

May 23, 2018
File: PE4194-LET.01

**CHSS International Investments and
Management Inc.**

310-1827 Woodward Drive
Ottawa, Ontario
K2C 0P9

Attention: **Mr. Roberto Campagna**

Subject: **Designated Substance Survey
443, 447, and 449 Kent Street
423 and 425 McLeod Street
Ottawa, Ontario**

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Dear Sir,

Further to your request and authorization, Paterson Group (Paterson) conducted a Designated Substance Survey (DSS) of the residential dwellings located at 443, 447, and 449 Kent Street and 423 and 425 McLeod Street in the City of Ottawa, Ontario. This letter report summarizes our findings and results of the designated substance survey.

1.0 BACKGROUND

The subject site is situated on the northeast corner of the Kent Street and McLeod Street intersection, in the City of Ottawa, Ontario. The subject site consists of a single family residential dwelling (443 Kent Street), and three duplexes (447 Kent Street, 423 McLeod Street and 425 McLeod Street/449 Kent Street).

The purpose of this investigation was to identify any potential designated substances within the subject buildings prior to the proposed demolition of 443 and 447 Kent Street and the renovation of 423 McLeod Street and 425 McLeod Street/449 Kent Street.

2.0 SITE INSPECTION AND OBSERVATIONS

During the course of the site visit, a visual inspection for sources or materials containing the following designated substances: acrylonitrile, arsenic, asbestos, benzene, coke oven

emissions, ethylene oxide, isocyanates, lead, mercury, silica, vinyl chloride, and the following substances: ozone depleting substances (ODSs) and polychlorinated biphenyls (PCBs) was carried out.

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

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 (eg. paints), building material adhesives and plastics. Common adhesives, observed in the building include applications for vinyl floor tiles and mouldings. 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 buildings.

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 hardening of copper and lead alloys and in older lead based paints. Similar to acrylonitrile, arsenic may also be present in stable form in building material adhesives and some metal alloys. Based on the limited quantity of potentially arsenic containing materials within the subject buildings, it is not expected that the arsenic concentration in the air will exceed its maximum allowable Time Weighted Average Exposure Value (TWAEV).

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 71 bulk samples of potential asbestos containing materials were obtained from the subject buildings during the sampling event 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 the tables below. The sample locations can also be found in the tables below. The laboratory certificates of analysis are appended to this letter.

Table 1 - Summary of Asbestos Testing				
447 Kent Street				
Residential Dwelling				
Sample No.	Description	Location	Fibrous Asbestos Content	Other Materials
DWJC1	Drywall Joint Compound	Ground Floor, Front Hallway	1% Chrysotile	99% Non-Fibres
DWJC2		Basement Stairs	None	100% Non-Fibres
DWJC3		Ground Floor, Rear Bedroom	1% Chrysotile	99% Non-Fibres
DWJC4		Ground Floor, Kitchen	None	100% Non-Fibres
DWJC5		2nd Floor, Hallway	1% Chrysotile	99% Non-Fibres
DWJC6		2nd Floor, Kitchen	None	100% Non-Fibres
DWJC7		2nd Floor, Stairwell	2% Chrysotile	98% Non-Fibres
STIP1	Ceiling Stipple	Ground Floor, Front Room	None	100% Non-Fibres
STIP2		Ground Floor, Front Room	None	100% Non-Fibres
STIP3		Ground Floor, Master Bedroom	None	100% Non-Fibres
DECPL1	Decorative Plaster	2nd Floor, Front Room	None	100% Non-Fibres
DECPL2		2nd Floor, Front Room	None	100% Non-Fibres
DECPL3		2nd Floor, Front Room	None	100% Non-Fibres
PL1	White Finishing Wall Plaster	2nd Floor, Front Room	None	100% Non-Fibres
PL2		2nd Floor, Front Room	None	100% Non-Fibres
PL3		2nd Floor, Front Room	Not Analyzed	
PRG1	Grey Coarse Base Coat Wall Plaster	2nd Floor, Front Room, Beneath PL1	1% Tremolite	99% Non-Fibres
PRG2		2nd Floor, Front Room, Beneath PL2	1% Tremolite	99% Non-Fibres
PRG3		2nd Floor, Front Room, Beneath PL3	None	10% Cellulose 90% Non-Fibres
PRG11	Grey Parging	Basement, Furnace Room	1% Tremolite	99% Non-Fibres
PRG12		Basement, Furnace Room	Not Analyzed, Positive Stop Analysis	
PRG13		Basement, Furnace Room		
Notes:	Bold Results – Asbestos containing material as defined under O.Reg. 278/05 as having a concentration of 0.5% or more by dry weight fibrous asbestos.			

Table 2 - Summary of Asbestos Testing 443 Kent Street Residential Dwelling				
Sample No.	Description	Location	Fibrous Asbestos Content	Other Materials
DWJC32	Drywall Joint Compound	Basement Stairwell	None	100% Non-Fibres
DWJC33		1 st Floor, Front Hall	None	100% Non-Fibres
DWJC34		1 st Floor, Main Room	None	100% Non-Fibres
DWJC35		1 st Floor, Main Room	None	100% Non-Fibres
DWJC36		Stairwell Upstairs	None	100% Non-Fibres
DWJC37		2 nd Floor, Hallway	None	100% Non-Fibres
DWJC38		1 st Floor, Hallway	None	100% Non-Fibres
STIP14	Ceiling Stipple	1 st Floor, Main Room	None	100% Non-Fibres
STIP15		1 st Floor, Main Room	None	100% Non-Fibres
STIP16		1 st Floor, Main Room	None	100% Non-Fibres
Notes:	Bold Results – Asbestos containing material as defined under O.Reg. 278/05 as having a concentration of 0.5% or more by dry weight fibrous asbestos.			

Table 3 - Summary of Asbestos Testing 449 Kent Street Residential Dwelling				
Sample No.	Description	Location	Fibrous Asbestos Content	Other Materials
DWJC8	Drywall Joint Compound	Basement	None	100% Non-Fibres
DWJC9		Basement	None	100% Non-Fibres
DWJC10		Basement	None	100% Non-Fibres
STIP5	Ceiling Stipple	1 st Floor, Front Bedroom	3% Chrysotile	97% Non-Fibres
STIP6		1 st Floor, Living Room	Not Analysed, Positive Stop Analysis	
STIP7		1 st Floor, Kitchen		
PRG5	Ceiling Parging	Basement, Front Room	None	100% Non-Fibres
PRG6		Basement, Front Room	None	100% Non-Fibres
PRG7		Basement, Front Room	None	100% Non-Fibres
PRG8	Exterior Parging	Exterior, Rear	2% Chrysotile	98% Non-Fibres
PRG9		Exterior, Rear	Not Analysed, Positive Stop Analysis	
PRG10		Exterior, Rear		
Notes:	Bold Results – Asbestos containing material as defined under O.Reg. 278/05 as having a concentration of 0.5% or more by dry weight fibrous asbestos.			

Table 4- Summary of Asbestos Testing 425 McLeod Street Residential Dwelling				
Sample No.	Description	Location	Fibrous Asbestos Content	Other Materials
DWJC11	Drywall Joint Compound	Top of Stairwell	None	100% Non-Fibres
DWJC12		Stairwell	None	100% Non-Fibres
DWJC13		Kitchen	None	100% Non-Fibres
DWJC14		Hallway	None	100% Non-Fibres
DWJC15		Front Bedroom	None	100% Non-Fibres
DWJC16		Hallway, Near Bathroom	None	100% Non-Fibres
DWJC17		Ground Floor Entrance	None	100% Non-Fibres
Notes:		Bold Results – Asbestos containing material as defined under O.Reg. 278/05 as having a concentration of 0.5% or more by dry weight fibrous asbestos.		

Table 5- Summary of Asbestos Testing 423 McLeod Street – Upstairs Unit Residential Dwelling				
Sample No.	Description	Location	Fibrous Asbestos Content	Other Materials
DWJC18	Drywall Joint Compound	Top of Stairwell	None	100% Non-Fibres
DWJC19		Front Room	None	100% Non-Fibres
DWJC20		Hallway	None	100% Non-Fibres
DWJC21		Hallway, Near Bathroom	None	100% Non-Fibres
DWJC22		Kitchen	None	100% Non-Fibres
DWJC23		Bathroom	None	100% Non-Fibres
DWJC24		Entrance Landing	None	100% Non-Fibres
STIP8	Ceiling Stipple	Hallway	None	100% Non-Fibres
STIP9		Front Bedroom	None	100% Non-Fibres
STIP10		Hallway	None	100% Non-Fibres
Notes:	Bold Results – Asbestos containing material as defined under O.Reg. 278/05 as having a concentration of 0.5% or more by dry weight fibrous asbestos.			

Table 6- Summary of Asbestos Testing 423 McLeod Street – Ground Floor Unit Residential Dwelling				
Sample No.	Description	Location	Fibrous Asbestos Content	Other Materials
DWJC25	Drywall Joint Compound	Entrance	None	100% Non-Fibres
DWJC26		Bathroom Wall	None	100% Non-Fibres
DWJC27		Main Room	None	100% Non-Fibres
DWJC28		Kitchen	None	100% Non-Fibres
DWJC29		Kitchen	None	100% Non-Fibres
DWJC30		Front Room	None	100% Non-Fibres
DWJC31		Basement	None	100% Non-Fibres
STIP17	Ceiling Stipple	Main Room	None	100% Non-Fibres
STIP18		Main Room	None	100% Non-Fibres
STIP19		Front Room	None	100% Non-Fibres
Notes:	Bold Results – Asbestos containing material as defined under O.Reg. 278/05 as having a concentration of 0.5% or more by dry weight fibrous asbestos.			

Drywall Joint Compound

Drywall Joint Compound was present on the walls and ceilings throughout the buildings. Thirty-eight (38) samples of drywall joint compound were collected and submitted for analysis. Based on the analytical test results, the drywall joint compound from 443 Kent Street, 449 Kent Street, 423 McLeod Street, and 425 McLeod Street is not considered to be an asbestos containing material.

Based on the analytical test results, the drywall joint compound (DWJC1 – DWJC 7) from 447 Kent Street contains **1% to 2% Chrysotile asbestos. The drywall joint compound from 447 Kent Street is considered to be an asbestos containing material.**

Decorative Plaster

Decorative ceiling plaster was observed on the ceiling of the 2nd floor of 447 Kent Street. Three (3) samples of the decorative ceiling plaster were collected and submitted for analysis. Based on the analytical test results, the decorative ceiling plaster on the 2nd floor of 447 Kent Street is not considered to be an asbestos containing material.

White Finishing Plaster

White finishing plaster was observed in the 2nd floor front room of 447 Kent Street. Three (3) samples of the white finishing plaster were collected and submitted for analysis. Based on the analytical test results, the white finishing plaster on the 2nd floor of 447 Kent Street is not considered to be an asbestos containing material.

Interior Parging

Coarse Grey parging was observed in the 2nd floor front room of 447 Kent Street. Three (3) samples (PRG1 - PRG3) of the coarse grey parging were collected and submitted for analysis. Based on the analytical test results, the coarse grey parging on 2nd floor of 447 Kent Street contains **1% Tremolite asbestos. The coarse grey parging on the 2nd floor of 447 Kent Street is considered to be an asbestos containing material.**

Coarse Grey parging was observed on the ceiling of the basement furnace room of 447 Kent Street. Three (3) samples (PRG11 - PRG13) of the coarse grey parging were collected and submitted for analysis. Based on the analytical test results, the coarse grey parging in the basement of 447 Kent Street contains **1% Tremolite asbestos. The coarse grey parging in the basement of 447 Kent Street is considered to be an asbestos containing material.**

Parging was observed on the ceiling front room of 449 Kent Street. Three (3) samples (PRG5 – PRG7) of the parging were collected and submitted for analysis. Based on the analytical test results, the parging in the basement of 449 Kent Street contains is not considered to be an asbestos containing material.

Exterior Parging

Exterior parging was observed in on the outside of the building containing 449 Kent Street, 423 and 425 McLeod Street. Three (3) samples of exterior parging (PRG8 - PRG10) were collected and submitted for analysis. Based on the analytical test results, the exterior parging contains **2% Chrysotile asbestos. The exterior parging from 449 Kent Street, 423 and 425 McLeod Street is considered to be an asbestos containing material.**

Ceiling Stipple

Ceiling Stipple was observed in the 443 Kent Street. Three (3) samples (STIP14 - STIP16) of the ceiling stipple were collected and submitted for analysis. Based on the analytical test results, the ceiling stipple in 443 Kent Street is not considered to be an asbestos containing material.

Ceiling Stipple was observed in the 447 Kent Street. Three (3) samples (STIP1 – STIP3) of the ceiling stipple were collected and submitted for analysis. Based on the analytical test results, the ceiling stipple in 447 Kent Street is not considered to be an asbestos containing material.

Ceiling Stipple was observed in the 449 Kent Street. Three (3) samples (STIP5 – STIP7) of the ceiling stipple were collected and submitted for analysis. Based on the analytical test results, the ceiling stipple in 449 Kent Street contains **3% Chrysotile asbestos. The ceiling stipple from 449 Kent Street is considered to be an asbestos containing material.**

Ceiling Stipple was observed in the upstairs unit of 423 McLeod Street. Three (3) samples (STIP8 – STIP10) of the ceiling stipple were collected and submitted for analysis. Based on the analytical test results, the ceiling stipple in upstairs unit of 423 McLeod Street is not considered to be an asbestos containing material.

Ceiling Stipple was observed in the ground floor unit of 423 McLeod Street. Three (3) samples (STIP17 – STIP19) of the ceiling stipple were collected and submitted for analysis. Based on the analytical test results, the ceiling stipple in ground floor unit of 423 McLeod Street is not considered to be an asbestos containing material.

Insulation

Insulation encountered within wall cavities of the building was observed to be fibreglass. No signs of potential asbestos containing insulation was identified. However, it should be noted that all wall and ceiling cavities could not be inspected at the time of our site visit.

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 buildings.

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.

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 the metal extraction industry. No sources of coke oven emissions are suspected or were observed with respect to the subject buildings.

Ethylene Oxide

Ethylene oxide is prescribed as a designated substance under Ontario Regulation 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 potential ethylene oxide containing materials within the subject buildings, ethylene oxide is not considered to pose a concern.

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 volatilize 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.

Lead

Lead is prescribed as a designated substance under O.Reg. 490/09 of the Occupational Health and Safety Act. 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 and copper piping were observed during the site visit.

Four paint samples were obtained as a possible lead containing material from the various buildings. The samples were submitted to Paracel for lead content analysis. The potential lead containing materials were analyzed to determine the presence and content of lead, as shown on the following table. The sample locations can also be found in Table 7. The laboratory certificate of analysis is appended to this letter.

Table 7 - Lead Content Determination Results				
Sample/Location	Description	Colour	Lead-Containing Definable Limit (µg/g)	Lead Content (µg/g)
P1 – 447 Kent Street, Entrance Wall Colour	Paint	Beige	90	<20
P2 – 447 Kent Street, wall and ceiling colours	Paint	White	90	<20
P3 – 425 McLeod Street, Upstairs Wall Colour	Paint	Beige/ Peach	90	<20
P4 – 423 McLeod Street, Multicoloured wall	Paint	Multi Layered	90	<20
Notes: Bold Results - Results exceeding the lead-containing definable limit.				

The selected paint samples analysed within the subject buildings are not considered to be lead containing.

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 lights including fluorescent tubes and compact fluorescent bulbs (CFBs).

Any mercury containing equipment must be disposed of according to Ontario Regulation 347 as amended by O. Reg. 558, if it is being decommissioned.

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, in pipes, plastics, vinyls and interior finishes such as paints and varnishes throughout the 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.

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 in concrete and cement parging. Typical procedures including wetting materials prior to, and during, any demolition activities are required to control dust.

Ozone Depleting Substances (ODSs)

Refrigerators and fire extinguishers were observed in the subject buildings. The refrigerators and fire extinguishers must be properly disposed of prior to a large scale demolition or renovation work.

Polychlorinated Biphenyls (PCBs)

No potential sources of PCBs were observed during the site visit.

3.0 SURVEY SUMMARY AND RECOMMENDATIONS

Based on our survey, three of the building materials analysed were determined to be asbestos containing. The possible presence of limited quantities of acrylonitrile, arsenic, benzene, ethylene oxide, isocyanates, lead and silica in the aforementioned building materials do not pose a concern, provided precautionary measures are followed during future proposed demolition or renovation works.

Asbestos

Based on the observations made during the site visit, combined with the analytical test results, the following ACMs were identified:

- ☐ **Ceiling Stipple in 449 Kent Street**
- ☐ **Drywall Joint Compound in 447 Kent Street**
- ☐ **Exterior Parging from 449 Kent Street, 423 and 425 McLeod Street**
- ☐ **Interior Parging from the basement and 2nd Floor of 447 Kent Street;**

All ACMs must be removed prior to large scale demolition or renovation works. A limited inspection of wall and ceiling cavities was included as part of this survey. No potential asbestos containing insulation was observed in the wall cavities. If any insulation materials are encountered in the wall and ceiling cavities that were not observed during this assessment, we request that we be notified.

The removal, disturbance or encapsulation of identified ACMs throughout the building must be done in accordance with the procedures outlined in Ontario Regulation 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.e-laws.gov.on.ca/html/regs/english/elaws_regs_050278_e.htm.

Mercury

Potential sources of mercury were encountered in several CFB's. Any mercury containing equipment must be disposed of according to Ontario Regulation 347 as amended by O. Reg. 558, if it is being decommissioned.

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 (wetting surfaces) and protect workers, such as providing appropriate dust masks. Further information can be obtained from the document entitled "Guideline – Silica on Construction Projects" (April 2011), prepared by the Occupational Health and Safety Branch of the Ontario Ministry of Labour.

Lead

Lead may be present in the solder used in copper piping observed throughout the building. During demolition, precautions must be taken to protect the workers. When potential lead containing materials (as identified in this report) are to be disturbed, precautions should be taken to minimize dust creation (wetting surfaces) and protect workers, such as providing appropriate dust masks. Further information can be obtained from the document entitled "Guideline – Lead on Construction Projects" (April 2011), prepared by the Occupational Health and Safety Branch of the Ministry of Labour.

4.0 STATEMENT OF LIMITATIONS

A designated substance survey was completed for the residential dwellings located at 443, 447, and 449 Kent Street, and 423 and 425 McLeod Street in the City of Ottawa, Ontario. The results of the survey are based on our visual observations made at the time of the site visit. Should any conditions be encountered at the subject site 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 CHSS International Investments and Management Inc. Permission and notification from CHSS International Investments and Management Inc. and this firm 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.

Paterson Group Inc.



Michael Beaudoin, P.Eng.



Eric Leveque, B.A.

Report Distribution:

- ☐ CHSS International Investments and Management Inc. (2 hard copies)
- ☐ Paterson Group Inc. (1 copy)

Attachments:

- ☐ Laboratory Certificates of Analysis

Certificate of Analysis

Paterson Group Consulting Engineers

154 Colonnade Road South
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Attn: Mike Beaudoin

Client PO: 23801

Project: PE4194

Custody: 14985-14989

Report Date: 11-May-2018

Order Date: 7-May-2018

Order #: 1819137

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

Paracel ID	Client ID
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1819137-01	DWJC1
1819137-02	DWJC2
1819137-03	DWJC3
1819137-04	DWJC4
1819137-05	DWJC5
1819137-06	DWJC6
1819137-07	DWJC7
1819137-08	DWJC8
1819137-09	DWJC9
1819137-10	DWJC10
1819137-11	DWJC11
1819137-12	DWJC12
1819137-13	DWJC13
1819137-14	DWJC14
1819137-15	DWJC15
1819137-16	DWJC16
1819137-17	DWJC17
1819137-18	DWJC18
1819137-19	DWJC19
1819137-20	DWJC20
1819137-21	DWJC21
1819137-22	DWJC22
1819137-23	DWJC23
1819137-24	DWJC24
1819137-25	DWJC25
1819137-26	DWJC26

Approved By:



Heather S.H. McGregor, BSc

Laboratory Director - Microbiology

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 23801

Report Date: 11-May-2018

Order Date: 7-May-2018

Project Description: PE4194

1819137-27	DWJC27
1819137-28	DWJC28
1819137-29	DWJC29
1819137-30	DWJC30
1819137-31	DWJC31
1819137-32	DWJC32
1819137-33	DWJC33
1819137-34	DWJC34
1819137-35	DWJC35
1819137-36	DWJC36
1819137-37	DWJC37
1819137-38	DWJC38
1819137-39	DECPL1
1819137-40	DECPL2
1819137-41	DECPL3
1819137-42	PL1
1819137-43	PL2
1819137-44	PL3
1819137-45	PRG1
1819137-46	PRG2
1819137-47	PRG3
1819137-48	STIP1
1819137-49	STIP2
1819137-50	STIP3
1819137-51	STIP5
1819137-52	STIP6
1819137-53	STIP7
1819137-54	STIP8
1819137-55	STIP9
1819137-56	STIP10
1819137-57	STIP14
1819137-58	STIP15
1819137-59	STIP16
1819137-60	STIP17
1819137-61	STIP18
1819137-62	STIP19
1819137-63	PRG5
1819137-64	PRG6
1819137-65	PRG7
1819137-66	PRG8
1819137-67	PRG9
1819137-68	PRG10
1819137-69	PRG11
1819137-70	PRG12

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 23801

Report Date: 11-May-2018

Order Date: 7-May-2018

Project Description: PE4194

1819137-71

PRG13

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 23801

Report Date: 11-May-2018

Order Date: 7-May-2018

Project Description: PE4194

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

<i>Paracel I.D.</i>	<i>Sample Date</i>	<i>Layers Analyzed</i>	<i>Colour</i>	<i>Description</i>	<i>Asbestos Detected:</i>	<i>Material Identification</i>	<i>% Content</i>
1819137-01	04-May-18	sample homogenized	Tan	Drywall Joint Compound	Yes	Client ID: DWIC1	
						Chrysotile	1
						Non-Fibers	99
1819137-02	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWIC2	
						Non-Fibers	100
1819137-03	04-May-18	sample homogenized	Tan	Drywall Joint Compound	Yes	Client ID: DWIC3	
						Chrysotile	1
						Non-Fibers	99
1819137-04	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWIC4	
						Non-Fibers	100
1819137-05	04-May-18	sample homogenized	Tan	Drywall Joint Compound	Yes	Client ID: DWIC5	
						Chrysotile	1
						Non-Fibers	99
1819137-06	04-May-18	sample homogenized	White	Drywall Joint Compound	No	Client ID: DWIC6	
						Non-Fibers	100
1819137-07	04-May-18	sample homogenized	Tan	Drywall Joint Compound	Yes	Client ID: DWIC7	
						Chrysotile	2
						Non-Fibers	98
1819137-08	04-May-18	sample homogenized	White	Drywall Joint Compound	No	Client ID: DWIC8	
						Non-Fibers	100
1819137-09	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWIC9	
						Non-Fibers	100
1819137-10	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWIC10	
						Non-Fibers	100
1819137-11	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWIC11	
						Non-Fibers	100
1819137-12	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWIC12	
						Non-Fibers	100
1819137-13	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWIC13	
						Non-Fibers	100
1819137-14	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWIC14	
						Non-Fibers	100
1819137-15	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWIC15	
						Non-Fibers	100

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 23801

Report Date: 11-May-2018

Order Date: 7-May-2018

Project Description: PE4194

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

<i>Paracel I.D.</i>	<i>Sample Date</i>	<i>Layers Analyzed</i>	<i>Colour</i>	<i>Description</i>	<i>Asbestos Detected:</i>	<i>Material Identification</i>	<i>% Content</i>
1819137-16	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWJC16 Non-Fibers	100
1819137-17	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWJC17 Non-Fibers	100
1819137-18	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWJC18 Non-Fibers	100
1819137-19	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWJC19 Non-Fibers	100
1819137-20	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWJC20 Non-Fibers	100
1819137-21	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWJC21 Non-Fibers	100
1819137-22	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWJC22 Non-Fibers	100
1819137-23	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWJC23 Non-Fibers	100
1819137-24	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWJC24 Non-Fibers	100
1819137-25	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWJC25 Non-Fibers	100
1819137-26	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWJC26 Non-Fibers	100
1819137-27	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWJC27 Non-Fibers	100
1819137-28	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWJC28 Non-Fibers	100
1819137-29	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWJC29 Non-Fibers	100
1819137-30	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWJC30 Non-Fibers	100
1819137-31	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWJC31 Non-Fibers	100
1819137-32	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DWJC32 Non-Fibers	100

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 23801

Report Date: 11-May-2018

Order Date: 7-May-2018

Project Description: PE4194

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

<i>Paracel I.D.</i>	<i>Sample Date</i>	<i>Layers Analyzed</i>	<i>Colour</i>	<i>Description</i>	<i>Asbestos Detected:</i>	<i>Material Identification</i>	<i>% Content</i>
1819137-33	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DW/C33 Non-Fibers	100
1819137-34	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DW/C34 Non-Fibers	100
1819137-35	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DW/C35 Non-Fibers	100
1819137-36	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DW/C36 Non-Fibers	100
1819137-37	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DW/C37 Non-Fibers	100
1819137-38	04-May-18	sample homogenized	Grey	Drywall Joint Compound	No	Client ID: DW/C38 Non-Fibers	100
1819137-39	04-May-18	sample homogenized	White	Plaster	No	Client ID: DECPL1 Non-Fibers	100
1819137-40	04-May-18	sample homogenized	White	Plaster	No	Client ID: DECPL2 Non-Fibers	100
1819137-41	04-May-18	sample homogenized	White	Plaster	No	Client ID: DECPL3 Non-Fibers	100
1819137-42	04-May-18	sample homogenized	White	Plaster	No	Client ID: PL1 Non-Fibers	100
1819137-43	04-May-18	sample homogenized	White	Plaster	No	Client ID: PL2 Non-Fibers	100
1819137-44	04-May-18					Client ID: PL3 [Z-01a] not analyzed	
1819137-45	04-May-18	sample homogenized	Grey	Parging	Yes	Client ID: PRG1 Tremolite Non-Fibers	1 99
1819137-46	04-May-18	sample homogenized	Grey	Parging	Yes	Client ID: PRG2 Tremolite Non-Fibers	1 99
1819137-47	04-May-18	sample homogenized	Grey/Brown	Drywall	No	Client ID: PRG3 [Z-01] Cellulose Non-Fibers	10 90
1819137-48	04-May-18	sample homogenized	White	Stipple	No	Client ID: STIP1 Non-Fibers	100

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 23801

Report Date: 11-May-2018

Order Date: 7-May-2018

Project Description: PE4194

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

Parcel I.D.	Sample Date	Layers Analyzed	Colour	Description	Asbestos Detected:	Material Identification	% Content
1819137-49	04-May-18	sample homogenized	White	Stipple	No	Client ID: STIP2 Non-Fibers	100
1819137-50	04-May-18	sample homogenized	White	Stipple	No	Client ID: STIP3 Non-Fibers	100
1819137-51	04-May-18	sample homogenized	White/Tan	Stipple	Yes	Client ID: STIP5 Chrysotile Non-Fibers	3 97
1819137-52	04-May-18					Client ID: STIP6 not analyzed	
1819137-53	04-May-18					Client ID: STIP7 not analyzed	
1819137-54	04-May-18	sample homogenized	White	Stipple	No	Client ID: STIP8 Non-Fibers	100
1819137-55	04-May-18	sample homogenized	White	Stipple	No	Client ID: STIP9 Non-Fibers	100
1819137-56	04-May-18	sample homogenized	White	Stipple	No	Client ID: STIP10 Non-Fibers	100
1819137-57	04-May-18	sample homogenized	White	Stipple	No	Client ID: STIP14 Non-Fibers	100
1819137-58	04-May-18	sample homogenized	White	Stipple	No	Client ID: STIP15 Non-Fibers	100
1819137-59	04-May-18	sample homogenized	White	Stipple	No	Client ID: STIP16 Non-Fibers	100
1819137-60	04-May-18	sample homogenized	White	Stipple	No	Client ID: STIP17 Non-Fibers	100
1819137-61	04-May-18	sample homogenized	White	Stipple	No	Client ID: STIP18 Non-Fibers	100
1819137-62	04-May-18	sample homogenized	White	Stipple	No	Client ID: STIP19 Non-Fibers	100
1819137-63	04-May-18	sample homogenized	White	Parging	No	Client ID: PRG5 Non-Fibers	100
1819137-64	04-May-18	sample homogenized	White	Parging	No	Client ID: PRG6 Non-Fibers	100
1819137-65	04-May-18	sample homogenized	White	Parging	No	Client ID: PRG7 Non-Fibers	100

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 23801

Report Date: 11-May-2018

Order Date: 7-May-2018

Project Description: PE4194

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

Paracel I.D.	Sample Date	Layers Analyzed	Colour	Description	Asbestos Detected:	Material Identification	% Content
1819137-66	04-May-18	sample homogenized	White	Parging Stucco	Yes	Client ID: PRG8	
						Chrysotile	2
						Non-Fibers	98
1819137-67	04-May-18					Client ID: PRG9	
						not analyzed	
1819137-68	04-May-18					Client ID: PRG10	
						not analyzed	
1819137-69	04-May-18	sample homogenized	Grey	Parging	Yes	Client ID: PRG11	
						Tremolite	1
						Non-Fibers	99
1819137-70	04-May-18					Client ID: PRG12	
						not analyzed	
1819137-71	04-May-18					Client ID: PRG13	
						not analyzed	

**** Analytes in bold indicate asbestos mineral content.**

Analysis Summary Table

Analysis	Method Reference/Description	Lab Location	NVLAP Lab Code	*	Analysis Date
Asbestos, PLM Visual Estimation	by EPA 600/R-93/116	2 - Ottawa West Lab	200812-0		11-May-18

* 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.

Qualifier Notes

Sample Qualifiers :

Z-01: No parging present. Sample bag contains only drywall. Result is for drywall.

Z-01a: No plaster present. Sample bag contains only drywall.

Work Order Revisions / Comments

None



Client Name: <u>PATERSON</u>	Project Reference: <u>1819137</u>	TAT: <input checked="" type="checkbox"/> Regular <input type="checkbox"/> 3 Day <input type="checkbox"/> 2 Day <input type="checkbox"/> 1 Day <input type="checkbox"/> Same Day Date Required: _____
Contact Name: <u>MIKE BRANDON</u>	Quote #:	
Address: <u>154 Colonnade Rd</u>	PO #:	
Telephone: <u>613-226-7361</u>	Email Address: <u>mbrandon@patersongroup.ca</u>	

ASBESTOS ANALYSIS

Matrix: ☐ Air ☒ Other Regulatory Guideline: _____ Required Analyses: ☐ PCM ☒ PLM ☐ PLM 400PC ☐ PLM 1000PC ☐ Chatfield ☐ TEM

Paracel Order Number: <u>1819137</u>		Matrix Description	Sampling Date	Air Volume (L)	Positive Stop? (Y/N)	Is the Sample Layered? (Y/N)	If layered, Describe Layer(s) to be Analyzed Separately* or Homogenize all **
Sample ID							
1 DWJCL1		PRY Wall joint compound	May 4/18		N	N	
2 DWJCL2							
3 DWJCL3							
4 DWJCL4							
5 DWJCL5							
6 DWJCL6							
7 DWJCL7							
8 DWJCL8							
9 DWJCL9							
10 DWJCL10							
11 DWJCL11							
12 DWJCL12							
13 DWJCL13							
14 DWJCL14							
15 DWJCL15							

* Each layer is charged as a separate analysis ** Homogenize = Sample is combined to a uniform mixture

Comments:			Method of Delivery: <u>Paracel Courier</u>	
Relinquished By (Sign): <u>[Signature]</u>	Received at Depot: <u>A. SEASE</u>	Received at Lab: <u>Karen Cull</u>	Verified By: <u>Karen Cull</u>	
Relinquished By (Print): <u>MIKE B</u>	Date/Time: <u>07/05/18 4:20 PM</u>	Date/Time: <u>May 8/18 9:48</u>	Date/Time: <u>May 8/18 9:55</u>	



Client Name: <u>PATERSON</u>	Project Reference: <u>PE4194</u>	TAT: <input checked="" type="checkbox"/> Regular [] 3 Day [] 2 Day [] 1 Day [] Same Day Date Required: _____
Contact Name: <u>MIKE BERARDON</u>	Quote #:	
Address: <u>154 Colonnade Rd S.</u>	PO #: <u>23801</u>	
Telephone: <u>613-226-7381</u>	Email Address: <u>mberardon@patersongroup.ca</u>	

ASBESTOS ANALYSIS

Matrix: [] Air ☒ Other Regulatory Guideline: _____ Required Analyses: [] PCM ☒ PLM [] PLM 400PC [] PLM 1000PC [] Chatfield [] TEM

Parcel Order Number: <u>1819137</u>		Matrix Description	Sampling Date	Air Volume (L)	Positive Stop? (Y/N)	Is the Sample Layered? (Y/N)	If layered, Describe Layer(s) to be Analyzed Separately* or Homogenize all **
Sample ID							
1 DWJC16		DAYWALL JOINT Compound	May 4/18		N	N	
2 DWJC17							
3 DWJC18							
4 DWJC19							
5 DWJC20							
6 DWJC21							
7 DWJC22							
8 DWJC23							
9 DWJC24							
10 DWJC25							
11 DWJC26							
12 DWJC27							
13 DWJC28							
14 DWJC29							
15 DWJC30							

* Each layer is charged as a separate analysis ** Homogenize = Sample is combined to a uniform mixture

Comments:

Method of Delivery:

Paracel Courier

Relinquished By (Sign):	Received at Depot: <u>A. FRAISE</u>	Received at Lab: <u>Karen Cull</u>	Verified By: <u>Karen Cull</u>
Relinquished By (Print):	Date/Time: <u>07/05/18 4:20 PM</u>	Date/Time: <u>May 8/18 9:48</u>	Date/Time: <u>May 8/18 9:56</u>
Date/Time:			



Client Name: <u>Parerson</u>	Project Reference: <u>1819137</u>	TAT: <input checked="" type="checkbox"/> Regular [] 3 Day [] 2 Day [] 1 Day [] Same Day Date Required: _____
Contact Name: <u>MIKE BEAUDOU</u>	Quote #:	
Address: <u>154 Colonnade Rd</u>	PO #: <u>23801</u>	
Telephone: <u>613-226-7361</u>	Email Address: <u>mbeaudou@parersongroup.ca</u>	

ASBESTOS ANALYSIS

Matrix: [] Air <input checked="" type="checkbox"/> Other Regulatory Guideline: _____		Required Analyses: [] PCM <input checked="" type="checkbox"/> PLM [] PLM 400PC [] PLM 1000PC [] Chatfield [] TEM				
Parcel Order Number: <u>1819137</u>		Sampling Date	Air Volume (L)	Positive Stop? (Y/N)	Is the Sample Layered? (Y/N)	If layered, Describe Layer(s) to be Analyzed Separately* or Homogenize all **
Sample ID	Matrix Description					
1 DWSC31	Drywall Joint Compound	May 4/18		N	N	
2 DWSC32						
3 DWSC33						
4 DWSC34						
5 DWSC35						
6 DWSC36						
7 DWSC37						
8 DWSC38						
9 DELPL1	Decorative Plaster	May 4/18		Y	N	group.
10 DELPL2				Y	N	
11 DELPL3				Y	N	
12 PL1/PR1	White Plaster / Gray Parging	May 4/18		N	Y	Test white Plaster (PC)
13 PL2/PR2				N	Y	and gray parging (PR)
14 PL3/PR3				N	Y	separately
15						

* Each layer is charged as a separate analysis ** Homogenize = Sample is combined to a uniform mixture

Comments:

Method of Delivery:

Paracel Courier

Relinquished By (Sign): <u>MWB</u>	Received at Depot: <u>A. J. JANE</u>	Received at Lab: <u>Karen Cull</u>	Verified By: <u>Karen Cull</u>
Relinquished By (Print): <u>MIKE B</u>	Date/Time: <u>07/05/18 4:30 PM</u>	Date/Time: <u>May 8/18 9:48</u>	Date/Time: <u>May 8/18 9:56</u>



Client Name: <u>PATERSON</u>	Project Reference: <u>184194</u>	TAT: <input checked="" type="checkbox"/> Regular <input type="checkbox"/> 3 Day <input type="checkbox"/> 2 Day <input type="checkbox"/> 1 Day <input type="checkbox"/> Same Day Date Required: _____
Contact Name: <u>Mike Berudon</u>	Quote #:	
Address: <u>154 Colonnade Rd S.</u>	PO #: <u>23001</u>	
Telephone: <u>613-226-7301</u>	Email Address: <u>mberudon@patergroup.ca</u>	

ASBESTOS ANALYSIS

Matrix: ☐ Air ☒ Other Regulatory Guideline: _____ Required Analyses: ☐ PCM ☐ PLM ☐ PLM 400PC ☐ PLM 1000PC ☐ Chatfield ☐ TEM

Paracel Order Number:	Sample ID	Matrix Description	Sampling Date	Air Volume (L)	Positive Stop? (Y/N)	Is the Sample Layered? (Y/N)	If layered, Describe Layer(s) to be Analyzed Separately* or Homogenize all **
1819137							
	1 STIP1	Ceiling Stipple	May 4/18		Y	N	group
	2 STIP2	↓			Y	N	
	3 STIP3	Ceiling Stipple			Y	N	group
	4 STIP5	↓			Y	N	
	5 STIP6	Ceiling Stipple			Y	N	group
	6 STIP7	↓			Y	N	
	7 STIP8	Ceiling Stipple			Y	N	group
	8 STIP9	↓			Y	N	
	9 STIP10	Ceiling Stipple			Y	N	group
	10 STIP14	↓			Y	N	
	11 STIP15	Ceiling Stipple			Y	N	group
	12 STIP16	↓			Y	N	
	13 STIP17	Ceiling Stipple			Y	N	group
	14 STIP18	↓			Y	N	
	15 STIP19						

* Each layer is charged as a separate analysis ** Homogenize = Sample is combined to a uniform mixture

Comments: _____ Method of Delivery: Paracel Courier

Relinquished By (Sign): <u>Mike B.</u>	Received at Depot: <u>A. JENSEN</u>	Received at Lab: <u>Karen Cull</u>	Verified By: <u>Karen Cull</u>
Relinquished By (Print): <u>Mike B.</u>	Date/Time: <u>07/05/18 4:20 PM</u>	Date/Time: <u>May 8/18 9:48</u>	Date/Time: <u>May 8/18 9:58</u>



Client Name: <u>Patterson</u>	Project Reference: <u>PEY194</u>	TAT: <input checked="" type="checkbox"/> Regular [] 3 Day [] 2 Day [] 1 Day [] Same Day Date Required: _____
Contact Name: <u>MIKE Beauchin</u>	Quote #:	
Address: <u>154 Colonnade Rd S.</u>	PO #: <u>23801</u>	
Telephone: <u>613-226-7361</u>	Email Address: <u>mbeauchin@pattersongray.com</u>	

ASBESTOS ANALYSIS

Matrix: [] Air <input checked="" type="checkbox"/> Other Regulatory Guideline: _____		Required Analyses: [] PCM <input checked="" type="checkbox"/> PLM [] PLM 400PC [] PLM 1000PC [] Chatfield [] TEM				
Parcel Order Number: <u>1819137</u>		Sampling Date	Air Volume (L)	Positive Stop? (Y/N)	Is the Sample Layered? (Y/N)	If layered, Describe Layer(s) to be Analyzed Separately* or Homogenize all **
Sample ID	Matrix Description					
1 <u>PR65</u>	<u>Painting</u>	<u>May 4/18</u>		<u>Y</u>	<u>N</u>	<u>group</u>
2 <u>PR66</u>				<u>Y</u>	<u>N</u>	
3 <u>PR67</u>				<u>Y</u>	<u>N</u>	
4 <u>PR68</u>	<u>Exterior painting/stucco</u>			<u>Y</u>	<u>N</u>	<u>group</u>
5 <u>PR69</u>				<u>Y</u>	<u>N</u>	
6 <u>PR610</u>				<u>Y</u>	<u>N</u>	
7 <u>PR611</u>	<u>Painting</u>			<u>Y</u>	<u>N</u>	<u>group</u>
8 <u>PR612</u>				<u>Y</u>	<u>N</u>	
9 <u>PR613</u>				<u>Y</u>	<u>N</u>	
10						
11						
12						
13						
14						
15						

* Each layer is charged as a separate analysis ** Homogenize = Sample is combined to a uniform mixture

Comments:				Method of Delivery: <u>Parcel Courier</u>	
Relinquished By (Sign): <u>Mike B.</u>	Received at Depot: <u>M. J. J. J.</u>	Received at Lab: <u>Karen Gull</u>	Verified By: <u>Karen Gull</u>		
Relinquished By (Print): <u>MIKE B.</u>	Date/Time: <u>07/05/18 4:20 PM</u>	Date/Time: <u>May 8/18 9:48</u>	Date/Time: <u>May 8/18 9:56</u>		

Certificate of Analysis

Paterson Group Consulting Engineers

154 Colonnade Road South
Nepean, ON K2E 7J5
Attn: Mike Beaudoin

Client PO: 23801
Project: PE4194
Custody: 116670

Report Date: 9-May-2018
Order Date: 7-May-2018

Order #: 1819132

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

Paracel ID	Client ID
------------	-----------

1819132-01	P1
1819132-02	P2
1819132-03	P3
1819132-04	P4

Approved By:



Mark Foto, M.Sc.
Lab Supervisor

Any use of these results implies your agreement that our total liability in connection with this work, however arising shall be limited to the amount paid by you for this work, and that our employees or agents shall not under circumstances be liable to you in connection with this work

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 23801

Report Date: 09-May-2018

Order Date: 7-May-2018

Project Description: PE4194

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Metals, ICP-OES	based on MOE E3470, ICP-OES	8-May-18	8-May-18

Sample and QC Qualifiers Notes

- 1- Gen-19 :Complete separation of paint from substrate not possible for this sample and a small amount of substrate has been included in the paint digestion.

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: 23801

Report Date: 09-May-2018
 Order Date: 7-May-2018
Project Description: PE4194

Sample Results

Lead				Matrix: Paint
				Sample Date: 04-May-18
Paracel ID	Client ID	Units	MDL	Result
1819132-01	P1	ug/g	20	<20
1819132-02	P2	ug/g	20	<20
1819132-03	P3	ug/g	20	<20 [1]
1819132-04	P4	ug/g	20	<20

Laboratory Internal QA/QC

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Matrix Blank									
Lead	ND	20	ug/g						
Matrix Duplicate									
Lead	117	20	ug/g	124			5.9	30	
Matrix Spike									
Lead	238		ug/L	62.2	70.3	70-130			

No 116670

Page 1 of 1

Turnaround Time:

☐ 1 Day ☐ 3 Day☐ 2 Day ☒ Regular

Date Required:

Client Name:	PATERSON	Project Reference:	PEY194
Contact Name:	MIKE BEAUDIN	Quote #	
Address:	154 Colonnade Rd S.	PO #	23801
Telephone:	613-226-7361	Email Address:	mbeaudin@patersongroup.ca

Criteria: ☐ O. Reg. 153/04 (As Amended) Table ☐ RSC Filing ☐ O. Reg. 558/00 ☐ PWQO ☐ CCME ☐ SUB (Storm) ☐ SUB (Sanitary) Municipality: ☐ Other:

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

Required Analyses

Paracel Order Number:

1819132

[illegible]

Comments:

Method of Delivery

Parace

Relinquished By (Sign): <i>Mike B</i>	Received by Driver Depot: <i>T. T. T. T. T.</i>	Received at Lab: <i>SWOODEPORN SOUMMAI</i>	Verified By: <i>M. D. S. C.</i>
Relinquished By (Print): <i>Mike B</i>	Date/Time: <i>07/05/18 4:20</i>	Date/Time: <i>MAY 07, 2018 07:14</i>	Date/Time: <i>May 07 2018 5:32</i>
Date/Time:	Temperature: <i>70</i>	Temperature: <i>70</i>	pH Verified By: