

Prepared By:



Designated Substance Study

370 William Street - Warton, ON

GMBP File: 220089-1

April 29, 2020

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370 WILLIAM STREET - WIARTON, ON

DESIGNATED SUBSTANCE STUDY

APRIL 29, 2020

GMBP FILE: 220089-1

1. INTRODUCTION AND BACKGROUND

GM BluePlan Engineering Limited (GMBP) was retained by the Town of South Bruce Peninsula to undertake a Designated Substance Survey (DSS) of the former Foodland grocery store building located at 370 William Street in Wiarton, within the County of Bruce. The subject property encompasses an approximate area of 0.7 hectares (1.7 acres).

The onsite commercial building is currently unoccupied and it is our understanding that the structure is proposed to be demolished for future re-development of the Site. As a result, the purpose of this DSS is to identify designated substances as defined under the Occupational Health and Safety Act (OHSA) that may be present in the construction materials within the building to support the planned demolition.

2. REGULATORY SETTING

Under the OHSA, 11 substances are prescribed as “designated substances” which include the following:

- Acrylonitrile
- Arsenic
- Asbestos
- Benzene
- Coke oven emissions
- Ethylene oxides
- Isocyanates
- Lead
- Mercury
- Silica (free crystalline form)
- Vinyl chloride

These substances are regulated under two Ontario Regulations (O. Reg.) made under the OHSA, which include the following:

1. O. Reg. 490/09: Designated Substances
2. O. Reg. 278/05: Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations

O. Reg. 490/09 came into effect, on July 1, 2010, at which time, the previous individual designated substance regulations, with the exception of O. Reg. 278/05, were revoked and consolidated under O. Reg. 490/09. Since O. Reg. 490/09 does not specifically apply to construction projects, it is our understanding that asbestos, as regulated under O. Reg. 278/05, is currently the only designated substance regulated under the construction regulation. However, employers have the responsibility to take every precaution reasonable in the circumstances for the protection of their workers. Therefore, where a worker is likely to be exposed to a designated substance other than asbestos on a construction project, we recommend that the exposure limits and control measures as outlined in O. Reg. 490/09 be applied. Furthermore, Section 30.(1) of the OSHA specifies that *"Before beginning a project, the owner shall determine whether any designated substances are present at the project site and shall prepare a list of all designated substances that are present at the site"*. Therefore, this DSS is completed to satisfy the requirements of the OSHA and associated Regulations.

3. SCOPE AND METHODOLOGY

Based on the purpose of the DSS and the planned demolition, this DSS focuses on the potential presence of asbestos in construction materials. As part of the DSS, a site visit by Mr. Corbin Sweet and Mrs. Kate Charpontier of GMBP was completed on April 15, 2020. During the site visit, the accessible building materials were inspected and an investigative sampling program was completed. A visual assessment for the potential presence of other designated substances such as lead, mercury and silica was also completed during the site visit. Photos from the DSS site visit are available in Appendix "A".

Samples of accessible building materials considered to have the potential to contain asbestos were collected for analysis. Sampling of construction materials suspected to contain asbestos was conducted to support the sampling requirements established under O. Reg. 278/05.

The samples were submitted to Paracel Laboratories Ltd. (Paracel) in Mississauga, Ontario under typical chain of custody protocols. A copy of the Laboratory Certificate of Analysis is presented in Appendix "B".

4. SITE DESCRIPTION

The subject property currently features a large commercial structure previously used as a Foodland grocery store, which has an approximate footprint of 2,500 m². The majority of the exterior portion of the property consists of a paved asphalt surface.

4.1 Building Exterior

The exterior of the onsite building consists of brick with a concrete upper façade. The majority of the roof was observed to be flat and consists of ribbed metal sheeting with fibreglass insulation underlying the sheets. The southern entranceway and the southeasternmost portion of the building were observed to consist of a rolled sheet membrane.

The potential presence of vermiculite insulation was investigated by completing block wall penetrations at select locations in the blocks of the exterior walls. Based on onsite investigations, no vermiculite was discovered in the building at the specific locations investigated.

4.2 Building Interior

The interior of the building consists of:

- A large, open area that was previously used as the primary retail floor,
- A deli area, washrooms and small single room in the upper portion of the southeastern portion of the building,
- Storage areas, butcher's room, walk-in coolers, and a loading dock in the lower portion of the northwest part of the building, and
- Offices, a kitchen, and additional rooms and restrooms in the upper portion of the northwest part of the building.

Former Retail Floor

The retail floor was observed to consist of painted wallboard, a drop ceiling with acoustic ceiling tiles, and vinyl floor tiles overlying the concrete floor slab. Fibreglass batt insulation was identified between the wallboard and the concrete block walls.

Southeast Portion of the Building

The building materials within the washrooms and deli area in the southeast portion of the building were generally consistent with the main retail floor, with the exception of ceramic floor tiles overlying the concrete floor slab and ceramic tile finishing overlying the wallboard.

Northwest Portion of the Building

The walls in the northwest portion of the building were observed to consist primarily of painted drywall with the exception of the butcher's room and coolers, which consist of insulated plastic sheeting. The floors in the storage areas, coolers, butcher's room, and loading dock consist of an unfinished concrete floor slab.

The offices, bathrooms, hallways, kitchen, and other rooms situated in the upper northwestern portion of the building consist of painted drywall walls, with a combination of various types of rolled sheet flooring and vinyl floor tiles. Additionally, the ceilings consist of either drop acoustic tile or are open to the insulation attached to the roof construction materials.

5. FINDINGS

5.1 Asbestos Containing Material

In the early and mid-1900s, asbestos was commonly used in building materials until the late 1970s/early 1980s when the use of asbestos containing material (ACM) was generally discontinued. In buildings constructed prior to that time, ACM is commonly found in such materials as floor tiles, certain roofing materials, drywall compound, cement siding or pipes, cementitious wall/ceiling board, sprayed-on insulation or fire proofing material, and insulation on boilers and piping for heating systems. According to O. Reg. 278/05, ACM is considered any material containing 0.5% or greater asbestos by dry weight.

For the purpose of hazard assessment, ACM is divided into two separate categories based on its physical properties, which are referred to as “friable” and “non-friable”. O.Reg. 278/05 defines friable material as a “material that, when dry, can be crumbled, pulverized or powdered by hand pressure, or is crumbled, pulverized or powdered”. The physical properties of a friable material increase the risk of exposure to asbestos fibres through an increased potential for airborne exposure (i.e., inhalation) relative to non-friable material.

ACM in the friable form typically include such construction materials as sprayed-on fire proofing materials or thermal insulation on pipes. ACM in non-friable form typically include materials that contain asbestos fibres within a competent matrix such as vinyl-asbestos floor tiles, asbestos-cement products, textured surface coatings, mastics, or roofing felt.

During the site visit, building materials considered to have the potential to contain asbestos, were sampled and submitted to Paracel Laboratories Ltd. (Paracel) in Mississauga, ON for analysis. These materials included the exterior membranous roofing material, ceiling tile, rolled sheet flooring, vinyl floor tiles, wallboard, drywall joint compound, and stucco finishes. Select photographs are provided in Appendix “A”. A summary of the samples, the types of materials, the associated sample locations, and the analytical results are provided in the following Table.

Table 1 – Summary of Asbestos Analyses

Sample Set	Material	Colour	Location	Composition	ACM? (Yes/No)
SA-1 (A to C)	Drywall	Grey	Retail Area Walls	93% - Non-Fibers 5% - Cellulose 2% - MMVF	No
	Joint Compound	White		100% - Non-Fibers	No
SA-2 (A to C)	Vinyl Floor Tiles	Beige	Retail Area Floors	100% - Non-Fibers	No
SA-3 (A to C)	Acoustic Ceiling Tiles	Grey	Retail Area Drop Ceiling	40% - Cellulose 30% - MMVF 30% - Non-Fibers	No
SA-4 (A to C)	Drywall	Grey	Southeastern Upper Floor Room Walls	93% - Non-Fibers 5% - Cellulose 2% - MMVF	No
	Joint Compound	White		100% - Non-Fibers	No
SA-5 (A to C)	Drywall	Grey	Upper Room with Roof Access Hatch Above Coolers Northeast of the Loading Docks	90% - Non-Fibers 10% - Cellulose	No
	Joint Compound	White		100% - Non-Fibers	No
SA-6 (A to C)	Vinyl Floor Tile	Beige	Various Locations in Upper Floor of Northwestern Portion of Building	100% - Non-Fibers	No
SA-7 (A to C)	Ceiling Tile Coating / Face	White	2 nd Floor Restroom Ceilings	95% - Non-Fibers 5% - MMVF	No
SA-8 (A to C)	Drywall	Light Grey	Majority of Walls in the Upper Floor of Northwestern Portion of Building	90% - Non-Fibers 10% - Cellulose	No
	Joint Compound	White		100% - Non-Fibers	No

Sample Set	Material	Colour	Location	Composition	ACM? (Yes/No)
SA-9 (A to C)	Vinyl Floor Tile	Beige	Floor of Small Office with Skylight and a Window Overlooking the Storage Area in the NW Portion of Building	99.5% - Non-Fibers 0.5% - Chrysotile (i.e. Asbestos)	YES
SA-10 (A to C)	Rolled Sheet Flooring	Mottled Beige and Light Brown	Floor of Second Office in the Upper Northwestern Portion of Building	85% - Non-Fibers 15% - Cellulose	No
SA-11 (A to C)	Acoustic Ceiling Tile	White and Brown	Ceiling of Second Office in the Upper Northwestern Portion of Building	95% - Cellulose 5% - Non-Fibers	No
SA-12 (A to C)	Modified Bitumen Roof Membrane	Black	Exterior Roof	95.7% - Non-Fibers 4.3% - MMVF	No

Note: MMVF = Man-Made Vitreous Fibres

Based on the reported analytical results, the beige coloured vinyl floor tiles (SA-9) sampled in the upper floor office that consists of a skylight, and a window overlooking the storage area (i.e., in the Northwest portion of the building) contains asbestos fibres (i.e., Chrysotile) greater than 0.5% by dry weight. Therefore, based on the regulatory specifications, the identified floor tile is considered to be ACM. The remaining sampled materials are not reported to be ACM.

5.2 Silica (Free Crystalline)

Silica is present in a variety of construction materials such as concrete, mortar, brick, sand, and various mineral deposits and occurs in crystalline and amorphous (non-crystalline) forms. Silica in the respirable crystalline form is the primary concern with regard to human health and is prescribed as a designated substance under the Occupational Health and Safety Act. As regulated under O. Reg. 490/09 for designated substances, the time-weighted averaged limit (TWA) for crystalline silica is 0.10 mg/m³ in the quartz/tripoli form and 0.05 mg/m³ in the cristobalite form.

Exposure to airborne crystalline silica can result from a variety of activities including demolition of masonry structures, abrasive blasting, and moving (e.g., loading, sweeping, blowing, etc.) of dust containing silica. With regard to the subject building, materials with the potential to contain crystalline silica include the brick and concrete materials in the walls and the concrete floor slab.

5.3 Lead

Materials with the potential to contain lead in buildings typically include paint, solder, pipe joint sealer, and sheet metal. Lead in the metallic form (e.g., solder, pipe joint sealer, and sheet metal) is considered to be relatively non-hazardous as the potential for inhalation or ingestion is low. Lead in paint coatings has the potential to pose a health hazard where the disturbance of paint coated surfaces may occur and where airborne dust/particulate is generated (i.e., sandblasting or abrasive removal).

Lead-based paints were commonly used as surface coatings in buildings constructed prior to 1960. After 1960, lead-based paints became less common and were generally limited to exterior applications. Under the Surface Coating Materials Regulation (SOR/2005-109), as amended, of the Hazardous Products Act, paint sold or imported into Canada since 2010 must not contain more than 90 µg/g (ppm) lead (by dried weight) except when used for certain industrial applications as defined in the regulation. Surface coatings with a lead concentration of greater than 90 µg/g (dry weight) must be labelled as containing lead. Prior to 2010, the regulation allowed for a lead concentration of 600 µg/g. Therefore, paint coatings applied prior to 2010 are assumed to contain lead in a concentration above that stipulated in the current regulation.

Currently, there are no Canadian or Ontario regulatory criteria regarding the concentration of lead in materials for the purposes of workers who may come in contact with the lead-containing materials or abatement requirements if lead-based paint is present. For due diligence purposes, in the absence of regulatory criteria of lead on construction projects, paint containing more than 90 µg/g lead is considered to require some form of precautionary handling. Ultimately, the Time-Weighted Average Limit (TWA) for lead of 0.05 mg/m³, as established under O. Reg. 490/09 should be applied for the health of a worker.

Based on the age of the building and interior finishes, it is expected that the paint coatings may contain lead at a concentration above 90 µg/g.

5.4 Mercury

Mercury is commonly used in consumer products to conduct electricity, emit UV light or to measure temperature and pressure and is found in such products as electrical switches, fluorescent lamps, batteries, thermometers/thermostats and monometers. Generally these products are safe to use for their intended purpose. However, there is the potential for exposure if the materials are mishandled and the mercury is released to the environment. At room temperature, mercury can exist in a liquid and gaseous form or be contained within a powder and can be inhaled, ingested or absorbed through the skin.

No mercury switches, or other items containing mercury were observed or identified at the time of the site inspection.

Should any mercury containing items be encountered during demolition, any handling of these materials should be completed with care and, at the end of their service life, be disposed of in accordance with Reg. 347/90.

5.5 Polychlorinated Biphenyls (PCBs)

Between 1920 and 1978, PCBs were used extensively as a dielectric fluid in electrical transformers, motor capacitors and fluorescent light ballasts. Current legislation prohibits the manufacture and sale of new equipment containing PCBs (1980).

No equipment or items with the potential to contain PCBs were identified on the subject Site at the time of the Site visit with the exception of some of the light ballasts in the building. An inspection of the light ballasts in the building was not conducted due to the inaccessibility of the ballasts at the time of the Site visit. Although the potential for the presence of PCBs is considered to be low, it is recommended that the light ballasts be inspected during demolition activities to determine the presence of PCBs in these items to support appropriate handling and disposal.

5.6 Other Designated and/or Hazardous Substances

During the DSS site visit, none of the other Designated Substances defined in the Ontario Occupational Health and Safety Act associated with the building were identified in a quantity or form that would require a worker exposure control program to be implemented under the Designated Substances regulation.

6. DISCUSSIONS AND RECOMMENDATIONS

6.1 Asbestos Containing Material

As discussed, the vinyl floor tiles observed in the small office (with the skylight and a window overlooking the storage area) in the upper floor of the northwest portion of the building (i.e., SA-9) contains Chrysotile asbestos at a concentration of 0.5% by dry weight, and therefore, is considered to be ACM.

Any removal or handling of these floor tiles or other ACM shall be completed as per O. Reg. 278/05 and as outlined in the Ministry of Labour's guide entitled "A Guide to the Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations" (May 2011). Any asbestos waste removed from the site should be handled, transported, and disposed of in accordance with Section 17 of Reg. 347/90.

The remaining specific materials that were sampled are not reported to contain asbestos materials above 0.5% by dry weight, and therefore, are not considered to be ACM.

If suspect ACM, not reported to have been sampled and analyzed for asbestos content are encountered in concealed areas (i.e., areas which were not accessible during this assessment), these materials shall be managed as ACM unless deemed otherwise through sampling and analysis for asbestos content as per O.Reg. 278/05.

6.2 Silica (Free Crystalline)

The onsite structure consists of a concrete foundation, concrete floor slab, with a combination of brick and concrete walls, which have the potential to contain silica. Should materials potentially containing silica be disturbed, the potential for silica exposure should be evaluated as part of the health and safety plan to ensure the TWA limit for crystalline silica of 0.10 mg/m³ in the quartz/tripoli form and 0.05 mg/m³ in the cristobalite form is not exceeded as per O. Reg. 490/09. The potential for silica exposure should be evaluated based on the project-specific activities.

It is noted that the potential for crystalline silica exposure above the TWA is difficult to predict and is dependent on a number of variables such as the environment the work is being conducted in, ventilation, level of disturbance, concentration of silica in materials, matrix of material, type and duration of activity being conducted, and on the implementation of typical dust control measures. However, where materials suspected to contain silica are present, the measures and procedures as outlined in the Ministry of Labour Guideline entitled "Silica on Construction Projects" (April 2011) should be applied.

6.3 Lead

Based on the relatively recent amendment (2010) of the surface coating materials regulation identifying paints with 90 µg/g as lead-containing, painted surfaces prior to 2010 are assumed to contain lead at a concentration requiring some form of precautionary handling during renovation works. As noted in Section 5.3, there are no Canadian or Ontario regulatory criteria regarding the concentration of lead in materials for the purposes of workers who may come in contact with the lead-containing materials or abatement requirements if lead-based paint is present. However, where lead-containing paint may become airborne, the measures and procedures as outlined in the Ministry of Labour Guideline entitled "Lead on Construction Projects" (April 2011) should be applied and the potential for lead exposure should be addressed as part of the health and safety plan to ensure exposure to a worker does not exceed the TWA limit of 0.05 mg/m³ as per O. Reg. 490/09. Surfaces with flaking or peeling paint should be remedied in order to prevent the formation of lead-containing particulate with the potential to become airborne.

6.4 Mercury

As discussed, no mercury containing items were identified during the Site visit. However, should any mercury containing items be encountered during demolition, any handling of these materials should be completed with care and be disposed in accordance with Reg. 347/90.

7. STATEMENT OF LIMITATIONS

The information in this report is intended for the sole use of the Town of South Bruce Peninsula. The issuance of results or information provided within this report to site contractors is the responsibility of the property/project owner.

GM BluePlan Engineering Limited accepts no liability for use of this information by third parties. Any decisions made by third parties on the basis of information provided in this report are made at the sole risk of the third parties. GM BluePlan Engineering Limited accepts no responsibility for damages incurred by any third parties as a result of any decisions or actions made as a result of this report.

This report outlines the assessment of building materials within the onsite building and identifies the nature and location, or absence, of asbestos containing materials, potential silica containing materials with regards to free crystalline silica, potential mercury containing products, and lead in paint coatings at the Site.

This DSS included the inspection and sampling of the interior and exterior finishes as described herein. The analytical results represent the composition of the materials at the sampling locations. Conditions may vary between and beyond the sampling locations.

GM BluePlan Engineering Limited cannot guarantee the accuracy or reliability of information provided by others. GM BluePlan Engineering Limited does not accept liability for unknown, unidentified, undisclosed or unforeseen building materials that may be later identified. This report is believed to provide documentation of site conditions as of April 15, 2020.

All of which is respectfully submitted.

GM BLUEPLAN ENGINEERING LIMITED

Per:

A handwritten signature in blue ink, appearing to read 'C. J. Sweet'.

C. J. Sweet, H.B.Sc., G.I.T.

Per:

A handwritten signature in blue ink, appearing to read 'A.W. Bringleon'.

A.W. Bringleon, B.E.S., C.E.T

APPENDIX A: SITE PHOTOGRAPHS

DESIGNATED SUBSTANCE STUDY
370 William Street — Warton, ON



Photo 1: Image of the front (SW) Side of the former Foodland building.



Photo 2: View of former retail floor.

**DESIGNATED SUBSTANCE STUDY
370 William Street — Warton, ON**



Photo 3: View of vinyl floor tiles in the NW Upper Kitchen (and throughout this area of the building) [i.e. S-6]



Photo 4: View of the rolled sheet flooring in the second office in the upper NW portion of the building [i.e. S-10]

DESIGNATED SUBSTANCE STUDY
370 William Street — Warton, ON



Photo 5: View of modified bitumen roof membrane on a portion of the roof [i.e. S-12].



Photo 6: View of acoustic ceiling tiles in the retail floor [i.e. S-3]

APPENDIX B:
LABORATORY CERTIFICATES OF ANALYSIS

Certificate of Analysis

GM Blue Plan Engineering Limited (Owen Sound)

1260 2nd Avenue East
Owen Sound, ON N4K 2J3
Attn: Corbin Sweet

Client PO: 220089

Project: 220089

Custody:

Report Date: 17-Apr-2020

Order Date: 16-Apr-2020

Order #: 2016198

This Certificate of Analysis contains analytical data applicable to the following samples as submitted :

Paracel ID	Client ID
2016198-01	SA1 (A)
2016198-02	SA1 (A)
2016198-03	SA1 (B)
2016198-04	SA1 (B)
2016198-05	SA1 (C)
2016198-06	SA1 (C)
2016198-07	SA2 (A)
2016198-08	SA2 (B)
2016198-09	SA2 (C)
2016198-10	SA3 (A)
2016198-11	SA3 (B)
2016198-12	SA3 (C)
2016198-13	SA4 (A)
2016198-14	SA4 (A)
2016198-15	SA4 (B)
2016198-16	SA4 (B)
2016198-17	SA4 (C)
2016198-18	SA4 (C)
2016198-19	SA5 (A)
2016198-20	SA5 (A)
2016198-21	SA5 (B)
2016198-22	SA5 (B)
2016198-23	SA5 (C)
2016198-24	SA5 (C)
2016198-25	SA6 (A)
2016198-26	SA6 (B)

Approved By:



Emma Diaz

Senior Analyst

Certificate of Analysis

Client: GM Blue Plan Engineering Limited (Owen Sound)

Client PO: 220089

Report Date: 17-Apr-2020

Order Date: 16-Apr-2020

Project Description: 220089

2016198-27	SA6 (C)
2016198-28	SA7 (A)
2016198-29	SA7 (B)
2016198-30	SA7 (C)
2016198-31	SA8 (A)
2016198-32	SA8 (A)
2016198-33	SA8 (B)
2016198-34	SA8 (B)
2016198-35	SA8 (C)
2016198-36	SA8 (C)
2016198-37	SA9 (A)
2016198-38	SA9 (B)
2016198-39	SA9 (C)
2016198-40	SA10 (A)
2016198-41	SA10 (B)
2016198-42	SA10 (C)
2016198-43	SA11 (A)
2016198-44	SA11 (B)
2016198-45	SA11 (C)
2016198-46	SA12 (A)
2016198-47	SA12 (B)
2016198-48	SA12 (C)

Certificate of Analysis

Client: **GM Blue Plan Engineering Limited (Owen Sound)**

Client PO: **220089**

Report Date: 17-Apr-2020

Order Date: 16-Apr-2020

Project Description: **220089**

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Parcel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
2016198-01	15-Apr-20	Grey	Drywall	No	Client ID: SA1 (A)	
					Cellulose	5
					MMVF	2
					Non-Fibers	93
2016198-02	15-Apr-20	White	Joint Compound	No	Client ID: SA1 (A)	
					Non-Fibers	100
2016198-03	15-Apr-20	Grey	Drywall	No	Client ID: SA1 (B)	
					Cellulose	5
					MMVF	2
					Non-Fibers	93
2016198-04	15-Apr-20	White	Joint Compound	No	Client ID: SA1 (B)	
					Non-Fibers	100
2016198-05	15-Apr-20	Grey	Drywall	No	Client ID: SA1 (C)	
					Cellulose	5
					MMVF	2
					Non-Fibers	93
2016198-06	15-Apr-20	White	Joint Compound	No	Client ID: SA1 (C)	
					Non-Fibers	100
2016198-07	15-Apr-20	Beige	Vinyl Floor Tile	No	Client ID: SA2 (A)	
					Non-Fibers	100
2016198-08	15-Apr-20	Beige	Vinyl Floor Tile	No	Client ID: SA2 (B)	
					Non-Fibers	100
2016198-09	15-Apr-20	Beige	Vinyl Floor Tile	No	Client ID: SA2 (C)	
					Non-Fibers	100

Certificate of Analysis

Client: GM Blue Plan Engineering Limited (Owen Sound)

Client PO: 220089

Report Date: 17-Apr-2020

Order Date: 16-Apr-2020

Project Description: 220089

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Parcel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
2016198-10	15-Apr-20	Grey	Acoustic Ceiling Tile	No	Client ID: SA3 (A)	
					Cellulose	40
					MMVF	30
					Non-Fibers	30
2016198-11	15-Apr-20	Grey	Acoustic Ceiling Tile	No	Client ID: SA3 (B)	
					Cellulose	40
					MMVF	30
					Non-Fibers	30
2016198-12	15-Apr-20	Grey	Acoustic Ceiling Tile	No	Client ID: SA3 (C)	
					Cellulose	40
					MMVF	30
					Non-Fibers	30
2016198-13	15-Apr-20	Grey	Drywall	No	Client ID: SA4 (A)	
					Cellulose	5
					MMVF	2
					Non-Fibers	93
2016198-14	15-Apr-20				Client ID: SA4 (A)	
					[Z-01] not analyzed	
2016198-15	15-Apr-20	Grey	Drywall	No	Client ID: SA4 (B)	
					Cellulose	5
					MMVF	2
					Non-Fibers	93
2016198-16	15-Apr-20	White	Joint Compound	No	Client ID: SA4 (B)	
					Non-Fibers	100
2016198-17	15-Apr-20	Grey	Drywall	No	Client ID: SA4 (C)	
					Cellulose	5
					MMVF	2
					Non-Fibers	93

Certificate of Analysis

Client: **GM Blue Plan Engineering Limited (Owen Sound)**

Client PO: **220089**

Report Date: 17-Apr-2020

Order Date: 16-Apr-2020

Project Description: **220089**

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Parcel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
2016198-18	15-Apr-20	White	Joint Compound	No	Client ID: SA4 (C)	
					Non-Fibers	100
2016198-19	15-Apr-20	Grey	Drywall	No	Client ID: SA5 (A)	
					Cellulose	10
					Non-Fibers	90
2016198-20	15-Apr-20	White	Joint Compound	No	Client ID: SA5 (A)	
					Non-Fibers	100
2016198-21	15-Apr-20	Grey	Drywall	No	Client ID: SA5 (B)	
					Cellulose	10
					Non-Fibers	90
2016198-22	15-Apr-20	White	Joint Compound	No	Client ID: SA5 (B)	
					Non-Fibers	100
2016198-23	15-Apr-20	Grey	Drywall	No	Client ID: SA5 (C)	
					Cellulose	10
					Non-Fibers	90
2016198-24	15-Apr-20	White	Joint Compound	No	Client ID: SA5 (C)	
					Non-Fibers	100
2016198-25	15-Apr-20	Beige	Vinyl Floor Tile	No	Client ID: SA6 (A)	
					Non-Fibers	100
2016198-26	15-Apr-20	Beige	Vinyl Floor Tile	No	Client ID: SA6 (B)	
					Non-Fibers	100
2016198-27	15-Apr-20	Beige	Vinyl Floor Tile	No	Client ID: SA6 (C)	
					Non-Fibers	100

Certificate of Analysis

Client: GM Blue Plan Engineering Limited (Owen Sound)

Client PO: 220089

Report Date: 17-Apr-2020

Order Date: 16-Apr-2020

Project Description: 220089

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Parcel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
2016198-28	15-Apr-20	White	Ceiling Tile face	No	Client ID: SA7 (A)	
					MMVF	5
					Non-Fibers	95
2016198-29	15-Apr-20	White	Ceiling Tile face	No	Client ID: SA7 (B)	
					MMVF	5
					Non-Fibers	95
2016198-30	15-Apr-20	White	Ceiling Tile face	No	Client ID: SA7 (C)	
					MMVF	5
					Non-Fibers	95
2016198-31	15-Apr-20	Grey	Drywall	No	Client ID: SA8 (A)	
					Cellulose	10
					Non-Fibers	90
2016198-32	15-Apr-20	White	Joint Compound	No	Client ID: SA8 (A)	
					Non-Fibers	100
2016198-33	15-Apr-20	Grey	Drywall	No	Client ID: SA8 (B)	
					Cellulose	10
					Non-Fibers	90
2016198-34	15-Apr-20	White	Joint Compound	No	Client ID: SA8 (B)	
					Non-Fibers	100
2016198-35	15-Apr-20	Grey	Drywall	No	Client ID: SA8 (C)	
					Cellulose	10
					Non-Fibers	90
2016198-36	15-Apr-20	White	Joint Compound	No	Client ID: SA8 (C)	
					Non-Fibers	100

Certificate of Analysis

Client: GM Blue Plan Engineering Limited (Owen Sound)

Client PO: 220089

Report Date: 17-Apr-2020

Order Date: 16-Apr-2020

Project Description: 220089

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Parcel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
2016198-37	15-Apr-20	Beige	Floor Tile	Yes	Client ID: SA9 (A)	
						[AS-PT]
					Chrysotile	0.5
					Non-Fibers	99.5
2016198-38	15-Apr-20				Client ID: SA9 (B)	
					not analyzed	
2016198-39	15-Apr-20				Client ID: SA9 (C)	
					not analyzed	
2016198-40	15-Apr-20	Beige	Rolled Sheet Flooring	No	Client ID: SA10 (A)	
					Cellulose	15
					Non-Fibers	85
2016198-41	15-Apr-20	Beige	Rolled Sheet Flooring	No	Client ID: SA10 (B)	
					Cellulose	15
					Non-Fibers	85
2016198-42	15-Apr-20	Beige	Rolled Sheet Flooring	No	Client ID: SA10 (C)	
					Cellulose	15
					Non-Fibers	85
2016198-43	15-Apr-20	Brown	Ceiling Tile	No	Client ID: SA11 (A)	
					Cellulose	95
					Non-Fibers	5
2016198-44	15-Apr-20	Brown	Ceiling Tile	No	Client ID: SA11 (B)	
					Cellulose	95
					Non-Fibers	5
2016198-45	15-Apr-20	Brown	Ceiling Tile	No	Client ID: SA11 (C)	
					Cellulose	95
					Non-Fibers	5

Certificate of Analysis
Client: GM Blue Plan Engineering Limited (Owen Sound)

Client PO: 220089

Report Date: 17-Apr-2020

Order Date: 16-Apr-2020

Project Description: 220089

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Parcel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
2016198-46	15-Apr-20	Black	Roof	No	Client ID: SA12 (A)	[AS-PRE]
					MMVF	4.25
					Non-Fibers	95.75
2016198-47	15-Apr-20	Black	Roof	No	Client ID: SA12 (B)	[AS-PRE]
					MMVF	4.36
					Non-Fibers	95.64
2016198-48	15-Apr-20	Black	Roof	No	Client ID: SA12 (C)	[AS-PRE]
					Non-Fibers	100

* MMVF: Man Made Vitreous Fibers: Fiberglass, Mineral Wool, Rockwool, Glasswool

** Analytes in bold indicate asbestos mineral content.

Analysis Summary Table

Analysis	Method Reference/Description	Lab Location	Lab Accreditation	*	Analysis Date
Asbestos, PLM Visual Estimation	by EPA 600/R-93/116	1 - Mississauga	NVLAP 200863-0		16-Apr-20

* Reference to the NVLAP term does not permit the user of this report to claim product certification , approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Mississauga Lab: 15 - 6800 Kitimat Rd Mississauga, Ontario, L5N 5M1

Qualifier Notes

Sample Qualifiers :

AS-PRE: Due to the difficult nature of the bulk sample (interfering fibers/binders), additional NOB preparation was required prior to analysis

AS-PT: Asbestos quantitation by PLM Point Count method.

Z-01: No sample.

Work Order Revisions | Comments

None

Paracel ID: 2016198



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paracel@paracellabs.com

Chain of Custody
(Lab Use Only)

Page 1 of 1

Client Name: GM Blue Plan Engineering Ltd	Project Reference: 220089
Contact Name: Corbin Sweet	Quote #:
Address: 1260-2nd Ave E Owen Sound ON N4K 2J3	PO #: 220089
Telephone: 519-376-1805	Email Address: corbin.sweet@gmblueplan.ca Reporting Contacts

Turnaround Time:

- ☐ Immediate ☐ 1 Day
☐ 4 Hour ☐ 2 Day
☐ 8 Hour ☐ 3 Day
☒ Regular

Date Required:

ASBESTOS & MOLD ANALYSIS

Matrix: ☐ Air ☒ Bulk ☐ Tape Lift ☐ Swab ☐ Other Regulatory Guideline: ☒ ON ☐ QC ☐ AB ☐ SK ☐ Other:

Analyses: ☐ Microscopic Mold ☐ Culturable Mold ☐ Bacteria GRAM ☐ PCM Asbestos ☒ PLM Asbestos ☐ Chatfield Asbestos ☐ TEM Asbestos

Paracel Order Number:

2016198

Sample ID		Sampling Date	Air Volume (L)	Analysis Required	Asbestos - Bulk Identify Distinct Building Materials to Be Analyzed (if not specified, all materials identified will be analyzed) *	Positive Stop?
1	SA1 (A to C)	15/04/2020		PLM	light grey drywall + white joint compound	<input checked="" type="checkbox"/>
2	SA2 (A to C)				beige vinyl floor tile	<input checked="" type="checkbox"/>
3	SA3 (A to C)				light acoustic ceiling tile	<input checked="" type="checkbox"/>
4	SA4 (A to C)				light grey drywall + white joint compound	<input checked="" type="checkbox"/>
5	SA5 (A to C)				light grey drywall + white joint compound	<input checked="" type="checkbox"/>
6	SA6 (A to C)				vinyl floor tile	<input checked="" type="checkbox"/>
7	SA7 (A to C)				acoustic Fibreglass ceiling tile face	<input checked="" type="checkbox"/>
8	SA8 (A to C)				white drywall + white joint compound	<input checked="" type="checkbox"/>
9	SA9 (A to C)				floor tile	<input checked="" type="checkbox"/>
10	SA10 (A to C)				rolled sheet flooring	<input checked="" type="checkbox"/>
11	SA11 (A to C)				10" ceiling tile	<input checked="" type="checkbox"/>
12	SA12 (A to C)				roof	<input checked="" type="checkbox"/>

* If left blank, all distinct materials identified in the samples will be analyzed and reported separately as per EPA 600/R-93/116. Additional charges will apply.

Comments: Please analyze with LOD of 0.5%

Method of Delivery:

Puracator

Relinquished By (Sign):

K Charpentier

Received at Depot:

Received at Lab:

Verified By:

Relinquished By (Print): Kate Charpentier

Date/Time: 15/04/2020 3:00 pm

Date/Time:

Date/Time:

April 16/2020

Date/Time:

April 16/2020 11:55

11:10