



**GOLDER**

REPORT

## Designated Substances Survey

*Wasauksing Swing Bridge Control House, Parry Sound, Ontario*

Submitted to:

**Ms. Cara Waddell**

Parsons Inc.

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Ottawa, Ontario

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Submitted by:

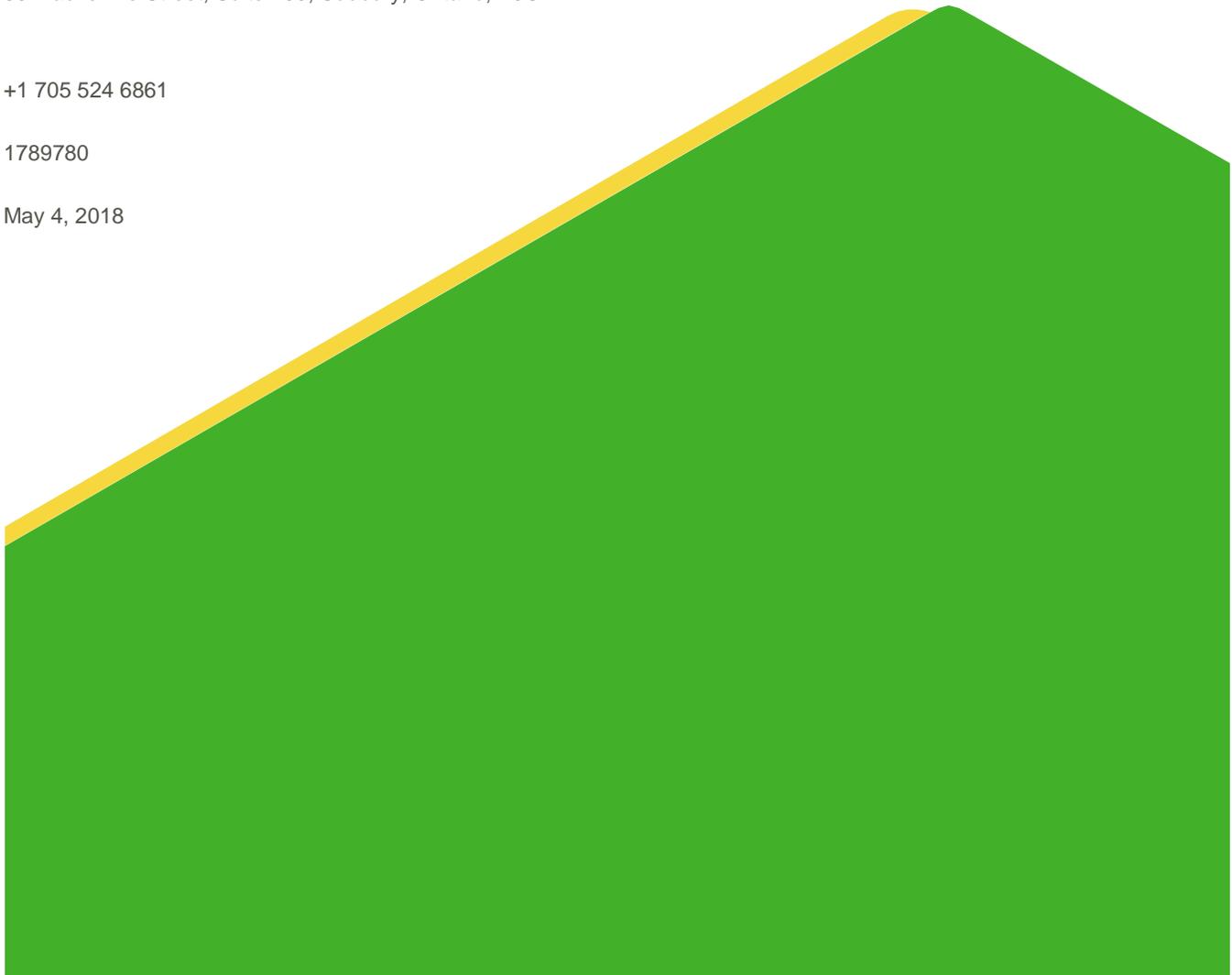
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1789780

May 4, 2018



## Distribution List

1 PDF Copy - Parsons Inc.

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# Table of Contents

**1.0 INTRODUCTION ..... 1**

    1.1 Description of Site Building ..... 1

**2.0 SCOPE OF WORK..... 1**

**3.0 REGULATIONS, GUIDELINES, STANDARDS AND SAMPLING METHODOLOGY ..... 1**

**4.0 RESULTS AND DISCUSSION ..... 2**

    4.1 Asbestos..... 2

    4.2 Lead ..... 2

    4.3 Mercury ..... 3

    4.4 Silica ..... 3

**5.0 CONCLUSIONS AND RECOMMENDATIONS ..... 3**

    5.1 Asbestos..... 3

    5.2 Lead ..... 4

    5.3 Mercury ..... 4

    5.4 Silica ..... 5

    5.5 Other Designated Substances ..... 5

**6.0 LIMITATIONS..... 5**

**APPENDICES**

**APPENDIX A**

Regulations, Guidelines and Standards

**APPENDIX B**

Methodology

**APPENDIX C**

Site Photos

**APPENDIX D**

Laboratory Certificates of Analysis - Asbestos

**APPENDIX E**

Laboratory Certificates of Analysis - Lead

## 1.0 INTRODUCTION

Golder Associates Ltd. (Golder) was retained by Parsons Inc. (Parsons) to conduct a Designated Substances Survey (DSS) of the control house for the Wasauksing swing bridge near Parry Sound, Ontario (the Site). The survey was conducted by Mr. Steven Gore and Mr. Adam May of Golder on April 20, 2018.

The survey was conducted with the objective of identifying Designated Substances as defined by Ontario Regulation (O. Reg.) 490/09, *Designated Substances*, as amended. Emphasis was placed on assessing the Site for asbestos, lead, mercury and silica, as these materials are most likely to be present. The remaining Designated Substances (acrylonitrile, arsenic, benzene, coke oven emissions, ethylene oxide, isocyanates, and vinyl chloride) were not expected to be present at the Site, however they were noted where observed.

### 1.1 Description of Site Building

The Site included a single-story structure which was occupied, operational and used as a control house for the Wasauksing swing bridge during the operating season. The age of the Wasauksing swing bridge was reported by the bridge operator to be over 100 years old. The structure was approximately 700 square feet in size, and appeared to be constructed in two sections. The first, original section, which included the storage area and kitchen, was constructed using mortar stone foundation, lath and plaster walls, hardwood floors, plywood ceilings, vinyl siding on the exterior walls underlaid with tar paper, and metal sheet roof on top of original roofing materials. The second section, which included the control room and washroom, was an addition onto the existing structure, and consisted of a concrete block/wood foundation, drywall walls, acoustic tile drop ceiling, vinyl siding on the exterior walls underlaid with tar paper, and a metal sheet roof on top of original roofing materials. Heating was provided in the building by an electric space heater. A fireplace was located in the original section of the building, but its use as a heating source was discontinued due to safety issues as reported by the bridge operator.

## 2.0 SCOPE OF WORK

The scope of work related to the DSS was strictly limited to the control house and included the following:

- Visually identify and inventory Designated Substances at the Site
- Collect representative bulk samples of previously un-sampled suspect asbestos-containing materials (ACMs) and submit these samples to an independent accredited laboratory for asbestos content analysis
- Collect representative samples of suspect lead-containing paints (LCP) and submit these to an independent accredited laboratory for lead content analysis
- Prepare a DSS Report for the Site describing the findings and presenting recommendations, as warranted and providing approximate quantifications of the Designated Substances identified

## 3.0 REGULATIONS, GUIDELINES, STANDARDS AND SAMPLING METHODOLOGY

The regulations, guidelines, and standards referenced throughout this report are listed and defined in Appendix A. Similarly, the investigation and sampling methodologies are provided in Appendix B.

## 4.0 RESULTS AND DISCUSSION

### 4.1 Asbestos

A total of 18 samples representing six homogenous materials were collected and submitted for analysis. Samples included various tar papers, drywall joint compound, plaster, vinyl floor tile, and acoustic ceiling tile. The samples were submitted to EMSL Canada Inc. in Mississauga, Ontario (NVLAP Lab Code 200877-0), under chain of custody protocol for asbestos content analysis. Analytical detection followed Environmental Protection Agency Method EPA/600/R-93/116 using PLM-Bulk detection limits (<1.0%). Based on the laboratory Certificate of Analysis, the following materials were found to be non-asbestos:

- Tar Paper – Storage Room (1789780-ACM-01A-C)
- Drywall Joint Compound – Kitchen & Control Rooms (1789780-DJC-02A-C)
- Plaster Wall – Kitchen (1789780-ACM-03A-C)
- Vinyl Floor Tile -White with blue Marks and associated brown mastic – Bathroom (1789780-ACM-04A-C)
- Tar Heat Shield – Washroom (1789780-ACM-05A-C)
- Acoustic Ceiling Tile 2'x4' – Pinholes and random Fissures - Storage Room, Control Room, and Bathroom (1789780-ACM-06A-C)

Due to the limited scope of work and safety constraints (live electricity), the following materials were presumed to contain asbestos:

- Exterior window caulking. Approximately 20 linear feet of this material was found on the exterior windows of the structure and observed to be in fair condition
- Roofing materials below metal sheeting, approximately 700 square feet of this material was observed to be fair condition
- One rope gasket associated with the fireplace observed to be in fair condition
- Original electrical wire sheathing throughout the control house, in fair condition where observed (quantity not assessed)

Representative photographs are included in Appendix C, and the laboratory Certificate of Analysis is presented in Appendix D.

Due to the limited intrusive nature of the investigation, asbestos-containing building materials may be present in areas that were inaccessible (i.e., under multiple layers of flooring, in the attic space, behind solid surfaces, etc.). Any materials found in these spaces that were not previously identified should be considered asbestos-containing until proven otherwise.

### 4.2 Lead

Three bulk lead samples were collected and submitted for analysis by an independent accredited laboratory. The samples were submitted to EMSL Canada Inc. in Mississauga, Ontario (Accredited Environmental testing Cert # 2845.08), under chain of custody protocol for lead content analysis. One of the sampled paints was found to be

lead-based (>5000 parts per million {ppm}). Analytical detection used Flame Atomic Absorption Spectrophotometry Method SW846-7000B. The remaining paint samples were found to be above the laboratory detection limit for lead (>90 ppm), but not lead-containing (>1000 ppm, <5000 ppm), therefore only considered to contain a minimal amount of lead. No other source of lead was suspected to be present at the Site. Below is a summary of the paint sample results (bolded values indicate lead-based paint):

- White Paint on Wooden Window Frame - Exterior (1789780-Pb-01) – 140 ppm
- Grey Paint on Hardwood Flooring – Kitchen (1789780-Pb-02) – **25,000 ppm**
- Light Blue Paint on Drywall/Plaster - Kitchen (1789780-Pb-03) – 320 ppm

Representative photographs are included in Appendix C, and the laboratory Certificate of Analysis is presented in Appendix E.

### 4.3 Mercury

Mercury vapour is suspected to be present within the fluorescent tubes, and metal halides bulbs in light fixtures observed at the Site building. A small thermometer was also observed to be present on the exterior, which may contain liquid mercury.

No additional suspect mercury-containing materials were observed at the Site during the Site visit.

### 4.4 Silica

Silica was presumed to be present in masonry materials at the Site such as the mortar utilized to construct the original foundation as well as in the concrete pads at the front entrances to the Site building. Silica may also be present in drywall and lay-in ceiling tiles.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

### 5.1 Asbestos

Through the Site investigation, materials presumed to contain asbestos were identified at the Site. The following recommendations are provided in accordance with the requirements of the O. Reg. 278/05: Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations (O. Reg. 278/05), as amended.

The exterior window caulking, rope gasket, electrical sheathing, and roofing materials presumed to be asbestos containing should be sampled prior to disturbance to determine whether or not they contain asbestos. If determined to contain asbestos, they must be removed following Type 1 operations as per O. Reg. 278/05 prior to disturbance.

If presumed ACM is to remain in place at the Site, an Asbestos Management Program should be implemented as prescribed under O. Reg. 278/05.

All persons working in close proximity to presumed or suspect ACM and who may disturb the ACM in the course of their work must be advised of the presence of the ACM and the required precautions as prescribed under O. Reg. 278/05.

Due to the limitations in the scope of work, it is possible that undiscovered ACM are present within inaccessible locations such as behind solid wall cavities (i.e., bulkheads, column enclosures and above solid ceilings in the attic space). It is also possible that multiple layers of flooring or floor levelling compounds may be present beneath existing flooring, or that suspect ACM may be present subsurface (i.e., buried asbestos-cement pipe, electrical conduit insulators, gaskets). If suspected ACM not identified in this report are encountered during renovation activities, the work should stop immediately, and the material should be tested to determine asbestos content, and appropriate remedial measures be implemented accordingly.

## 5.2 Lead

The grey floor paint on the hardwood floors (1789780-Pb-02) at the Site was confirmed to be classified as a lead-based paint. Paints containing less than 0.1% (1,000 ppm) lead by weight do not require lead handling procedures provided that the disturbance is consistent with the methods and guidelines discussed in Appendix A.

Disturbance of painted surfaces confirmed to contain greater than 0.1% lead by weight (1,000 ppm) must be completed as per the MOL Guideline, Lead on Construction Projects, 2004 (and revised in April 2011). Paints presumed to contain lead should be sampled prior to disturbance. In the event that LCP is required to be removed from the building and disposed of as waste, waste characterization should be performed including analysis of both the painted surface and the underlying substrate for lead leachate, using the Toxicity Characteristic Leaching Procedure (TCLP) as prescribed under O. Reg. 347/90. Based on the results of the TCLP analysis, removed lead containing materials (LCM) would either be considered as construction waste or leachate toxic waste. The building would also require registration as a Hazardous Waste Generator for this class of material should any of the materials be considered as leachate toxic waste. All leachate toxic materials would require segregation and final disposal in a landfill licensed by the Ontario Ministry of the Environment and Climate Change (MOECC) to accept leachate toxic waste.

If building personnel are required to perform operations or demolition activities potentially generating airborne lead emissions from painted surfaces, measures must be implemented to ensure that worker's inhalation exposure does not exceed the time weighted average limit (TWA) of 0.05 milligrams per cubic meter (mg/m<sup>3</sup>) of lead in air. Further, all regulatory and health and safety precautions described in the MOL *Guideline - Lead on Construction Projects*, 2004 (and revised in April 2011), must be implemented, where appropriate.

During any renovation activities, inaccessible LCM may be uncovered (e.g., lead sheeting, plugs for weeping tiles, etc.). All LCM must be sent to a MOECC-licensed recycling or disposal facility if they are removed. The contractor performing the removal should be responsible to recover this material and prevent it from going to a landfill. If recycling of the lead is not completed, then it must be disposed of in an approved hazardous landfill.

## 5.3 Mercury

Mercury is suspected as vapour within fluorescent light tubes observed as well as metal halide bulbs present in the exterior lighting and the small thermometer outside the building. It is not expected that these materials will be disturbed as part of regular operating activities at the Site. If these materials are removed or disturbed, they must be kept separate from all other waste to prevent damage to the tubes containing the mercury. Mercury must be sent to a licensed mercury recycler or hazardous waste transfer station.

## 5.4 Silica

Silica is likely present in the mortar of the original stone and mortar foundation, as well as in the concrete pads at the front entrances. Silica is also potentially present in drywall and acoustic lay-in ceiling tiles throughout the Site. The health risk associated from exposure to silica is due primarily to the inhalation of free crystalline silica, particularly in the form of dust associated with the abrading or cutting of silica-containing materials. Disturbances to potential silica-containing aggregate building materials must be performed in accordance with the MOL Guideline, Silica on Construction Projects, 2004 (and revised in 2011). Drilling, milling, grinding, hammering, cutting, polishing, sanding, or sandblasting of silica-based materials should be minimized to reduce the potential creation of airborne emissions of silica. In the event that such work is required to be conducted, ensure that respirable silica dust does not exceed the TWA of 0.05 mg/m<sup>3</sup> for cristobalite, and 0.10 mg/m<sup>3</sup> for quartz and tridymite.

## 5.5 Other Designated Substances

The remaining Designated Substances including acrylonitrile, arsenic, benzene, coke oven emissions, ethylene oxide, isocyanates, and vinyl chloride were not observed at the Site during the survey.

## 6.0 LIMITATIONS

This report was prepared for the exclusive use of Parsons Inc. This report is based on data and information collected during a Site visit conducted by Golder and is based solely on the Site conditions encountered at the time of the survey on April 20<sup>th</sup>, 2018.

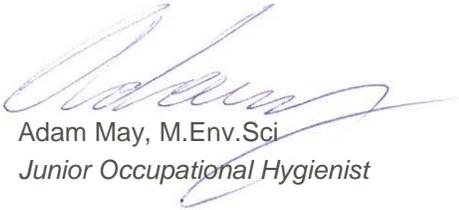
The conclusions and recommendations contained in this report are based upon professional opinions with regards to the subject matter. These opinions are in accordance with applicable and currently accepted occupational health and safety or environmental assessment standards and practices applicable to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

- The data and findings presented in this report are valid as of the date of the investigation. The passage of time, manifestation of latent conditions or occurrence of future events may warrant further exploration at the properties, analysis of the data, and re-evaluation of the findings, observations, and conclusions expressed in this report.
- The findings, observations and conclusions expressed by Golder in this report are not, and should not be considered, an opinion concerning compliance of any past or present owner or operator of the Building with any federal, provincial or local laws or regulations.
- Additional hazardous building materials not identified in this report may become evident during construction/demolition activities. Should additional information become available, Golder requests that this information be brought to our attention so that we may re-assess the conclusions presented herein. All quantities contained in this report are approximate and based on visual observations made in accessible areas; and.
- Golder's report 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 and 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. Any use of this assessment report constitutes acceptance of the limits of Golder's liability. Golder's liability extends only to its client and not to other parties who may obtain this assessment report. Issues raised by the report should be reviewed by appropriate legal counsel.

## Signature Page

### Golder Associates Ltd.



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AM/SG/BCW/ca

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[https://golderassociates.sharepoint.com/sites/22153g/deliverables/1789780-r-rev0-wasauksing-swing-bridge-control-house-dss-04may\\_18.docx](https://golderassociates.sharepoint.com/sites/22153g/deliverables/1789780-r-rev0-wasauksing-swing-bridge-control-house-dss-04may_18.docx)

APPENDIX A

Regulations, Guidelines and  
Standards

## REGULATIONS, GUIDELINES AND STANDARDS

### Federal Regulations

In federal jurisdictions, hazardous building materials are regulated under the Canada Occupational Health and Safety Regulations (COHSR – SOR/86-304) made under the Canada Labour Code – Part II. Specifically, COHSR Part X - Hazardous Substances, provides the direction for the control of exposure to potentially toxic substances in the workplace. Under this regulation, employers are required to:

- Maintain a record of all hazardous materials
- Undertake a hazard investigation by a competent person
- Ensure materials are properly stored and handled
- Post warning signs
- Inform and educate employees regarding hazards
- Control exposure through substitution, engineering or protective equipment

### Occupational Health and Safety Act

The Act defines and regulates designated substances that may be present within buildings. Section 30 of the Act requires that, prior to beginning a construction project (including building demolition or renovation), a document summarizing the presence of these materials must be available to contractors and subcontractors requesting tenders.

Ontario Regulation 490/09 - Designated Substances, as amended (O. Reg. 490/09), regulates all designated substances in Ontario except asbestos in building materials, which is prescribed under Ontario Regulation 278/05 - Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations, as amended (O. Reg. 278/05).

### Asbestos-Containing Materials

O. Reg. 278/05 prescribes specific procedures for the identification of asbestos-containing materials (ACM) and protocols for their removal. Under this regulation, if ACM are suspected to be present or ought reasonably to be suspected, locations of the materials must be documented. Prior to a renovation project, a document detailing the presence of all ACM must be available to contractors and subcontractors requesting tenders. All ACM must be removed or managed appropriately prior to any disturbance caused by the renovation process, in accordance with provincial regulations.

Ontario Regulation 347/90 - General Waste Management, as amended (O. Reg. 347/90), made under the Environmental Protection Act, prescribes requirements for general waste management including ACM.

The regulation defines "asbestos waste" as "solid or liquid waste that results from the removal of asbestos-containing construction or insulation materials or the manufacture of asbestos-containing products and contains asbestos in more than a trivial amount or proportion". Asbestos waste must be disposed of in a licensed waste facility, which has been properly notified of the presence of asbestos waste.

## Lead

Lead was used as a pigment and drying agent in alkyd oil-based paint. The Surface Coating Materials Regulations, SOR/2005-109 made under the Consumer Product Safety Act, restricts the lead content of new paints and other coatings including furniture and children's products, to 90 mg/kg. The Canadian Paint and Coatings Association (CPCA), the national trade association for Canada's paint manufacturers, recommended that the Canadian paint industry voluntarily stop using any lead compounds in consumer paints by the end of 1990. Over the years, the amount of lead in paint has continued to decrease, due to the co-operative efforts of government and industry.

As prescribed under COHSR Part X, airborne concentrations of lead must not exceed the exposure limit adopted by the American Conference of Governmental Industrial Hygienist publication entitled, Threshold Limit Values and Biological Exposure Indices, as amended. If operations that will likely produce airborne lead dust or fumes (e.g. during welding, torch cutting, sanding and sand blasting) are to occur during building renovation or construction, it is recommended that the disturbance of lead paint or other lead-containing materials be carried out in accordance with procedures outlined in the Ontario Ministry of Labour (MOL) Guideline - Lead on Construction Projects (dated September 2004 and updated April 2011).

The accepted laboratory testing methods for determination of lead in paint is either flame atomic absorption spectroscopy (FAAS) or inductively coupled plasma atomic emission spectroscopy (ICP-AES).

## Mercury

Mercury is regulated under O. Reg. 490/09. This regulation sets out occupational exposure limits (OELs) and prescriptive requirements surrounding engineering controls, work practices and hygiene practices and facilities to protect workers who may be potentially exposed to mercury.

## Silica

Silica is a naturally occurring mineral and may be found in common aggregates in concrete mortar, brick and ceiling tiles. Silica is likely present in the concrete and mortar used to construct the Site. The health risks associated with exposure to silica is due primarily to the inhalation of respirable crystalline silica, particularly in the form of dust associated with the abrading or cutting of silica containing materials.

Silica is regulated under O. Reg. 490/09. This regulation sets out OELs and prescriptive requirements surrounding engineering controls, work practices and hygiene practices and facilities to protect workers who may be potentially exposed to crystalline silica (cristobalite, quartz and tripoli). As prescribed under O. Reg. 490/09, an employer shall take all reasonable precautions to prevent worker exposure to silica. Procedures for workers involved in construction/demolition activities occurring on a Site where silica may be disturbed are outlined in the MOL Guideline - Silica on Construction Projects (dated September 2004 and updated April 2011).

## Other Designated Substances

Other designated substances include acrylonitrile, arsenic, benzene, coke oven emissions, ethylene oxide, isocyanates, and vinyl chloride. None of these substances were expected to be present as significant constituents of the building materials and architectural finishes and, as such, no specific observations or sampling of materials potentially containing these substances was included as part of this survey and will not be discussed further in this document.

**APPENDIX B**

**Methodology**

## DESIGNATED SUBSTANCE SURVEY

The survey was conducted to identify the presence and extent of the above mentioned Designated Substances. The survey was conducted on an area-by-area basis. Locations of Designated Substances identified during the survey were summarized and approximate quantities were provided in the Designated Substances Survey Report. All areas at the Site were made accessible to the surveyor. However, the attic space was not accessed due the presence of a solid ceiling above the suspended ceiling. The identified Designated Substances were assessed based on their locations and conditions, and recommendations were made as to the appropriate removal or management of these materials. The methodology for surveying the Designated Substances is outlined below.

## Asbestos-Containing Materials

The identification and collection of suspected asbestos-containing materials (ACM) was performed by Golder in accordance with the requirements of Table 1 – Bulk Material Samples in Ontario Regulation (O. Reg.) 278/05 Designated Substances – Asbestos on Construction Projects and in Building and Repair Operations. Sample results from previous surveys were used where appropriate.

As the reported date of construction of the Site was not known to Golder, friable ACM may be present at the Site. As such, suspect friable ACM such as pipe insulation and suspect non-friable ACM such as caulking were sampled.

Typical materials included within an asbestos survey performed by Golder are as follows:

- **Structural** - systems including fireproofing on: beams, open and solid webbed joist systems, Q-deck.
- **Mechanical** - systems insulation including: hot water and steam system, condensate system, chilled water system, glycol system, domestic hot and cold water, emergency generator exhaust, boiler units, heat exchangers, reboiler units, asbestos cement piping, wall joint compound, asbestos sheet products.
- **Architectural** - systems including: texture coats, sheet flooring, vinyl floor tile, acoustical spray-applied materials, condensation control applications, ceiling tile, wall board, drywall joint compound, asbestos sheet products, and caulking applications.

Each sample collected of suspected ACM was submitted, under chain-of-custody procedures, to an independently accredited laboratory for analysis of asbestos type and percentage content using Polarized Light Microscopy (PLM) and dispersion staining techniques. This analytical method follows Method EPA/600/R-93/116, which is required under O. Reg. 278/05.

For each material determined by laboratory analysis to contain asbestos at a concentration of 0.5 % or greater, Golder provided, in our report, visual assessment of the condition of the material and any recommendations as to the appropriate handling of these materials in accordance with O. Reg. 278/05. Golder also provided a list of estimated quantities of materials requiring removal and the recommended asbestos operations classification (Type 1, Type 2, and Type 3) for removal.

The following building materials were not sampled as part of this survey, but noted if observed: bell and spigot joints, roofing materials, exterior window/door caulking, and asbestos cement products (Transite™).

## Lead

Lead is a naturally occurring metal. It was used primarily in paint and coatings prior to the 1980s in order to increase the drying process. Lead in paint becomes a danger when it becomes old or damaged as it creates lead dust and chips. Lead can also be found in soldered joints installed on piping up to the mid-1990s, in internal brass components of plumbing fixtures and in older cast iron bell and spigot joints.

A visual assessment of suspected lead-containing paints (LCPs) and other suspect lead-containing material was completed as part of the survey. For the purpose of this survey, paints at the Site may contain lead in base layers. As such, sampling of LCPs was performed, especially if the paint is observed in poor condition or peeling. A sampling allowance for three paint samples was included in the scope of work.

## Mercury

Elemental mercury and mercury vapour may be present in thermostats, switch gears, barometers, metal halide light bulbs, and fluorescent light tubes within a building. If elemental mercury from a thermostat is spilled, the beads and droplets emit colorless and odourless mercury vapours. These vapours may present a health risk to building occupants. Trace amounts of mercury vapour may also be present within metal halide light bulbs and fluorescent light tubes. These light bulbs and tubes may pose an occupational hazard to unprotected workers if broken.

The survey included a visual assessment for the presence of mercury-containing thermostats and fluorescent light tubes only. No sampling of any equipment or lighting was completed as part of the survey.

## Silica

Silica is a naturally occurring mineral and may be found in common aggregates in concrete, mortar and brick. The health risk from silica is related to the inhalation of free respirable silica particulate. Silica is likely present in the concrete and mortar used to construct the Site's foundation and in hard plaster finishes.

No sampling for the presence of silica in construction materials was performed as part of this survey as silica is presumed to be present in building materials constructed from raw aggregates, such as concrete blocks.

Silica containing building materials was not quantified.

## Other Designated Substances

The remaining Designated Substances, as defined by the Act, include acrylonitrile, arsenic, benzene, coke oven emissions, ethylene oxide, isocyanates, and vinyl chloride. These Designated Substances are regulated under O. Reg. 490/09. This regulation sets out occupational exposure limits and prescriptive requirements surrounding engineering controls, work practices, hygiene practices, and facilities for workers who may become exposed to these substances.

None of these Designated Substances were expected to be present on Site; however, their presence was documented if they were observed.

APPENDIX C

Site Photos



Photo 1: Southeast exterior of the control house, looking at the structure from the roadway.



Photo 2: Exterior window caulking, along the northwest side of the control house, presumed to be asbestos-containing. Approximately 20 linear feet of this material was observed to be in fair condition.



Photo 3: Roofing materials present under metal sheeting and as caulking presumed to be asbestos-containing.



Photo 4: Exterior wooden window frame with white paint determined to contain trace amounts of lead (140 ppm).



Photo 5: Fluorescent light tubes containing trace amounts of mercury vapour.

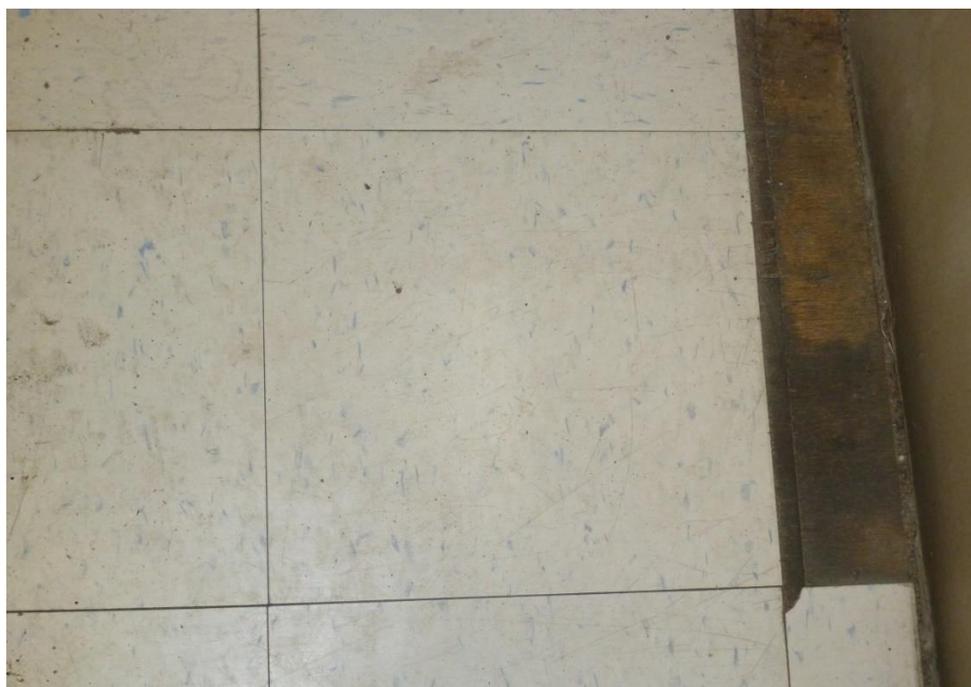


Photo 6: 12"x12" vinyl floor tile and associated brown mastic located in the bathroom and control room, determined to be non-asbestos.



Photo 7: Drywall joint compound located in the control room and kitchen, determined to be non-asbestos.



Photo 8: 2' x 4' acoustic ceiling tile located in the control room, bathroom and storage room determined to be non-asbestos.



Photo 9: Plaster wall material determined to be non-asbestos, as well as light blue paint determined to contain trace amount of lead (320 ppm).



Photo 10: Grey paint on hardwood flooring in the kitchen and storage room, determined to be lead-based (25,000 ppm).



Photo 11: Wire sheathing protruding from the storage room electrical box, presumed to be asbestos-containing.



Photo 12: Concrete pad at main entrance presumed to contain silica.



Photo 13: Outdoor lighting, consisting of metal halide bulbs presumed to contain trace amounts of mercury vapour.



Photo 14: Gasket associated with the wood fireplace, presumed to be asbestos-containing (not sampled to avoid compromising heat source seal).



Photo 15: Tar paper present behind vinyl siding on the exterior and behind wood paneling in the storage room, sampled and determined to be non-asbestos.



Photo 16: Stone and mortar foundation, with the mortar presumed to contain silica.

APPENDIX D

Laboratory Certificates of Analysis -  
Asbestos



# EMSL Canada Inc.

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<http://www.EMSL.com> / [torontolab@emsl.com](mailto:torontolab@emsl.com)

EMSL Canada Order 551804772  
Customer ID: 55GOLD72  
Customer PO: 1789780  
Project ID: Golder- EMSL Mast

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Golder Associates, Ltd.  
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Suite 100  
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**Phone:** (705) 524-6861  
**Fax:**  
**Collected:** 4/20/2018  
**Received:** 4/24/2018  
**Analyzed:** 5/01/2018  
**Proj:** 1789780 (Golder- EMSL Master Ordering Agreement for Laborat)

## Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

**Client Sample ID:** 1789780-ACM-01A **Lab Sample ID:** 551804772-0001  
**Sample Description:** Tar Paper - Storage Room

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	Black	45%	55%	None Detected	

**Client Sample ID:** 1789780-ACM-01B **Lab Sample ID:** 551804772-0002  
**Sample Description:** Tar Paper - Storage Room

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	Black	45%	55%	None Detected	

**Client Sample ID:** 1789780-ACM-01C **Lab Sample ID:** 551804772-0003  
**Sample Description:** Tar Paper - Storage Room

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	Black	50%	50%	None Detected	

**Client Sample ID:** 1789780-ACM-02A **Lab Sample ID:** 551804772-0004  
**Sample Description:** Drywall Joint Compound - Kitchen

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	White	0%	100%	None Detected	

**Client Sample ID:** 1789780-ACM-02B **Lab Sample ID:** 551804772-0005  
**Sample Description:** Drywall Joint Compound - Control Room

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	White	0%	100%	None Detected	

**Client Sample ID:** 1789780-ACM-02C **Lab Sample ID:** 551804772-0006  
**Sample Description:** Drywall Joint Compound - Control Room

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	White	0%	100%	None Detected	

**Client Sample ID:** 1789780-ACM-03A-Skim Coat **Lab Sample ID:** 551804772-0007  
**Sample Description:** Plaster Wall - Kitchen

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	White	0%	100%	None Detected	



# EMSL Canada Inc.

2756 Slough Street Mississauga, ON L4T 1G3  
Phone/Fax: (289) 997-4602 / (289) 997-4607  
<http://www.EMSL.com> / [torontolab@emsl.com](mailto:torontolab@emsl.com)

EMSL Canada Order 551804772  
Customer ID: 55GOLD72  
Customer PO: 1789780  
Project ID: Golder- EMSL Mast

## Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

**Client Sample ID:** 1789780-ACM-03A-Base Coat **Lab Sample ID:** 551804772-0007A  
**Sample Description:** Plaster Wall - Kitchen

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	Gray	0%	100%	None Detected	

**Client Sample ID:** 1789780-ACM-03B-Skim Coat **Lab Sample ID:** 551804772-0008  
**Sample Description:** Plaster Wall - Kitchen

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	White	0%	100%	None Detected	

**Client Sample ID:** 1789780-ACM-03B-Base Coat **Lab Sample ID:** 551804772-0008A  
**Sample Description:** Plaster Wall - Kitchen

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	Gray	0%	100%	None Detected	

**Client Sample ID:** 1789780-ACM-03C-Skim Coat **Lab Sample ID:** 551804772-0009  
**Sample Description:** Plaster Wall - Storage Room

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	White	0%	100%	None Detected	

**Client Sample ID:** 1789780-ACM-03C-Base Coat **Lab Sample ID:** 551804772-0009A  
**Sample Description:** Plaster Wall - Storage Room

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	Gray	0%	100%	<1% Chrysotile	
400 PLM Pt Ct	5/01/2018	Gray	0%	99.75%	0.25% Chrysotile	

**Client Sample ID:** 1789780-ACM-04A **Lab Sample ID:** 551804772-0010  
**Sample Description:** Vinyl Floor Tile - White With Blue Marks And Associated Brown Mastic - Bathroom

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	White	0%	100%	None Detected	

**Client Sample ID:** 1789780-ACM-04B **Lab Sample ID:** 551804772-0011  
**Sample Description:** Vinyl Floor Tile - White With Blue Marks And Associated Brown Mastic - Bathroom

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	White	0%	100%	None Detected	

**Client Sample ID:** 1789780-ACM-04C **Lab Sample ID:** 551804772-0012  
**Sample Description:** Vinyl Floor Tile - White With Blue Marks And Associated Brown Mastic - Control Room

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	White	0%	100%	None Detected	



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EMSL Canada Order 551804772  
Customer ID: 55GOLD72  
Customer PO: 1789780  
Project ID: Golder- EMSL Mast

## Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

**Client Sample ID:** 1789780-ACM-05A **Lab Sample ID:** 551804772-0013  
**Sample Description:** Tar Heat Shield - Washroom

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	Black	20%	80%	None Detected	

**Client Sample ID:** 1789780-ACM-05B **Lab Sample ID:** 551804772-0014  
**Sample Description:** Tar Heat Shield - Washroom

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	Black	20%	80%	None Detected	

**Client Sample ID:** 1789780-ACM-05C **Lab Sample ID:** 551804772-0015  
**Sample Description:** Tar Heat Shield - Washroom

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	Black	23%	77%	None Detected	

**Client Sample ID:** 1789780-ACM-06A **Lab Sample ID:** 551804772-0016  
**Sample Description:** Acoustic Ceiling Tile 2'x4' - Pinholes And Random Fissures - Storage Room

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	Gray	80%	20%	None Detected	

**Client Sample ID:** 1789780-ACM-06B **Lab Sample ID:** 551804772-0017  
**Sample Description:** Acoustic Ceiling Tile 2'x4' - Pinholes And Random Fissures - Control Room

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	Gray	80%	20%	None Detected	

**Client Sample ID:** 1789780-ACM-06C **Lab Sample ID:** 551804772-0018  
**Sample Description:** Acoustic Ceiling Tile 2'x4' - Pinholes And Random Fissures - Bathroom

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/01/2018	Gray	80%	20%	None Detected	



**EMSL Canada Inc.**

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EMSL Canada Order 551804772  
Customer ID: 55GOLD72  
Customer PO: 1789780  
Project ID: Golder- EMSL Mast

**Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via  
EPA600/R-93/116 Method**

---

**Analyst(s):**

Ioana Taina PLM (7)  
400 PLM Pt Ct (1)  
Michelle Lung PLM (14)

**Reviewed and approved by:**

Matthew Davis or other approved signatory  
or Other Approved Signatory

None Detected = <0.1%. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP of any agency of the U.S. Government.

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

Initial report from: 05/01/2018 13:36:38



EMSL ANALYTICAL, INC.  
LABORATORY • PRODUCTS • TRAINING

# Chain of Custody

## EMSL Order Number (Lab Use Only):

551804772

EMSL CANADA, INC.  
2756 SLOUGH STREET  
MISSISSAUGA, ON L4T 1G3  
PHONE: (289) 997-4602  
FAX: (289) 997-4609

<b>Company:</b> Golder Associates Ltd.		<b>EMSL-Bill to:</b> <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different <small>If Bill to is Different note Instructions in Comments**</small>	
<b>Street:</b> 33 MacKenzie Street		<b>Third Party Billing requires written authorization from third party</b>	
<b>City:</b> Sudbury	<b>State/Province:</b> Ontario	<b>Zip/Postal Code:</b> P3C 4Y1	<b>Country:</b> Canada
<b>Report To (Name):</b> Steven Gore		<b>Fax #:</b>	
<b>Telephone #:</b> 705-524-6861 x 2599		<b>Email Address:</b> Steven_Gore@golder.com, Bryan_Wilson@golder.com	
<b>Project Name/Number:</b> 1789780			

<b>Please Provide Results:</b> <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email		<b>Purchase Order:</b>	<b>U.S. State Samples Taken:</b>
<b>Turnaround Time (TAT) Options* - Please Check</b>			
<input type="checkbox"/> 3 Hour	<input type="checkbox"/> 6 Hour	<input type="checkbox"/> 24 Hour	<input type="checkbox"/> 48 Hour
<input type="checkbox"/> 3 Days	<input type="checkbox"/> 4 Days	<input checked="" type="checkbox"/> 5 Days	<input type="checkbox"/> 10 Days
<small>*For RUSH TAT's Please Call Ahead to Confirm Lab Hours and Availability. Not all TAT options are valid for every test. Materials Science and IAQ TATs are in Business Days rather than Hours (i.e. 24 Hour = End of Next Business Day)</small>			

Asbestos		
<b>PCM - Air</b> <input type="checkbox"/> NIOSH 7400 w/ 8hr. TWA <b>TEM - Air</b> <input type="checkbox"/> 4-4.5hr TAT (AHERA ONLY) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312 <b>TEM - Water</b> Fibers ≥10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	<b>PLM - Bulk</b> <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 <input type="checkbox"/> PLM EPA NOB (<1%) <input type="checkbox"/> NYS 198.1 (friable-NY) <input type="checkbox"/> NYS 198.6 (non-friable-NY) Point Count <input checked="" type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/ Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <b>TEM - Dust</b> <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe-ASTM D6480	<b>TEM - Bulk</b> <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <b>Soil/Rock/Vermiculite</b> <input type="checkbox"/> PLM CARB 435 - A (0.25% sensitivity) <input type="checkbox"/> PLM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> EPA Reg. 1 Screening Protocol (Qualitative) <b>Other:</b>

Lead (Pb)	Materials Science
<b>Flame Atomic Absorption</b> <input type="checkbox"/> Chips SW846-7000B or AOAC 974.02 <input type="checkbox"/> Soil SW846-7000B/7420 <input type="checkbox"/> Air NIOSH 7082 <input type="checkbox"/> Wastewater SM3111B or SW846-7000B/7420 <input type="checkbox"/> ASTM Wipe SW846-7000B/7420 <input type="checkbox"/> non ASTM Wipe SW846-7000B/7420 <input type="checkbox"/> TCLP SW846-1311/7420/SM 3111B <b>Graphite Furnace Atomic Absorption</b> <input type="checkbox"/> Soil SW846-7421 <input type="checkbox"/> Wastewater EPA 200.9 <input type="checkbox"/> Air NIOSH 7105 <input type="checkbox"/> Drinking Water EPA 200.9 <b>Other:</b> <input type="checkbox"/>	<input type="checkbox"/> Common Particle ID (large particles) <input type="checkbox"/> Full Particle ID (environmental dust) <input type="checkbox"/> Basic Material ID (solids) <input type="checkbox"/> Advanced Material ID <input type="checkbox"/> Physical Testing (Tensile, Compression) <input type="checkbox"/> Combustion-by-products (soot, char, etc.) <input type="checkbox"/> X-Ray Fluorescence (elem. analysis) <input type="checkbox"/> X-Ray Diffraction (Crystalline Part.) <input type="checkbox"/> MMVF's (Fibrous glass, RCF's) <input type="checkbox"/> Particle Size (sieve/microscopy/laser) <input type="checkbox"/> Combustible Dust <input type="checkbox"/> Petrographic Examination <b>Other:</b> <input type="checkbox"/>

Microbiology		IAQ
<b>Wipe and Bulk Samples</b> <input type="checkbox"/> Mold & Fungi - Direct Examination <input type="checkbox"/> Mold & Fungi Culture (Genus Only) <input type="checkbox"/> Mold & Fungi Culture (Genus & Species) <input type="checkbox"/> Bacterial Count & ID (Up to Three Types) <input type="checkbox"/> Bacterial Count & ID (Up to Five Types) <input type="checkbox"/> MRSA <input type="checkbox"/> <i>Pseudomonas aeruginosa</i> <b>Water Samples</b> <input type="checkbox"/> Total Coliform & E.coli (P/A) <input type="checkbox"/> Fecal Coliform (SM 9222D) <input type="checkbox"/> Sewage Screen <input type="checkbox"/> Heterotrophic Plate Count (SM 9215)	<b>Air Samples</b> <input type="checkbox"/> Mold & Fungi (Spore Trap) <input type="checkbox"/> Mold & Fungi Culture (Genus Only) <input type="checkbox"/> Mold & Fungi (Genus & Species) <input type="checkbox"/> Bacterial Culture & ID (Up to Three Types) <input type="checkbox"/> Bacterial Culture & ID (Up to Five Types) <input type="checkbox"/> Endotoxin Testing <b>Real Time Q-PCR</b> (See Analytical Guide for Code) Code: <b>Legionella</b> <input type="checkbox"/> Level 1 <input type="checkbox"/> Level 2 <input type="checkbox"/> Level 3 <input type="checkbox"/> Level 4 <b>Other:</b> <input type="checkbox"/>	Nuisance Dust NIOSH <input type="checkbox"/> 0500 <input type="checkbox"/> 0600 Airborne Dust <input type="checkbox"/> PM10 <input type="checkbox"/> TSP Silica Analysis: <input type="checkbox"/> All Species Silica Analysis - Single Species <input type="checkbox"/> Alpha Quartz <input type="checkbox"/> Cristobalite <input type="checkbox"/> Tridymite <input type="checkbox"/> HVAC Efficiency <input type="checkbox"/> Carbon Black <input type="checkbox"/> Airborne Oil Mist Radon Testing: Call for Kit and COC <b>Other:</b> <input type="checkbox"/>

<b>**Comments/Special Instructions:</b>		
<b>Client Sample #'s</b>	1789780-ACM-01A-06C	<b>Total # of Samples:</b> 18
<b>Relinquished (Client):</b> Steven Gore	<b>Date:</b> April 23, 2018	<b>Time:</b>
<b>Received (Lab):</b>	<b>Date:</b>	<b>Time:</b>

Analysis Completed in Accordance with EMSL's Terms and Conditions located in the Analytical Price Guide



EMSL ANALYTICAL, INC.  
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## Chain of Custody

### EMSL Order Number (Lab Use Only):

9FF408122

EMSL CANADA, INC.  
2756 SLOUGH STREET  
MISSISSAUGA, ON L4T 1G3  
PHONE: (289) 997-4602  
FAX: (289) 997-4609

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
1789780-ACM-01A	Tar Paper – Storage Room		April 20, 2018
1789780-ACM-01B	Tar Paper – Storage Room		April 20, 2018
1789780-ACM-01C	Tar Paper – Storage Room		April 20, 2018
1789780-DJC-02A	Drywall Joint Compound - Kitchen		April 20, 2018
1789780-DJC-02B	Drywall Joint Compound - Control Room		April 20, 2018
1789780-DJC-02C	Drywall Joint Compound - Control Room		April 20, 2018
1789780-ACM-03A	Plaster wall - Kitchen		April 20, 2018
1789780-ACM-03B	Plaster wall - Kitchen		April 20, 2018
1789780-ACM-03C	Plaster wall – Storage Room		April 20, 2018
1789780-ACM-04A	Vinyl Floor Tile – White with Blue Marks and associated brown mastic - Bathroom		April 20, 2018
1789780-ACM-04B	Vinyl Floor Tile – White with Blue Marks and associated brown mastic - Bathroom		April 20, 2018
1789780-ACM-04C	Vinyl Floor Tile – White with Blue Marks and associated brown mastic – Control Room		April 20, 2018
1789780-ACM-05A	Tar Heat Shield - Washroom		April 20, 2018
1789780-ACM-05B	Tar Heat Shield - Washroom		April 20, 2018
1789780-ACM-05C	Tar Heat Shield - Washroom		April 20, 2018
1789780-ACM-06A	Acoustic Ceiling Tile 2'x4' – Pinholes and Random Fissures – Storage Room		April 20, 2018
1789780-ACM-06B	Acoustic Ceiling Tile 2'x4' – Pinholes and Random Fissures – Control Room		April 20, 2018
1789780-ACM-06C	Acoustic Ceiling Tile 2'x4' – Pinholes and Random Fissures - Bathroom		April 20, 2018

**\*Comments/Special Instructions: Stop Positive. LABORATORY SERVICES TO BE IN ACCORDANCE WITH GOLDER AND EMSL "Master Ordering Agreement for Laboratory Services" dated January 20, 2010 and 2017 Golder Price Guide.**

**Analysis Completed in Accordance with EMSL's Terms and Conditions located in the Analytical Price Guide**

APPENDIX E

Laboratory Certificates of Analysis -  
Lead



**EMSL Canada Inc.**

2756 Slough Street, Mississauga, ON L4T 1G3

Phone/Fax: (289) 997-4602 / (289) 997-4607

<http://www.EMSL.com>

[torontolab@emsl.com](mailto:torontolab@emsl.com)

EMSL Canada Or	551804694
CustomerID:	55GOLD72
CustomerPO:	1789780
ProjectID:	Golder- EMSL Mast

Attn: <b>Steven Gore</b> <b>Golder Associates, Ltd.</b> <b>33 Mackenzie Street</b> <b>Suite 100</b> <b>Sudbury, ON P3C 4Y1</b>	Phone: (705) 524-6861 Fax: Received: 04/24/18 9:00 AM Collected: 4/20/2018
Project: <b>1789780</b>	

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

<i>Client Sample Description</i>	<i>Lab ID</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>Lead Concentration</i>
1789780-Pb-01	551804694-0001	4/20/2018	4/27/2018	0.2425 g	140 ppm
Site: White Paint On Wooden Window Frame - Exterior					
1789780-Pb-02	551804694-0002	4/20/2018	4/27/2018	0.2342 g	25000 ppm
Site: Grey Paint On Hardwood Flooring - Kitchen					
1789780-Pb-03	551804694-0003	4/20/2018	4/27/2018	0.2292 g	320 ppm
Site: Light Blue Paint On Drywall/Plaster - Kitchen					

Rowena Fanto, Lead Supervisor  
or other approved signatory

\*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON A2LA Accredited Environmental Testing Cert #2845.08

Initial report from 05/01/2018 08:31:57



# Lead (Pb) Chain of Custody

## EMSL Order ID (Lab Use Only):

551804694

EMSL CANADA, INC.  
2756 SLOUGH STREET  
MISSISSAUGA, ON L4T 1G3  
PHONE: (289) 997-4602  
FAX: (289) 997-4609

Company : Golder Associates Ltd.		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different If Bill to is Different note instructions in Comments**		
Street: 33 MacKenzie Street		Third Party Billing requires written authorization from third party		
City: Sudbury	State/Province: Ontario	Zip/Postal Code: P3C 4Y1	Country: Canada	
Report To (Name): Steven Gore		Telephone #: 705-524-6861		
Email Address: Steven_Gore@golder.com		Fax #:	Purchase Order:	
Project Name/Number: 1789780		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email		
U.S. State Samples Taken: Canada		CT Samples: <input checked="" type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt		
<b>Turnaround Time (TAT) Options* - Please Check</b>				
<input type="checkbox"/> 3 Hour	<input type="checkbox"/> 6 Hour	<input type="checkbox"/> 24 Hour	<input type="checkbox"/> 48 Hour	<input type="checkbox"/> 72 Hour
<input type="checkbox"/> 96 Hour	<input checked="" type="checkbox"/> 1 Week	<input type="checkbox"/> 2 Week		
<small>*Analysis completed in accordance with EMSL's Terms and Conditions located in the Price Guide</small>				
Matrix	Method	Instrument	Reporting Limit	Check
Chips <input type="checkbox"/> % by wt. <input type="checkbox"/> mg/cm <sup>2</sup> <input checked="" type="checkbox"/> ppm	SW846-7000B	Flame Atomic Absorption	0.01%	<input checked="" type="checkbox"/>
Air	NIOSH 7082	Flame Atomic Absorption	4 µg/filter	<input type="checkbox"/>
	NIOSH 7105	Graphite Furnace AA	0.03 µg/filter	<input type="checkbox"/>
	NIOSH 7300 modified	ICP-AES/ICP-MS	0.5 µg/filter	<input type="checkbox"/>
Wipe* ASTM <input type="checkbox"/> non ASTM <input type="checkbox"/> <small>*if no box is checked, non-ASTM Wipe is assumed</small>	SW846-7000B	Flame Atomic Absorption	10 µg/wipe	<input type="checkbox"/>
	SW846-6010B or C	ICP-AES	1.0 µg/wipe	<input type="checkbox"/>
	SW846-7000B/7010	Graphite Furnace AA	0.075 µg/wipe	<input type="checkbox"/>
TCLP	SW846-1311/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW846-1131/SW846-6010B or C	ICP-AES	0.1 mg/L (ppm)	<input type="checkbox"/>
Soil	SW846-7000B	Flame Atomic Absorption	40 mg/kg (ppm)	<input type="checkbox"/>
	SW846-7010	Graphite Furnace AA	0.3 mg/kg (ppm)	<input type="checkbox"/>
	SW846-6010B or C	ICP-AES	2 mg/kg (ppm)	<input type="checkbox"/>
Wastewater Unpreserved <input type="checkbox"/> Preserved with HNO <sub>3</sub> pH < 2 <input type="checkbox"/>	SM3111B/SW846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.7	ICP-AES	0.020 mg/L (ppm)	<input type="checkbox"/>
Drinking Water Unpreserved <input type="checkbox"/> Preserved with HNO <sub>3</sub> pH < 2 <input type="checkbox"/>	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	<input type="checkbox"/>
TSP/SPM Filter	40 CFR Part 50	ICP-AES	12 µg/filter	<input type="checkbox"/>
	40 CFR Part 50	Graphite Furnace AA	3.6 µg/filter	<input type="checkbox"/>
Other:				<input type="checkbox"/>
Name of Sampler: Steven Gore		Signature of Sampler:		
Sample #	Location	Volume/Area	Date/Time Sampled	
1789780-Pb-01	White Paint on Wooden Window Frame - Exterior	Bulk - Paint Chips	April 20, 2018	
1789780-Pb-02	Grey Paint on Hardwood Flooring - Kitchen	Bulk - Paint Chips	April 20, 2018	
1789780-Pb-03	Light Blue Paint on Drywall/Plaster - Kitchen	Bulk - Paint Chips	April 20, 2018	
Client Sample #'s 1789780-Pb-01 - 03		Total # of Samples:	3	
Relinquished (Client):	Steven Gore	Date:	April 23, 2018	Time:
Received (Lab):		Date:		Time:





[golder.com](http://golder.com)