Glass

Lab No.:	5502953	Description / Location:	White/Tan Ceiling Tile; 2x4
Client No.:	BLDG0068-AS2-3		02
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	40	Cellulose
		30	Fibrous Glass

Accreditations:	NIST-NVLAP No. 101165-0	NY-DOH No. 11021	AIHA-LAP, LLC No. 100188
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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: R. McQuiggan

Date: 12/17/2014

CERTIFICATE OF ANALYSIS

Client:	SPL Consultants Limited 51 Constellation Court Toronto ON M9W 1K4	Report Date:	12/17/2014
		Report No.:	352416
		Project:	BLDG 0068
		Project No.:	10000949-230-0068

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5502954	Description / Location: White/Tan Ceiling Tile; 2x4		
Client No.: BLDG0068-AS3-1			25
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	40	Cellulose
		30	Fibrous Glass

Lab No.: 5502955	Description / Location: White/Tan Ceiling Tile; 2x4		
Client No.: BLDG0068-AS3-2			25
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	40	Cellulose
		30	Fibrous Glass

Lab No.: 5502956	Description / Location: White/Tan Ceiling Tile; 2x4		
Client No.: BLDG0068-AS3-3			25
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	40	Cellulose
		30	Fibrous Glass

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: R. McQuiggan

Date: 12/17/2014

CERTIFICATE OF ANALYSIS

Client:	SPL Consultants Limited 51 Constellation Court Toronto ON M9W 1K4	Report Date:	12/17/2014
		Report No.:	352416
		Project:	BLDG 0068
		Project No.:	10000949-230-0068

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5502957	Description / Location: Lt.Tan Floor Tile; 12x12		
Client No.: BLDG0068-AS4-1	05		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			<u>% Non-Fibrous Material</u> 100

Lab No.: 5502957	Description / Location: Black Mastic		Layer No.: 2
Client No.: BLDG0068-AS4-1	05		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			<u>% Non-Fibrous Material</u> 100

Lab No.: 5502958	Description / Location: Lt.Tan Floor Tile; 12x12		
Client No.: BLDG0068-AS4-2	05		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			<u>% Non-Fibrous Material</u> 100

Lab No.: 5502958	Description / Location: Black Mastic		Layer No.: 2
Client No.: BLDG0068-AS4-2	05		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			<u>% Non-Fibrous Material</u> 100

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: R. McQuiggan

Date: 12/17/2014

CERTIFICATE OF ANALYSIS

Client:	SPL Consultants Limited	Report Date:	12/17/2014
	51 Constellation Court	Report No.:	352416
	Toronto ON M9W 1K4	Project:	BLDG 0068
		Project No.:	10000949-230-0068

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:	5502959	Description / Location:	Lt.Tan Floor Tile; 12x12	
Client No.:	BLDG0068-AS4-3		05	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.:	5502959	Description / Location:	Black Mastic	Layer No.:	2
Client No.:	BLDG0068-AS4-3		05		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>	
None Detected	None Detected	None Detected	None Detected	100	

Lab No.:	5502960	Description / Location:	White/Tan Ceiling Tile; 2x4	
Client No.:	BLDG0068-AS5-1		05	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	30	Cellulose	40
		30	Fibrous Glass	

Lab No.:	5502961	Description / Location:	White/Tan Ceiling Tile; 2x4	
Client No.:	BLDG0068-AS5-2		05	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	30	Cellulose	40
		30	Fibrous Glass	

Accreditations:	NIST-NVLAP No. 101165-0	NY-DOH No. 11021	AIHA-LAP, LLC No. 100188
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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: R. McQuiggan

Date: 12/17/2014

CERTIFICATE OF ANALYSIS

Client:	SPL Consultants Limited 51 Constellation Court Toronto ON M9W 1K4	Report Date:	12/17/2014
		Report No.:	352416
		Project:	BLDG 0068
		Project No.:	10000949-230-0068

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5502966	Description / Location: White Texture		
Client No.: BLDG0068-AS7-1	06		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			100

Lab No.: 5502967	Description / Location: White Texture		
Client No.: BLDG0068-AS7-2	06		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			100

Lab No.: 5502968	Description / Location: White Texture		
Client No.: BLDG0068-AS7-3	06		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			100

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: R. McQuiggan

Date: 12/17/2014

CERTIFICATE OF ANALYSIS

Client: SPL Consultants Limited 51 Constellation Court Toronto ON M9W 1K4	Report Date: 12/17/2014 Report No.: 352416 Project: BLDG 0068 Project No.: 10000949-230-0068
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BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5502969	Description / Location: Green/Tan Non Fibrous		
Client No.: BLDG0068-AS8-1	24		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			100

Lab No.: 5502969	Description / Location: Tan/White Mastic/Powder		Layer No.: 2
Client No.: BLDG0068-AS8-1	24		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			100

Lab No.: 5502970	Description / Location: Green/Tan Non Fibrous		
Client No.: BLDG0068-AS8-2	24		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			100

Lab No.: 5502970	Description / Location: Tan/White Mastic/Powder		Layer No.: 2
Client No.: BLDG0068-AS8-2	24		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			100

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: R. McQuiggan

Date: 12/17/2014

CERTIFICATE OF ANALYSIS

Client:	SPL Consultants Limited	Report Date:	12/17/2014
	51 Constellation Court	Report No.:	352416
	Toronto ON M9W 1K4	Project:	BLDG 0068
		Project No.:	10000949-230-0068

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:	5502971	Description / Location:	Green/Tan Non Fibrous	
Client No.:	BLDG0068-AS8-3		24	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.:	5502972	Description / Location:	White/Grey Caulk	
Client No.:	BLDG0068-AS9-1		A/W Door; 02	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.:	5502973	Description / Location:	White/Grey Caulk	
Client No.:	BLDG0068-AS9-2		A/W Door; 02	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: R. McQuiggan

Date: 12/17/2014

CERTIFICATE OF ANALYSIS

Client: SPL Consultants Limited
51 Constellation Court
Toronto ON M9W 1K4

Report Date: 12/17/2014
Report No.: 352416
Project: BLDG 0068
Project No.: 10000949-230-0068

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5502974 **Description / Location:** White/Grey Caulk
Client No.: BLDG0068-AS9-3 A/W Door; 02

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5502974 **Description / Location:** Grey Cementitious **Layer No.:** 2
Client No.: BLDG0068-AS9-3 A/W Door; 02

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5502975 **Description / Location:** White Caulk
Client No.: BLDG0068-AS10-1 25; Expansion Joint

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5502976 **Description / Location:** White Caulk
Client No.: BLDG0068-AS10-2 25; Expansion Joint

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: R. McQuiggan

Date: 12/17/2014

CERTIFICATE OF ANALYSIS

Client:	SPL Consultants Limited	Report Date:	12/17/2014
	51 Constellation Court	Report No.:	352416
	Toronto ON M9W 1K4	Project:	BLDG 0068
		Project No.:	10000949-230-0068

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:	5502977	Description / Location:	White Caulk	
Client No.:	BLDG0068-AS10-3		25; Expansion Joint	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.:	5502978	Description / Location:	Beige Floor Tile; 12x12	
Client No.:	BLDG0068-AS11-1		25	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.:	5502978	Description / Location:	Black Mastic	Layer No.: 2
Client No.:	BLDG0068-AS11-1		25	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: R. McQuiggan

Date: 12/17/2014

CERTIFICATE OF ANALYSIS

Client: SPL Consultants Limited 51 Constellation Court Toronto ON M9W 1K4	Report Date: 12/17/2014 Report No.: 352416 Project: BLDG 0068 Project No.: 10000949-230-0068
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BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5502979	Description / Location: Beige Floor Tile; 12x12		
Client No.: BLDG0068-AS11-2	25		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			100

Lab No.: 5502979	Description / Location: Black Mastic		Layer No.: 2
Client No.: BLDG0068-AS11-2	25		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Cellulose
			95

Lab No.: 5502980	Description / Location: Beige Floor Tile; 12x12		
Client No.: BLDG0068-AS11-3	25		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected
			100

Lab No.: 5502980	Description / Location: Black Mastic		Layer No.: 2
Client No.: BLDG0068-AS11-3	25		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected
			100

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: R. McQuiggan

Date: 12/17/2014

CERTIFICATE OF ANALYSIS

Client: SPL Consultants Limited
51 Constellation Court
Toronto ON M9W 1K4

Report Date: 12/16/2014
Report Number: 352424
Project: BLDG0068
Project No.: 10000949230BLDG00

LEAD PAINT SAMPLE ANALYSIS SUMMARY

<u>Lab No.</u>	<u>Client No.</u>	<u>Location / Description</u>	<u>Concentration Lead By Weight (%)</u>
5501741	BLDG0068-Pb1	Grey Paint On Floor 01	<0.0070
5501742	BLDG0068-Pb2	Yellow Paint On Piping 01	1.2 *
5501743	BLDG0068-Pb3	Brown Paint On Wall 24	0.040

Accreditations:

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

AIHA-LAP, LLC No. 100188

NYSDOH-ELAP No. 11021

Analytical Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(3050B:7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

Comments: Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. IATL assumes that appropriate sampling methods have been used and the data upon which these results are based have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Appendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=0.0044% by weight. RL= 0.010% by weight (based upon 100 mg sampled). * Insufficient sample provided to perform QC reanalysis (<200 mg) ** Not enough sample provided to analyze (<50 mg) *** Matrix / substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks. This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any government agency. This report shall not be reproduced except in full, without written approval of the laboratory.

Date Received: 12/10/2014
Date Analyzed: 12/16/2014
Analyst: C. Shaffer

Approved By: 

Frank E. Ehrenfeld, III
Laboratory Director

APPENDIX B
SITE PHOTOGRAPHS

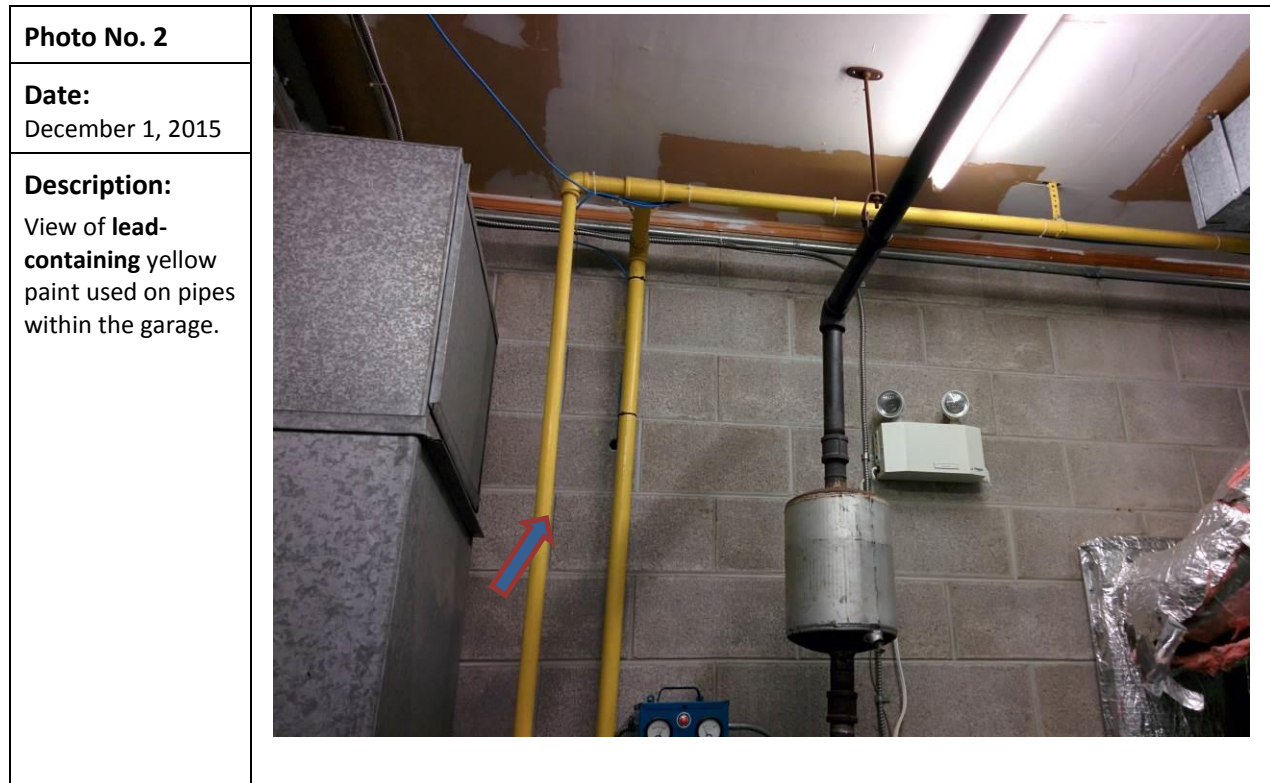
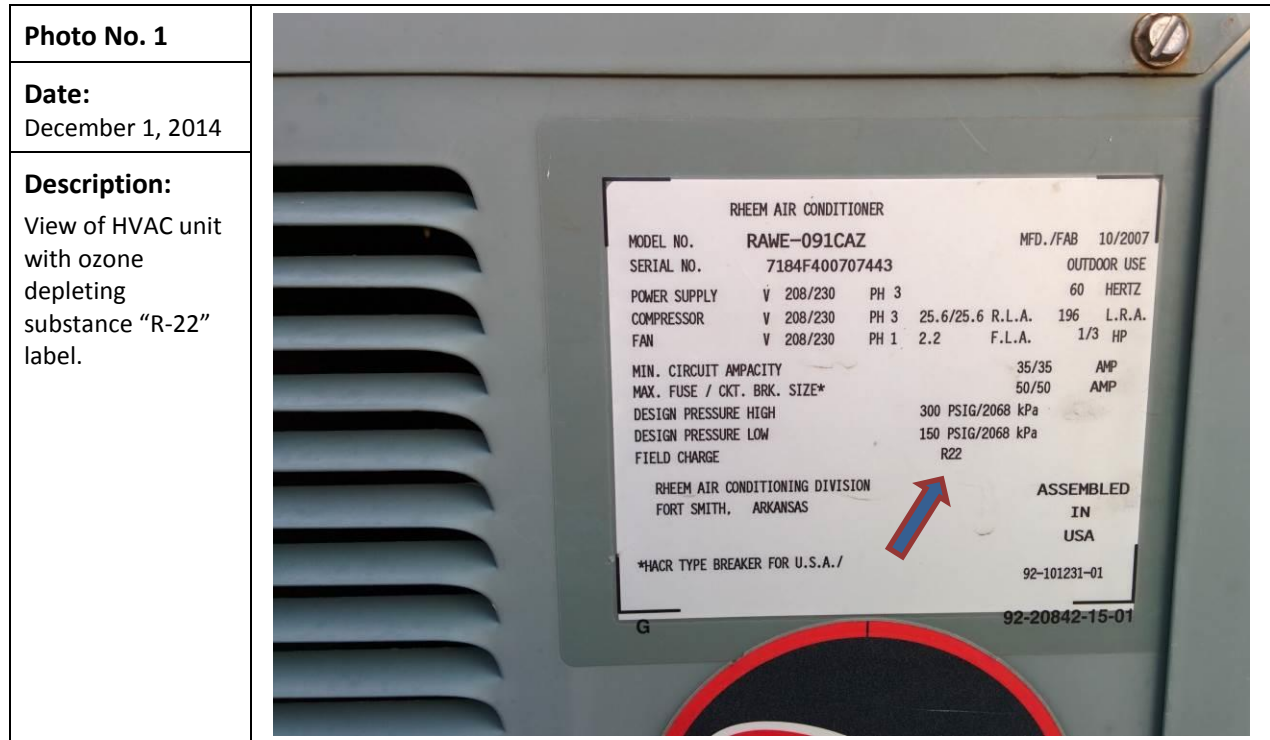


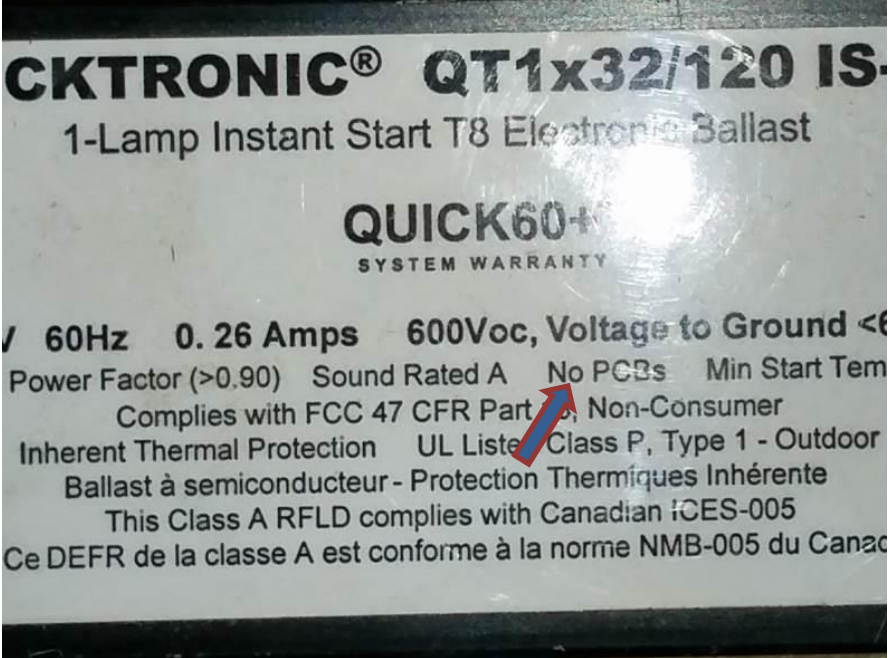
Photo No. 3	
Date: December 1, 2014	
Description: View of fluorescent light ballast with "No PCBs" label.	

Photo No. 4	
Date: December 1, 2015	
Description: View of lead-containing brown paint used on interior walls throughout the building.	