patersongroup

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Geotechnical Engineering
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Geological Engineering
Materials Testing
Building Science

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March 22, 2022
File: PE5658-LET.01

P-Squared Concepts Inc.
739 Ridgewood Avenue, Unit 201
Ottawa, Ontario
K1V 6M8

Attention: **Mr. Patrick Rutherford**

Subject: **Designated Substance Survey**
3130 Woodroffe Avenue
Ottawa, Ontario

Dear Sir,

Further to your request and authorization, Paterson Group (Paterson) conducted a Designated Substance Survey (DSS) for the building located at 3130 Woodroffe Avenue, in the City of Ottawa, Ontario. This letter report summarizes our findings and results of the DSS.

1.0 BACKGROUND

The subject site is situated on the northwest corner of the Woodroffe Avenue and Deerfox Drive intersection, in the City of Ottawa, Ontario. The subject site is currently occupied by a single-storey residential dwelling, with a full basement level, constructed sometime in the 1960's. It is our understanding that the subject building is to be demolished in the near future as part of a proposed site redevelopment program, thus, the purpose of this survey was to identify any potential designated substances within the structure.

2.0 SITE INSPECTION AND OBSERVATIONS

A representative from Paterson Group conducted a site inspection of the subject building on March 16, 2022. At that time, a visual inspection was carried out for materials containing the following designated substances: acrylonitrile, arsenic, asbestos, benzene, coke oven emissions, ethylene oxide, isocyanates, lead, mercury, silica, and vinyl chloride, as well as the following substances: ozone depleting substances (ODSs) and polychlorinated biphenyls (PCBs).

Building materials such as buried services, floor levelling compounds, caulking, sealants, and roofing materials, which have historically contained asbestos, were not included in this survey since they are generally inaccessible, used in a random fashion, and have a low risk of asbestos fibre release.

2.1 Acrylonitrile

Acrylonitrile is prescribed as a designated substance under Ontario Regulation (O. Reg.) 490/09 of the Occupational Health and Safety Act. It is a volatile, flammable liquid that is used to make many chemicals such as plastics, rubber, and synthetic fibres. Acrylonitrile may be present in stable form in surface coatings (e.g. paints), building material adhesives, and plastics. The above noted products are not considered to pose a concern, provided they are not subjected to extreme heat, such as a torch. Exposure to acrylonitrile is unlikely and not suspected within the subject building.

2.2 Arsenic

Arsenic is prescribed as a designated substance under O. Reg. 490/09 of the Occupational Health and Safety Act. Arsenic has many industrial uses, such as the hardening of copper and lead alloys, and can also be found in older lead-based paints. Similar to acrylonitrile, arsenic may also be present in stable form within building material adhesives and some metal alloys. Based on the limited quantity of potentially arsenic containing materials within the subject building, it is not expected that the arsenic concentration in the air will exceed its maximum allowable Time Weighted Average Exposure Value (TWAEV).

2.3 Asbestos

Asbestos is prescribed as a designated substance under O. Reg. 490/09 of the Occupational Health and Safety Act. Asbestos-containing materials (ACMs) are defined under O. Reg. 278/05 of the Occupational Health and Safety Act as having a concentration of 0.5% or more by dry weight of fibrous asbestos (i.e. chrysotile, amosite, crocidolite and/or other amphiboles). Asbestos was commonly used in residential and commercial construction between 1930 and 1980.

A total of 22 bulk samples of potentially asbestos containing materials were obtained from the subject building during the March 15, 2022 site inspection and were submitted to Paracel Laboratories in Ottawa, Ontario for analysis. The potential asbestos containing materials were analyzed to determine the presence, type, and content of asbestos, as shown in Table 1 below. The laboratory certificates of analysis have been appended to this letter.

Table 1 – Summary of Asbestos Testing
220 Woodroffe Avenue
March 15, 2022

Sample No.	Description	Colour	Location	Fibrous Asbestos Content	Other Materials
DWJC1	Drywall Joint Compound	Beige/Grey	1st Floor Kitchen Wall	**1% Chrysotile**	99% Non-Fibres
DWJC2			1st Floor Front Hallway Wall	**1% Chrysotile**	99% Non-Fibres
DWJC3			1st Floor Dining Room Wall	**1% Chrysotile**	99% Non-Fibres
DWJC4			1st Floor Bathroom Wall	**1% Chrysotile**	99% Non-Fibres
DWJC5			1st Floor Rear Hallway Wall	**1% Chrysotile**	99% Non-Fibres
DWJC6			1st Floor Bedroom Wall	**1% Chrysotile**	99% Non-Fibres
DWJC7			1st Floor Living Room Wall	**1% Chrysotile**	99% Non-Fibres
STIP1	Stipple Plaster	White/Beige	1st Floor Living Room Ceiling	**1% Chrysotile**	99% Non-Fibres
STIP2				*Not Analyzed (Positive Stop)*	
STIP3					
STIP4		White/Beige	1st Floor Kitchen Ceiling	**1% Chrysotile**	99% Non-Fibres
STIP5				*Not Analyzed (Positive Stop)*	
STIP6					
VFT1	Vinyl Floor Tile (20 x 20 cm)	Brown	Basement Floor	**2% Chrysotile**	98% Non-Fibres
VFT2				*Not Analyzed (Positive Stop)*	
VFT3					
VFT4		Beige	Basement Floor	**2% Chrysotile**	98% Non-Fibres
VFT5				*Not Analyzed (Positive Stop)*	
VFT6					
SUSP1	Suspended Ceiling Tiles	Brown	Basement Ceiling	<0.5% Amosite <0.5% Chrysotile	80% Cellulose 0.92% MMVF 19.08% Non-Fibres
SUSP2				<0.5% Amosite <0.5% Chrysotile	80% Cellulose 1.2% MMVF 18.80% Non-Fibres
SUSP3				<0.5% Amosite **0.65% Chrysotile**	80% Cellulose 2.17% MMVF 17.18% Non-Fibres

Notes:
- MMVF – Man Made Vitreous Fibres (i.e. Fiberglass, Mineral Wool, Rockwool, Glasswool).
- **Bold** – Results exceed the asbestos-containing definable limit.

Drywall Joint Compound

Drywall joint compound was identified on the walls and ceilings of the first floor of the subject building. Seven samples of the drywall joint compound were submitted for laboratory analysis. All samples were found to contain **1% chrysotile asbestos. Based on the analytical test results, the drywall joint compound throughout the entirety of the subject building is considered to be an asbestos containing material.**

Stipple Plaster

Two types of stipple plaster were identified on the ceilings of the first floor kitchen and living room of the subject building. Three samples of each stipple plaster type (yielding a total of six samples) were submitted for laboratory analysis via positive stop. Two samples of the stipple plaster (one of each type) were found to contain **1% chrysotile asbestos. Based on the analytical test results, the stipple plaster ceilings throughout the first floor of the subject building are considered to be an asbestos containing material.**

Vinyl Floor Tiles

Two types of vinyl floor tiles were identified within the basement of the subject building. Three samples of each vinyl floor tile type (yielding a total of six samples) were submitted for laboratory analysis via positive stop. Two samples of the vinyl floor tiles (one of each type) were found to contain **2% chrysotile asbestos. Based on the analytical test results, the vinyl floor tiles within the basement of the subject building are considered to be an asbestos containing material.**

Suspended Ceiling Tiles

Suspended ceiling tiles were identified on the basement ceiling of the subject building. Three samples of the suspended ceiling tiles were submitted for laboratory analysis. Trace amounts of amosite and chrysotile asbestos fibres were identified in two of the samples analyzed, which were below the laboratory detection limit of 0.5%, however, they could not be accurately quantified. The remaining sample was found to contain **0.65% chrysotile asbestos. Based on the analytical test results, the suspended ceiling tiles within the basement of the subject building are considered to be an asbestos containing material.**

Insulation

Insulation material was identified within multiple exposed wall and ceiling cavities inside the subject building. The material was observed to consist entirely of fibreglass bat insulation. This type of insulation is not considered to be potentially asbestos containing, and as a result, no samples of the insulation were obtained and submitted for laboratory analysis.

2.4 Benzene

Benzene is prescribed as a designated substance under O. Reg. 490/09 of the Occupational Health and Safety Act. Benzene is used in the manufacturing of many products including plastics, rubbers, resins, and synthetic fibres. It is also used as a solvent in printing and paints as well as in petroleum products, such as gasoline and diesel. Benzene may be present in older paints, sealants, and roofing materials, some of which may be present in the subject building. Benzene is not considered to be a concern, since it typically vaporizes rapidly from most products shortly after manufacturing or application, however, the above noted materials should not be subjected to extreme heat without proper worker respiratory protection.

2.5 Coke Oven Emissions

Coke oven emissions are prescribed as a designated substance under O. Reg. 490/09 of the Occupational Health and Safety Act. Coke oven emissions are not typically found outside of the metal extraction industry. No sources of coke oven emissions are suspected or were observed within the subject building.

2.6 Ethylene Oxide

Ethylene oxide is prescribed as a designated substance under O. Reg. 490/09 of the Occupational Health and Safety Act. Ethylene oxide is used in large volumes as a chemical intermediate in the manufacturing of many industrial products including textiles, detergents, foam, antifreeze, solvents, and adhesives. Based on the limited quantity of potentially ethylene oxide containing materials within the subject building, ethylene oxide is not considered to pose a concern.

2.7 Isocyanates

Isocyanates are prescribed as a designated substance under O. Reg. 490/09 of the Occupational Health and Safety Act. Isocyanates are the raw materials from which all polyurethane products are made. They are used widely in the manufacturing of foams, plastics, adhesives, synthetic fibres, and coatings; such as paints and varnishes, some of which are present in the subject building. Over time, isocyanates will volatize out of these materials, but will only be present in trace amounts and are not expected to reach hazardous air concentrations. As a result, isocyanates are not considered to pose a concern.

2.8 Lead

Lead is prescribed as a designated substance under O. Reg. 490/09 of the Occupational Health and Safety Act. For the purposes of this report, the commonly used value of 90 ppm [Surface Coatings Material Regulation (SOR/2005-109) – October 2010] will serve as the lead-containing definable limit. Lead concentrations will be categorized into three classes, lead-based (greater than 5000 ppm), lead-containing (between 90 ppm and 5000 ppm) and non-lead containing (less than 90 ppm).

Lead may be present in older paints, plastics, lead caulking in bell joints for cast iron piping systems, lead solder in copper piping systems, electrical equipment, and ceramics. Painted surfaces on the interior and exterior of the subject building were observed at the time of the site inspection and three paint samples were obtained and submitted to Paracel Laboratories in Ottawa, Ontario for lead content analysis. The sample locations and lead content can be found below in Table 2. The laboratory certificate of analysis is appended to this letter.

Table 2 – Summary of Lead Testing
3130 Woodroffe Avenue
March 15, 2022

Sample No.	Location	Colour	Lead-Containing Definable Limit (µg/g)	Lead Content (µg/g)
PT1	1st Floor Stairwell Wall	Pink	90	**375**
PT2	1st Floor Living Room Wall	Green/Grey		**587**
PT3	1st Floor Bedroom Wall	White		**271**

Notes:
- **Bold** - Results exceed the lead-containing definable limit.

Based on the analytical test results, all three paint samples analyzed from the subject building were found to be lead-containing.

2.9 Mercury

Mercury is prescribed as a designated substance under O. Reg. 490/09 of the Occupational Health and Safety Act. Mercury may be present in thermostats, barometers, and hydrometers, along with other laboratory measuring devices. It may also be present in older lead-based paints and many types of light fixtures, including fluorescent tubes. Any mercury containing equipment must be disposed of according to O. Reg. 347, as amended by O. Reg. 558, if it is being decommissioned.

2.10 Vinyl Chloride

Vinyl chloride is prescribed as a designated substance under O. Reg. 490/09 of the Occupational Health and Safety Act. Vinyl chloride is the parent compound of polyvinyl chloride (PVC) which is used in many consumer and industrial plastic products. It is also used extensively in the glass, rubber, and paper industries. Vinyl chloride may be present in stable form within pipes, plastics, vinyl's, and interior finishes such as paints and varnishes throughout the subject building. The health hazard associated with vinyl chloride comes primarily from the inhalation of fumes. In most applications, vinyl chloride is considered to be stable as long as it is not subjected to extreme heat. As a result, vinyl chloride is not expected to be a concern as long as materials are not subjected to extreme heat.

2.11 Silica

Silica is prescribed as a designated substance under O. Reg. 490/09 of the Occupational Health and Safety Act. Silica or silicon dioxide is the basic component of sand, quartz, and granite rock. Silica is expected to be present within any concrete and cement parging in the subject building. Typical handling procedures include wetting materials prior to, and during, any demolition activities that are required to control dust.

2.12 Ozone Depleting Substances (ODSs)

Potential sources of ODSs observed on-site include an air-conditioning unit and a refrigerator. These appliances appeared to be in good condition at the time of the site inspection and should be regularly serviced by a licensed contractor.

2.13 Polychlorinated Biphenyls (PCBs)

No potential sources of PCBs were observed in the subject building at the time of the visual inspection.

3.0 SURVEY SUMMARY AND RECOMMENDATIONS

Based on the results of our survey, five asbestos containing materials (ACMs) were identified in the subject building. The possible presence of limited quantities of acrylonitrile, arsenic, benzene, ethylene oxide, isocyanates, and silica in the aforementioned building materials do not pose a concern, provided precautionary measures are followed during future proposed demolition works.

Asbestos

Based on the observations made during the site inspection, combined with the analytical test results, the following ACM was identified in the subject building:

- **Drywall Joint Compound; located throughout the subject building.**
- **Stipple Plaster Ceilings; located within the first floor of the subject building.**
- **Vinyl Floor Tiles (Brown); located within the basement of the subject building.**
- **Vinyl Floor Tiles (Beige); located within the basement of the subject building.**
- **Suspended Ceilings Tiles; located within the basement of the subject building.**

All ACMs must be removed from the subject building prior to being disturbed by any proposed demolition activities. If any insulation materials are encountered in the wall or ceiling cavities that have not been identified in this report, we request that we be notified to allow for the testing of this material. In the event that any other suspected asbestos containing materials are discovered, all work is to cease until samples can be collected and analysed. Alternatively, these materials can be treated as asbestos containing and be disposed/managed of accordingly.

The removal, disturbance, or encapsulation of the identified ACMs throughout the subject building must be done in accordance with the procedures outlined in O. Reg. 278/05, and conducted by a contractor specialized in this type of work. A full copy of O. Reg. 278/05, made under the Occupational Health and Safety Act, can be found at http://www.elaws.gov.on.ca/html/regs/english/elaws_regs_050278_e.htm.

Lead

Based on the results of our survey, three lead-containing paints were identified within the subject building.

Lead may also be present in the solder used for the copper plumbing system. This does not pose a concern to construction workers, provided it is not heated or pulverized. Appropriate procedures for working with lead on construction sites should be developed and implemented during any future demolition activities. Further information on precautionary measures can be obtained from the document entitled, *"Guideline – Lead on Construction Projects"*, prepared by the Occupational Health and Safety Branch of the Ontario Ministry of Labour and dated April 2011.

Silica

Silica is expected to be present in various building materials, including concrete and cement parging. When potential silica containing materials (as identified in this report) are to be disturbed, precautions should be taken to minimize dust creation, such as wetting surfaces, as well as to protect workers, such as providing appropriate dust masks. Further information can be obtained from the document entitled, *"Guideline – Silica on Construction Projects"* prepared by the Occupational Health and Safety Branch of the Ontario Ministry of Labour and dated April 2011.

4.0 STATEMENT OF LIMITATIONS

A designated substance survey was completed for the building located at 3130 Woodroffe Avenue, in the City of Ottawa, Ontario. The results of the survey are based on our visual observations made at the time of the site inspection in conjunction with our analytical test results. Should any conditions be encountered at the subject properties that differ from our findings, we request that we be notified immediately in order to allow for a reassessment.

This report was prepared for the sole use of P-Squared Concepts Inc. Permission and notification from P-Squared Concepts Inc. and Paterson Group will be required to release this report to any other party.

We trust that this submission will satisfy your present requirements. If you have any questions regarding this report, please contact our office.

Regards,

Paterson Group Inc.

Nick Sullivan, B.Sc. Eric Leveque, B.A.

Report Distribution:

- ❑ P-Squared Concepts Inc.
- ❑ Paterson Group Inc.

Attachments:

- ❑ Laboratory Certificates of Analysis

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Certificate of Analysis

Paterson Group Consulting Engineers

154 Colonnade Road South
Nepean, ON K2E 7J5
Attn: Nick Sullivan

Client PO: 33880
Project: PE5658
Custody: 60234, 60235

Report Date: 21-Mar-2022
Order Date: 15-Mar-2022

Order #: 2212186

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

Paracel ID	Client ID
2212186-01	DWJC1
2212186-02	DWJC2
2212186-03	DWJC3
2212186-04	DWJC4
2212186-05	DWJC5
2212186-06	DWJC6
2212186-07	DWJC7
2212186-08	STIP1
2212186-09	STIP2
2212186-10	STIP3
2212186-11	STIP4
2212186-12	STIP5
2212186-13	STIP6
2212186-14	VFT1
2212186-15	VFT2
2212186-16	VFT3
2212186-17	VFT4
2212186-18	VFT5
2212186-19	VFT6
2212186-20	SUSP1
2212186-21	SUSP2
2212186-22	SUSP3

Approved By:

Emma Diaz

Senior Analyst

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 33880

Report Date: 21-Mar-2022

Order Date: 15-Mar-2022

Project Description: PE5658

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

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
2212186-01	15-Mar-22	Beige/Grey	Drywall Joint Compound	**Yes**	**Client ID: DWJC1** [Z-01]	
					Chrysotile	1
					Non-Fibers	99
2212186-02	15-Mar-22	Beige/Grey	Drywall Joint Compound	**Yes**	**Client ID: DWJC2** [Z-01]	
					Chrysotile	1
					Non-Fibers	99
2212186-03	15-Mar-22	Beige/Grey	Drywall Joint Compound	**Yes**	**Client ID: DWJC3** [Z-01]	
					Chrysotile	1
					Non-Fibers	99
2212186-04	15-Mar-22	Beige/Grey	Drywall Joint Compound	**Yes**	**Client ID: DWJC4** [Z-01]	
					Chrysotile	1
					Non-Fibers	99
2212186-05	15-Mar-22	Beige/Grey	Drywall Joint Compound	**Yes**	**Client ID: DWJC5** [Z-01]	
					Chrysotile	1
					Non-Fibers	99
2212186-06	15-Mar-22	Beige/Grey	Drywall Joint Compound	**Yes**	**Client ID: DWJC6** [Z-01]	
					Chrysotile	1
					Non-Fibers	99
2212186-07	15-Mar-22	Beige/Grey	Drywall Joint Compound	**Yes**	**Client ID: DWJC7** [Z-01]	
					Chrysotile	1
					Non-Fibers	99
2212186-08	15-Mar-22	White/Beige	Stipple/Drywall Joint Compound	**Yes**	**Client ID: STIP1** [Z-01]	
					Chrysotile	1
					Non-Fibers	99
2212186-09	15-Mar-22	White/Beige	Stipple/Drywall Joint Compound		**Client ID: STIP2**	
					not analyzed, positive stop	

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 33880

Report Date: 21-Mar-2022

Order Date: 15-Mar-2022

Project Description: PE5658

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

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
2212186-10	15-Mar-22	White/Beige	Stipple/Drywall Joint Compound		**Client ID: STIP3**	
					not analyzed, positive stop	
2212186-11	15-Mar-22	White/Beige	Stipple/Drywall Joint Compound	**Yes**	**Client ID: STIP4**	[Z-01]
					Chrysotile	1
					Non-Fibers	99
2212186-12	15-Mar-22	White/Beige	Stipple/Drywall Joint Compound		**Client ID: STIP5**	
					not analyzed, positive stop	
2212186-13	15-Mar-22	White/Beige	Stipple/Drywall Joint Compound		**Client ID: STIP6**	
					not analyzed, positive stop	
2212186-14	15-Mar-22	Brown	Vinyl Floor Tile	**Yes**	**Client ID: VFT1**	
					Chrysotile	2
					Non-Fibers	98
2212186-15	15-Mar-22	Brown	Vinyl Floor Tile		**Client ID: VFT2**	
					not analyzed, positive stop	
2212186-16	15-Mar-22	Brown	Vinyl Floor Tile		**Client ID: VFT3**	
					not analyzed, positive stop	
2212186-17	15-Mar-22	Beige	Vinyl Floor Tile	**Yes**	**Client ID: VFT4**	
					Chrysotile	2
					Non-Fibers	98
2212186-18	15-Mar-22	Brown	Vinyl Floor Tile		**Client ID: VFT5**	
					not analyzed, positive stop	
2212186-19	15-Mar-22	Brown	Vinyl Floor Tile		**Client ID: VFT6**	
					not analyzed, positive stop	

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 33880

Report Date: 21-Mar-2022

Order Date: 15-Mar-2022

Project Description: PE5658

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

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
2212186-20	15-Mar-22	Brown	Ceiling Tile	**Yes**	**Client ID: SUSP1** [AS-PRE]	
					[ASTrc]**Amosite**	<MDL
					[ASTrc]**Chrysotile**	<MDL
					Cellulose	80
					MMVF	0.92
					Non-Fibers	19.08
2212186-21	15-Mar-22	Brown	Ceiling Tile	**Yes**	**Client ID: SUSP2** [AS-PRE]	
					[ASTrc]**Amosite**	<MDL
					[ASTrc]**Chrysotile**	<MDL
					Cellulose	80
					MMVF	1.2
					Non-Fibers	18.8
2212186-22	15-Mar-22	Brown	Ceiling Tile	**Yes**	**Client ID: SUSP3** [AS-PRE]	
					[ASTrc]**Amosite**	<MDL
					Chrysotile	0.65
					Cellulose	80
					MMVF	2.17
					Non-Fibers	17.18

* 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	AppE to SubE of 40CFR Part753 and EPA/600/R-93/116	2 - Ottawa West	CALA 1262	18-Mar-22

Ottawa West Lab: 25 Northside Rd, Unit C Nepean, Ontario K2H 8S1

Certificate of Analysis

Report Date: 21-Mar-2022

Client: Paterson Group Consulting Engineers

Order Date: 15-Mar-2022

Client PO: 33880

Project Description: PE5658

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

ASTrc: Trace asbestos was observed below the noted detection limit but could not be accurately quantified.

Z-01: Layers inseperable.

Work Order Revisions | Comments

None

PARACEL LABORATORIES LTD.

Paracel ID: 2212186

d Office
2319 St. Laurent Blvd.
wa, Ontario K1G 4J8
800-749-1947
racel@paracellabs.com

Chain of Custody
(Lab Use Only)
№ 60234

Page 1 of 2

Client Name: Paterson Group	Project Reference: PE5658
Contact Name: Nick Sullivan	Quote #:
Address: 154 Colonnade Rd. S., Ottawa, ON	PO #: 33880
Telephone: 613-226-7381	Email Address: nsullivan@patersongroup.ca

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: 2212186

	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	DWJC1	Mar 15/22		PLM	Drywall Joint Compound	☐
2	DWJC2	↓		↓	↓	☐
3	DWJC3					☐
4	DWJC4					☐
5	DWJC5					☐
6	DWJC6					☐
7	DWJC7				↓	☐
8	STIP1				Stipple Plaster (Type 1)	☒
9	STIP2				↓	☒
10	STIP3				↓	☒
11	STIP4				Stipple Plaster (Type 2)	☒
12	STIP5	↓		↓	↓	☒

* 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:

Method of Delivery: PARACEL COURIER

Relinquished By (Sign): N. Sullivan	Received at Depot: A. DESOUSE	Received at Lab:	Verified By:
Relinquished By (Print): Nick Sullivan			
Date/Time: March 15, 2022	Date/Time: 15/03/22 2:30 PM	Date/Time: Mar 15/22	Date/Time: Mar 15/22

PARACEL LABORATORIES LTD. | TRR

Paracel ID: 2212186

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Page 2 of 2

Client Name: Paterson Group	Project Reference: PE5658
Contact Name: Nick Sullivan	Quote #:
Address: 154 Colonnade Rd. S., Ottawa, ON	PO #: 33880
Telephone: 613-226-7381	Email Address: nsullivan@patersongroup.ca

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: 2212186

	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	STIP6	Mar 15/22		PLM	Stipple Plaster (Type 2)	☒
2	VFT1	↓	↓	↓	Vinyl Floor Tile (Brown)	☒
3	VFT2				↓	☒
4	VFT3					☒
5	VFT4				Vinyl Floor Tile (Beige)	☒
6	VFT5				↓	☒
7	VFT6					☒
8	SUSP1				Suspended Ceiling Tiles	☒
9	SUSP2				↓	☒
10	SUSP3	↓		↓		☒
11						☐
12						☐

* 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:

Method of Delivery: Paracel Courier

Relinquished By (Sign): N. Sullivan	Received at Depot: M. Plouse	Received at Lab:	Verified By:
Relinquished By (Print): Nick Sullivan			
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Certificate of Analysis

Paterson Group Consulting Engineers

154 Colonnade Road South
Nepean, ON K2E 7J5
Attn: Nick Sullivan

Client PO: 33881
Project: PE5658
Custody: 137020

Report Date: 21-Mar-2022
Order Date: 15-Mar-2022

Order #: 2212191

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

Paracel ID	Client ID
2212191-01	PT1
2212191-02	PT2
2212191-03	PT3

Approved By:

Dale Robertson, BSc
Laboratory Director

Certificate of Analysis

Client: **Paterson Group Consulting Engineers**

Client PO: **33881**

Report Date: 21-Mar-2022

Order Date: 15-Mar-2022

Project Description: PE5658

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Metals, ICP-MS	EPA 6020 - Digestion - ICP-MS	18-Mar-22	18-Mar-22

Qualifier Notes:

None

Sample Data Revisions

None

Work Order Revisions/Comments:

None

Other Report Notes:

n/a: not applicable
ND: Not Detected
MDL: Method Detection Limit
Source Result: Data used as source for matrix and duplicate samples
%REC: Percent recovery.
RPD: Relative percent difference.

Certificate of Analysis

Client: **Paterson Group Consulting Engineers**

Client PO: **33881**

Report Date: 21-Mar-2022

Order Date: 15-Mar-2022

Project Description: PE5658

Sample Results

Lead

Matrix: Paint

Paracel ID	Client ID	Sample Date	Units	MDL	Result
2212191-01	PT1	15-Mar-22	ug/g	5	375
2212191-02	PT2	15-Mar-22	ug/g	5	587
2212191-03	PT3	15-Mar-22	ug/g	5	271

Laboratory Internal QA/QC

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Matrix Blank									
Lead	**ND**	**5**	**ug/g**						
Matrix Duplicate									
Lead	**ND**	**5**	**ug/g**	**ND**			**NC**	**50**	
Matrix Spike									
Lead	43.3	5.00	ug/g	ND	86.5	70-130			

PARACEL LABORATORIES LTD.

Paracel ID: 2212191

Paracel Order Number (Lab Use Only): 2212191

Chain Of Custody (Lab Use Only)

Nº 137020

Client Name: Paterson Group	Project Ref: PE5658
Contact Name: Nick Sullivan	Quote #:
Address: 154 Colonnade Rd. S., Ottawa, ON	PO #: 33881
Telephone: 613-226-7381	E-mail: nsullivan@patersongroup.ca

Page 1 of 1

Turnaround Time

☐ 1 day ☐ 3 day
☐ 2 day ☒ Regular

Date Required:

☐ REG 153/04 ☐ REG 406/19

☐ Table 1 ☐ Res/Park ☐ Med/Fine
☐ Table 2 ☐ Ind/Comm ☐ Coarse
☐ Table 3 ☐ Agri/Other
☐ Table ___
For RSC: ☐ Yes ☐ No

Other Regulation

☐ REG 558 ☐ PWQO
☐ CCME ☐ MISA
☐ SU - Sani ☐ SU - Storm
Mun:
☐ Other:

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

Required Analysis

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken Date	Sample Taken Time	PHCs F1-F4+BTEX	VOCs	PAHs	Metals by ICP	Hg	CrVI	B (HWS)	LEAD				
1	PT1	P		1	Mar 15/22									X				
2	PT2	↓		↓	↓									↓				
3	PT3	↓		↓	↓									↓				
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Comments:

Method of Delivery: Paracel Courier

Relinquished By (Sign): N. Sullivan	Received By Driver/Depot: A. [illegible]	Received at Lab: Junee pam Dohmen	Verified By: [signature]
Relinquished By (Print): Nick Sullivan	Date/Time: 15/03/22 2:30	Date/Time: Mar 15, 2022 04.20	Date/Time: March 15, 22 16:52
Date/Time: March 15, 2022	Temperature: °C	Temperature: °C	pH Verified: ☐ By: