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Geotechnical Engineering
Environmental Engineering
Hydrogeology
Materials Testing
Building Science
Rural Development Design
Temporary Shoring Design
Retaining Wall Design
Noise and Vibration Studies

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January 11, 2024
File: PE4767-LET.04

Inverness Homes
69 Moore Street
Ottawa, Ontario
K0A 2Z0

Attention: **Mr. Joshua Laginski**

Subject: **Phase II Environmental Site Assessment Update**
1518, 1524, 1526 Stittsville Main Street
Ottawa, Ontario

Dear Sir,

Further to your request, Paterson Group Inc. (Paterson) carried out a Phase II – Environmental Site Assessment (ESA) Update for the aforementioned property. This report updates a previous Phase II ESA entitled “Phase II Environmental Site Assessment, 1518, 1524, 1526 Stittsville Main Street, Ottawa, Ontario” prepared by Paterson Group, dated November 23, 2020.

This update report is intended to meet the requirements for an updated Phase II ESA, as per the MECP O.Reg. 153/04, as amended. This report is to be read in conjunction with the 2020 report.

Background Information

Physical Setting

The Phase II Property is located on the southwest side of Stittsville Main Street, approximately 50 m southwest of the intersection of Abbott Street West and Stittsville Main Street, in the City of Ottawa. The Phase II Property is situated in a mixed commercial and residential zone.

The Phase II Property is currently vacant land, with gravel parking along the eastern half of the property. Site drainage consists primarily of surface infiltrations, with some sheet flow along Stittsville Main Street.

The site is relatively flat and at grade with the surrounding properties, while the regional topography slopes downwards in an easterly direction.

It is our understanding that the Phase II Property will be redeveloped with a multi-storey mixed-use building.

Areas of Natural Significance and Water Bodies

No areas of natural significance and/or water bodies are present on the Phase II Property or in the Phase I Study Area.

Past Assessments

- ❑ "Phase I & II Environmental Site Assessment, 1524 and 1526 Stittsville Main Street, Ottawa, Ontario," prepared by Paterson Group Inc. (Paterson), dated November 23, 2011

The 2011 Phase I & II ESA conducted by Paterson assessed properties 1524 and 1526 Stittsville Main Street. Based on a historical review and on-site observations, a historical dry cleaner was identified at 1524 Stittsville Main Street, based on this a Phase II ESA was completed.

A subsurface investigation was conducted in November of 2011. Five (5) boreholes, two (2) of which were instrumented with groundwater monitoring wells, were advanced on the properties. The groundwater monitoring wells were located on the footprint of the former drycleaners (BH2) and the footprint of a former residential structure (BH4). One borehole was located adjacent to the southern commercial building addressed 1528 Stittsville Main Street (BH1), while the remaining boreholes were located throughout the properties for general coverage.

One (1) soil sample collected from BH1 was submitted for PAH analysis, while one (1) sample collected from BH2 and one (1) sample collected from BH4 were submitted for VOC analysis. Based on the analytical test results, no PAH concentrations above the applicable MECP standards were detected in the sample collected from BH1, however, it was noted that fill material was present and consisted of gravel and pieces of coal. A VOC parameter (tetrachloroethylene) was detected in samples collected from BH2 and BH4. The detected tetrachloroethylene concentration for BH2 exceeds the current MECP standards while the concentration for BH4 complies.

Two (2) groundwater samples were collected and submitted for VOC and PHC analysis. Based on the analytical test results, no PHC concentrations were detected in both samples. The sample collected from BH2 and BH_ identified 1,2-dichloroethylene and tetrachloroethylene in exceedance of the MECP standards at that time and detected trichloroethylene that complied with the current MECP standards.

❑ "Phase I & II Environmental Site Assessment, 1520 Stittsville Main Street, Ottawa, Ontario," prepared by Paterson Group Inc. (Paterson), dated November 23, 2019

Based on the previously identified historical dry cleaners on the adjacent property, a subsurface investigation was conducted in June of 2019 on 1520 Stittsville Main Street. Three (3) boreholes (BH1, BH2 and BH3), instrumented with groundwater monitoring wells, were advanced on the property. The groundwater monitoring wells were located on the western portion of the property while BH1 was located closest to the location of the former dry cleaners on the adjacent property.

One (1) soil sample was collected from BH2 and submitted for metal analysis. Three (3) samples collected from BH1, BH2 and BH3 were submitted for VOCs analysis. All metals parameters detected in the BH2 sample complied with the MECP Table 3 Standards, however, it was noted that fill material was present and consisted of brown sand and brick. No detectable VOC parameter concentrations were identified in the BH3 sample. Tetrachloroethylene concentrations were found to exceed the MECP Table 3 Standards in the BH1 sample.

Three (3) groundwater samples were collected and submitted for VOCs analysis. Based on the analytical test results, no VOC parameter concentrations were detected in the groundwater samples analyzed. The groundwater complied with the MECP Table 3 Standards.

Based on the findings of the Phase I & II ESA, it was recommended that a remediation be conducted to address the presence of VOCs in the soil.

❑ "Phase I Environmental Site Assessment, 1520, 1524 and 1526 Stittsville Main Street, Ottawa, Ontario," prepared by Paterson Group Inc. (Paterson), dated September 17, 2020

The Phase I ESA was completed in general accordance with the Ontario Regulation (O.Reg.) 153/04, as amended. The findings of the Phase I ESA identified the following on-site potentially contaminating activities (PCAs) that resulted in an area of potential environmental concern (APEC):

- APEC 1 – "Former Dry Cleaners" associated with the former presence of a dry cleaners at the property addressed 1520 Stittsville Main Street (PCA#37)

- APEC 2 – "Importation of Fill Material of Unknown Quality" associated with the building footprints of the former site structures, that have been demolished (PCA#30).

A Phase II ESA was recommended to address the aforementioned APEC on the Phase I Property.

- ❑ "Phase II Environmental Site Assessment, 1520, 1524 and 1526 Stittsville Main Street, Ottawa, Ontario," prepared by Paterson Group Inc. (Paterson), dated September 17, 2020

The Phase II ESA was completed to assess the subsurface conditions based on the former presence of a dry cleaners and the quality of the fill material that had been placed on-site.

The field program was completed in conjunction with a Geotechnical Investigation that consisted of twelve (12) boreholes, three (3) of which were instrumented with groundwater monitoring wells.

The soil profile generally consisted of a layer of fill material, overlying native silty sand and glacial till. Bedrock consisting of limestone interbedded with shale was observed at depths ranging from 4.22 to 5.94 m below the ground surface.

The fill material consisted of a mix of topsoil and/or brown silty sand with crushed stone, and trace amounts of concrete, brick and wood. The fill varied in thickness from 0 to 2.3 m below ground surface.

Six (6) soil samples were submitted for laboratory analysis of metals, PAHs and/or VOCs. All soil samples complied with the MECP Table 3 Standards, with the exception of lead and mercury concentrations identified at BH4-20.

Groundwater samples were recovered from the monitoring wells BH1-20, BH2-20, BH3-20, BH2-19 and BH2. No visual or olfactory signs of contamination were noted in the groundwater. The groundwater samples were submitted for PHCs, VOCs and metals analysis. Concentrations of tetrachloroethylene were identified in all monitoring wells and exceeded the MECP Table 3 Standards. Chloroform was identified in BH2 in excess of the MECP Table 3 Standards, however, the presence of chloroform is considered to be related to the use of municipal water during drilling processes.

Chloroform, tetrachloroethylene and cis-1,2-dichloroethylene were identified to exceed the MECP Table 3 Standards in previous groundwater sampling programs.

Investigation Method

A Supplemental Phase II ESA Investigation was conducted following the original Phase II ESA, to supplement the initial test data. Five boreholes were drilled on the Phase II Property, three of which were instrumented with groundwater monitoring wells on June 16, 2022 by Downing Drilling, under the full-time supervision of Paterson personnel.

All soil samples collected underwent a preliminary screening procedure, which included visual screening for colour and evidence of deleterious fill, as well as screening with a photo ionization detector (PID). The detection limit is 0.1 ppm, with a precision of +/- 2

ppm or 10% of the reading. Fill material consisted of topsoil and/or brown silty sand with gravel and crushed stone. No new environmental concerns were identified during the field screening.

Paterson completed 6 groundwater sampling events including existing and newly installed groundwater monitoring wells in order to update the groundwater quality at the Phase II ESA Property.

Phase II Conceptual Site Model

Potentially Contaminating Activities and Areas of Potential Environmental Concern

Based on the results of the Phase I ESA and the Phase I ESA Update completed for the Phase II ESA Property, the following APECs were identified on the Phase II ESA Property. The APECs are summarized in Table 1.

Table 1: Areas of Potential Environmental Concern

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil, and/or Sediment)
APEC 1 Former Dry Cleaners	Eastern section of 1524 Stittsville Main Street	PCA 37 – *"Operation of Dry Cleaning Equipment (where chemicals are used)"*	On-Site	VOCs	Soil and/or Groundwater
APEC 2 Fill Material of unknown quality	Former building footprints along easter portion of Phase I Property	PCA 30 – *"Importation of Fill Material of Unknown Quality"*	On-Site	Metals (Mercury, CrVI) PAHs	Soil

Contaminants of Potential Concern

The contaminants of potential concern (CPCs) identified in the Phase II ESA Property include volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and metals in soil and/or groundwater.

Physical Setting

Site Stratigraphy

The site stratigraphy of the Phase II ESA Property generally consists of:

- ❑ Fill, consisting of brown silty sand with gravel and crushed stone and/or topsoil, varying in depths from 0 to 2.3 m. The fill material is not expected to be a significant water bearing unit at the Phase II ESA Property. Groundwater was not observed in this stratigraphic unit.
- ❑ Native, brown silty sand, varying in depths from 0.2 to 5.8 m. Groundwater was encountered in this unit and is considered to be an aquifer.
- ❑ Intermittent layer of native glacial till, consisting of brown silty sand with gravel, cobbles and boulders, varying in depths from 3.8 to 5.9 m.
- ❑ Grey limestone interbedded shale bedrock, encountered at a depths of approximately 5.5 to 5.9 m below the existing grade. The upper bedrock is weathered, becoming more competent with depth.

Hydrogeological Setting

The Geological Survey of Canada website on the Urban Geology of the National Capital Area was consulted as part of this assessment. Based on the information from NRCAN, bedrock within the area of the Phase I Property consists of limestone and interbedded dolomite of the Gull River Formation. The overburden consists of glaciofluvial deposits, with a drift thickness of 5 to 10 m. The geological description of the site was generally consistent with the results of the previous subsurface investigations, with overburden encountered between 0 to 5.5.9 m thick.

Based on the 2020 Phase II ESA, and supplemental 2022 groundwater monitoring wells, groundwater water beneath the Phase II Property was inferred to flow in a westerly direction.

Approximate Depth to Bedrock

Bedrock was encountered at approximately 5.5 to 5.9 m below the existing ground surface.

Approximate Depth to Water Table

Depth to the water table at the Phase II Property varied from approximately 2.7 to 5.3 m below existing ground surface based on recent groundwater monitoring events.

Sections 41 and 43.1 of the Regulation

Section 41 of the Regulation (Site Condition Standards, Environmentally Sensitive Areas) does not apply to the Phase II ESA Property. A search of areas of natural significance and features was completed on the Ontario Ministry of Natural Resources (MNR) website as part of the Phase I ESA within the Phase I ESA Study Area (250 m radius from site boundary) and did not reveal any areas of natural significance or environmentally sensitive areas within the Phase I ESA Study Area.

Section 43.1 of the Regulation does not apply to the Phase II ESA Property in that the Phase II Property is not defined as a shallow soil property.

Fill Placement

Fill material is present on-site as the uppermost layer of overburden soil, comprising the eastern half of the property and former building footprints. Visual screening and analytical testing indicate that the fill material in BH4-20 was identified to be contaminated with lead and mercury exceeding the MECP Table 3 Standards.

Existing Buildings and Structures

No buildings or structures are present on the Phase II Property.

Proposed Buildings and Other Structures

The proposed development plans for the property include a multi-storey apartment building with commercial office/restaurant space.

Environmental Condition

Areas Where Contaminants are Present

Based on the analytical test results, fill material exceeding the selected MECP Table 3 Residential Standards for metals (lead and mercury) is present beneath the northeast portion of the Phase II Property. Tetrachloroethylene was identified in the native silty sand along Stittsville Main Street, exceeding the MECP Table 3 Standards. All other VOCs were in compliance with the MECP Table 3 Standards.

Analytical test results for groundwater exceeded the MECP Table 3 Non-Potable Standards for tetrachloroethylene and chloroform on the portion of the Phase II Property fronting Stittsville Main Street. The rear portion of the property, where the proposed residential development will take place is in compliance with the MECP Table 3 Standards.

Types of Contaminants

Based on the analytical test results, the contaminants of concern on the Phase II ESA Property include Metals and VOCs in the soil, and VOCs in the groundwater.

Contaminated Media

Based on the results of the Phase II ESA, soil in the eastern portion of the Phase II Property is contaminated with lead, mercury and tetrachloroethylene, and groundwater is contaminated with tetrachloroethylene and chloroform.

What is Known About Areas where Contaminants are Present

The impacted soil is considered to be related to the demolition of former structures along the eastern portion of the property, as well as its former operations. The source of the impacted groundwater is from the former operation of a dry-cleaning business on the Phase II Property.

Distribution of Contaminants

The impacted soil is considered to be confined to a small strip of the property along Stittsville Main Street, while the impacted groundwater is present throughout the entire eastern half of the Phase II Property. The impacted soil and groundwater is considered to only be present on the proposed commercial portion of the redevelopment property. The residential portion of the Phase II Property is considered to be in compliance.

Discharge of Contaminants

The impacted fill material is considered to be associated with the demolition of former structures. The impacted groundwater is associated with the presence of a former dry-cleaning operation on the property.

Distribution and Migration of Contaminants

Based on the findings of the Phase II ESA, the distribution of VOC contaminants in groundwater appears to be in proximity to the former dry-cleaning operation. Based on the analytical test results from the nearby monitoring wells, it appears that the migration of impacted groundwater is limited to the eastern half of the property. The groundwater within the western half (residential portion) of the property is in compliance with the applicable standards. The impacts associated with the fill material are not considered to have migrated.

Climatic and Meteorological Conditions

In general, climatic and meteorological conditions have the potential to affect contaminant distribution. Two ways by which climatic and meteorological conditions may affect

contaminant distribution include the downward leaching of contaminants by means of infiltration of precipitation, and the migration of contaminants via groundwater levels and/or flow, which may fluctuate seasonally. Based on the results of the subsurface investigation, VOC contaminant distribution is likely to have occurred at the Phase II Property.

Potential for Vapour Intrusion

Currently the Phase II property is vacant and there is no risk related to vapour intrusion on the property. The residential portion of the Phase II property is currently in compliance with the applicable standards and the vapour risk is considered negligible during the redevelopment. The commercial portion of the site is considered to be at a low risk for vapour intrusion due to the nature of the proposed development and operations.

Recommendations

Based on the soil and groundwater test results, impacted soil and groundwater is present on Phase II Property within the commercial portion. Additional soil testing will be required for offsite disposal purposes in compliance with O.Reg. 406/19.

Statement of Limitations

This Phase II – Environmental Site Assessment Update report has been prepared under the supervision of a Qualified Person, in general accordance with Ontario Regulation 153/04, as amended, under the Environmental Protection Act.

The conclusions presented herein are based on information gathered from a limited historical review and field inspection program. the findings of the Phase II – ESA Update are based on a review of readily available geological, historical and regulatory information and a cursory review made at the time of the field assessment.

Should any conditions be encountered at the subject site and/or historical information 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 Inverness Homes. Permission and notification from the above noted party and this firm will be required to release this report to any other party.

We trust that this submission satisfies your current requirements. Should you have any questions please contact the undersigned

Paterson Group Inc.

Joshua Dempsey, B.Sc.

Michael Beaudoin, P.Eng., QP$_{ESA}$

Report Distribution:

- ❑ Inverness Homes
- ❑ Paterson Group

Appendix

- ❑ Figure 1 – Key Plan
- ❑ Drawing PE4767-3 – Test Hole Location Plan
- ❑ Drawing PE4767-4 – Analytical Testing Plan – Soil
- ❑ Drawing PE4767-5 – Analytical Testing Plan – Groundwater
- ❑ Soil Profile and Test Data Sheets
- ❑ Analytical Test Results
- ❑ Laboratory Certificates of Analysis

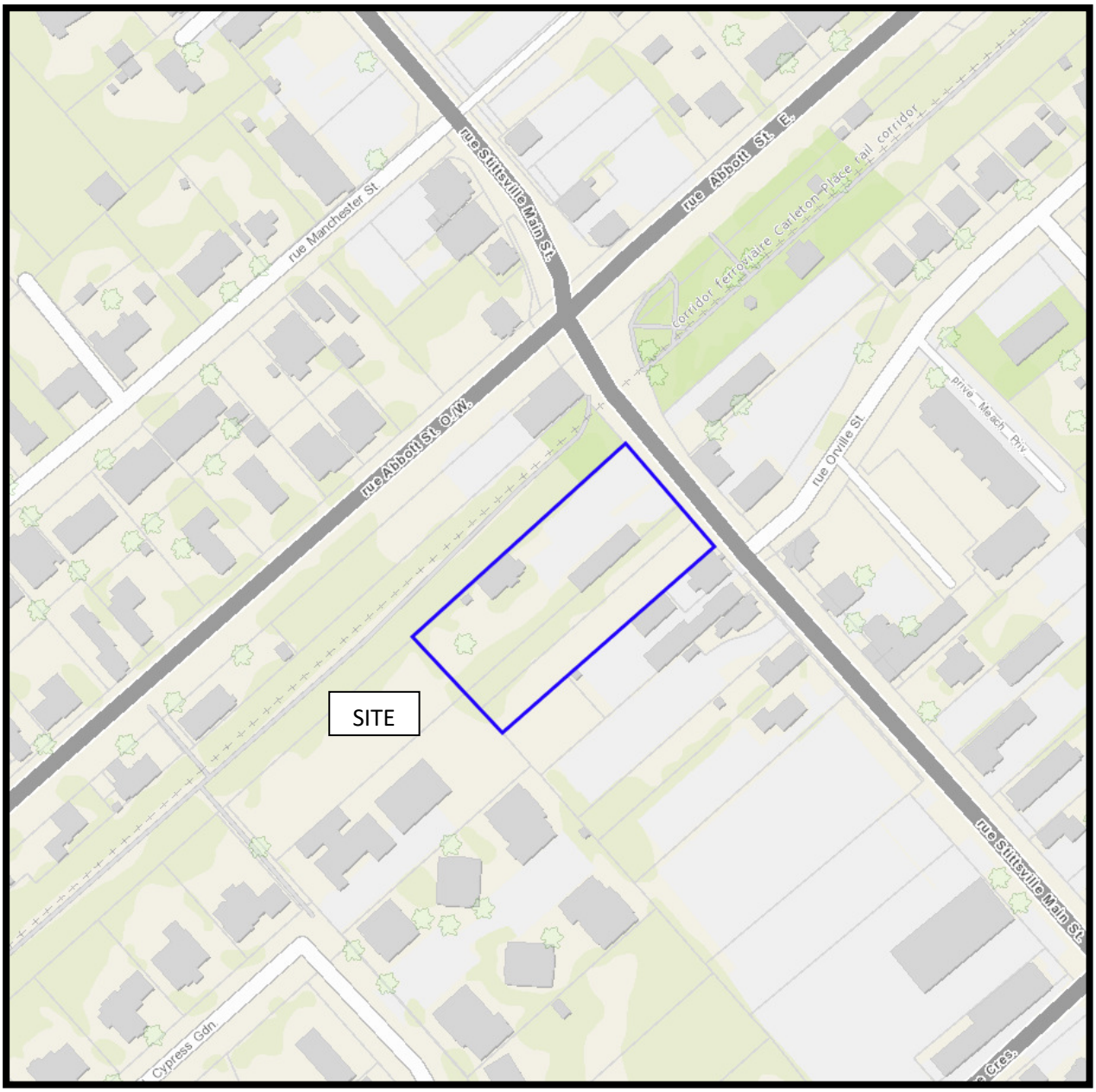

FIGURE 1

KEY PLAN

TRANS CANADA TRAIL

1518
STITTSVILLE MAIN STREET
VACANT LOT

FORMER TOOL SHED

FORMER RESIDENTIAL DWELLING

GRASS
PROPOSED DEVELOPMENT FOOTPRINT

BH 8-20
121.50

BH 9-20
121.23

BH 4-22
121.58

BH 7-20
121.71

1518 STITTSVILLE MAIN STREET

BH 10-20
121.46

BH 6-20
121.52

BH 3-19
121.56

BH 5-20
121.47

FORMER BUILDING

GRAVEL

BH 1-22
121.61
(116.32)

BH 4-20
121.61

BH 2-19
121.53
(116.46)
[115.92]

ACCESS ROAD

BH 3-22
121.42
(116.59)

FORMER BARN

BH 2-22
121.55
(116.62)

BH 1-20
121.77
(116.38)

BH 1-19
121.82
(116.67)

(0.038m/m)

TREED AREA

BH 5-22
121.08

1524 STITTSVILLE MAIN STREET

BH 3-11

FORMER BUILDING

1 HENRY GOULBURN WAY
RESIDENTIAL DWELLING

BH 5-11

BH 11-20
121.03

BH 12-20
121.14

GRASS

GRAVEL

BH 3-20
121.78
(116.68)

BH 2-11
121.83

1526 STITTSVILLE MAIN STREET

BH 4-11

FORMER BUILDING

BH 1-11

BH 2-20
121.23
(115.81)

#1530 STITTSVILLE MAIN ST. 1-STOREY COMMERCIAL BUILDING

#1528 STITTSVILLE MAIN STREET 2 STOREY COMMERCIAL BUILDING

5 HENRY GOULBURN WAY
RESIDENTIAL DWELLING

STITTSVILLE MAIN STREET

MH
TBM=121.74

LEGEND:

- BOREHOLE LOCATION
- BOREHOLE WITH MONITORING WELL LOCATION
- 121.53 GROUND SURFACE ELEVATION (m)
- (116.68) GROUNDWATER SURFACE ELEVATION (m) 20 JUNE 2022
- A–A' CROSS SECTION
- 116.2 GROUNDWATER CONTOUR (m)
- (0.038m/m) APPROX. GROUNDWATER FLOW DIRECTION (HORIZONTAL HYDRAULIC GRADIENT)
- PROPERTY BOUNDARY
- RSC PROPERTY BOUNDARY

GROUND SURFACE ELEVATIONS AT BOREHOLE LOCATIONS ARE REFERENCED TO A GEODETIC DATUM

SCALE: 1:400

0 5 10 15 20 25m

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NO.	REVISIONS	DATE	INITIAL
1.	2022 BOREHOLES ADDED TO THE PLAN	05/07/2022	MB

INVERNESS HOMES

PHASE II - ENVIRONMENTAL SITE ASSESSMENT
1518, 1524, 1526 STITTSVILLE MAIN STREET

STITTSVILLE, ONTARIO

Title:

TEST HOLE LOCATION PLAN

Scale: 1:400	Date: 08/2022
Drawn by: MPG	Report No.: PE4767-2
Checked by: MSP	Dwg. No.: PE4767-3
Approved by: MB	Revision No.:

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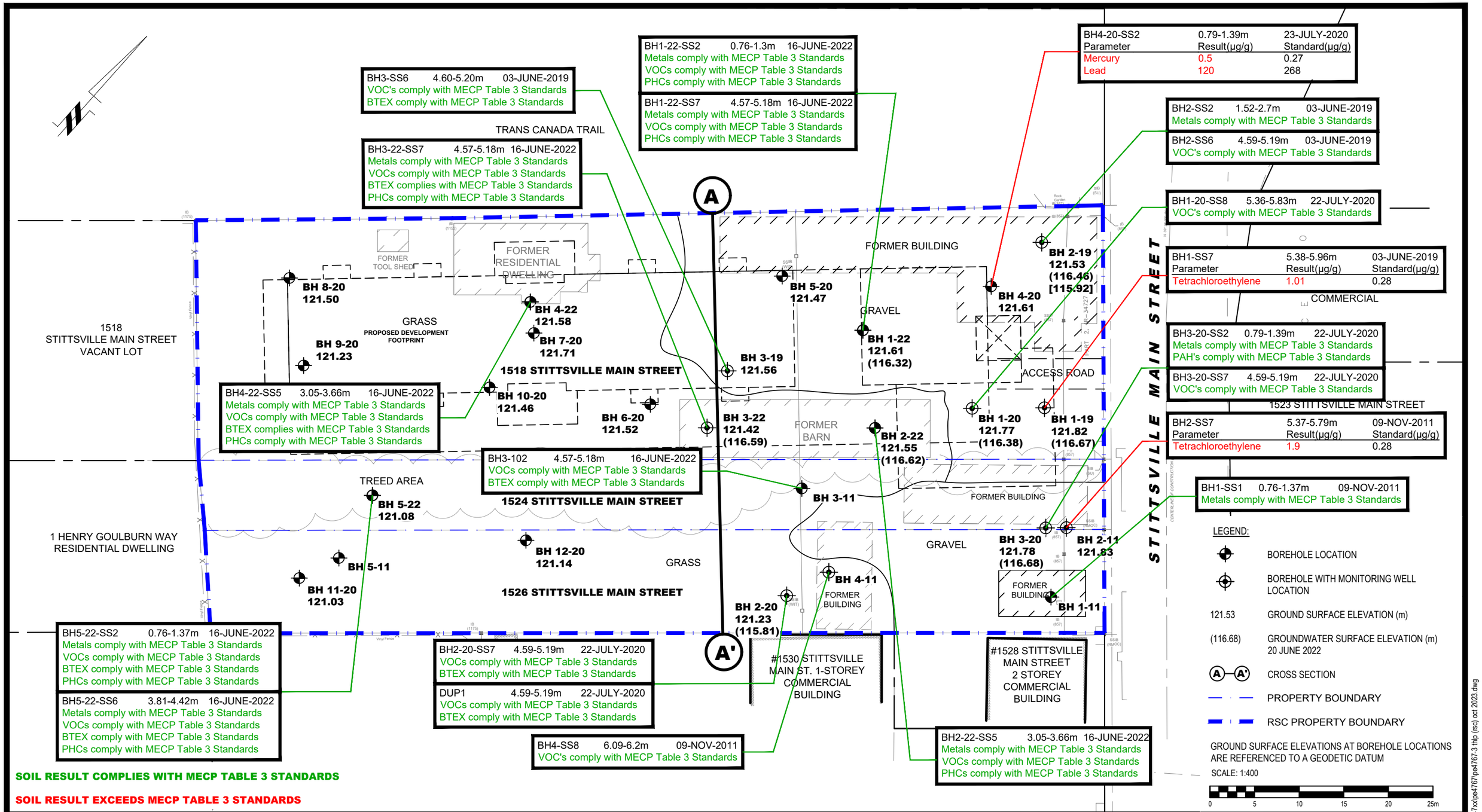

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1.	2022 BOREHOLES ADDED TO THE PLAN	05/07/2022	MB

INVERNESS HOMES

PHASE II - ENVIRONMENTAL SITE ASSESSMENT
1518, 1524, 1526 STITTSVILLE MAIN STREET

STITTSVILLE, ONTARIO

Title:

ANALYTICAL TETSING PLAN - SOIL

Scale: 1:400	Date: 10/2020
Drawn by: MPG	Report No.: PE4767-2
Checked by: MSP	Dwg. No.: PE4767-4
Approved by: MB	Revision No.:

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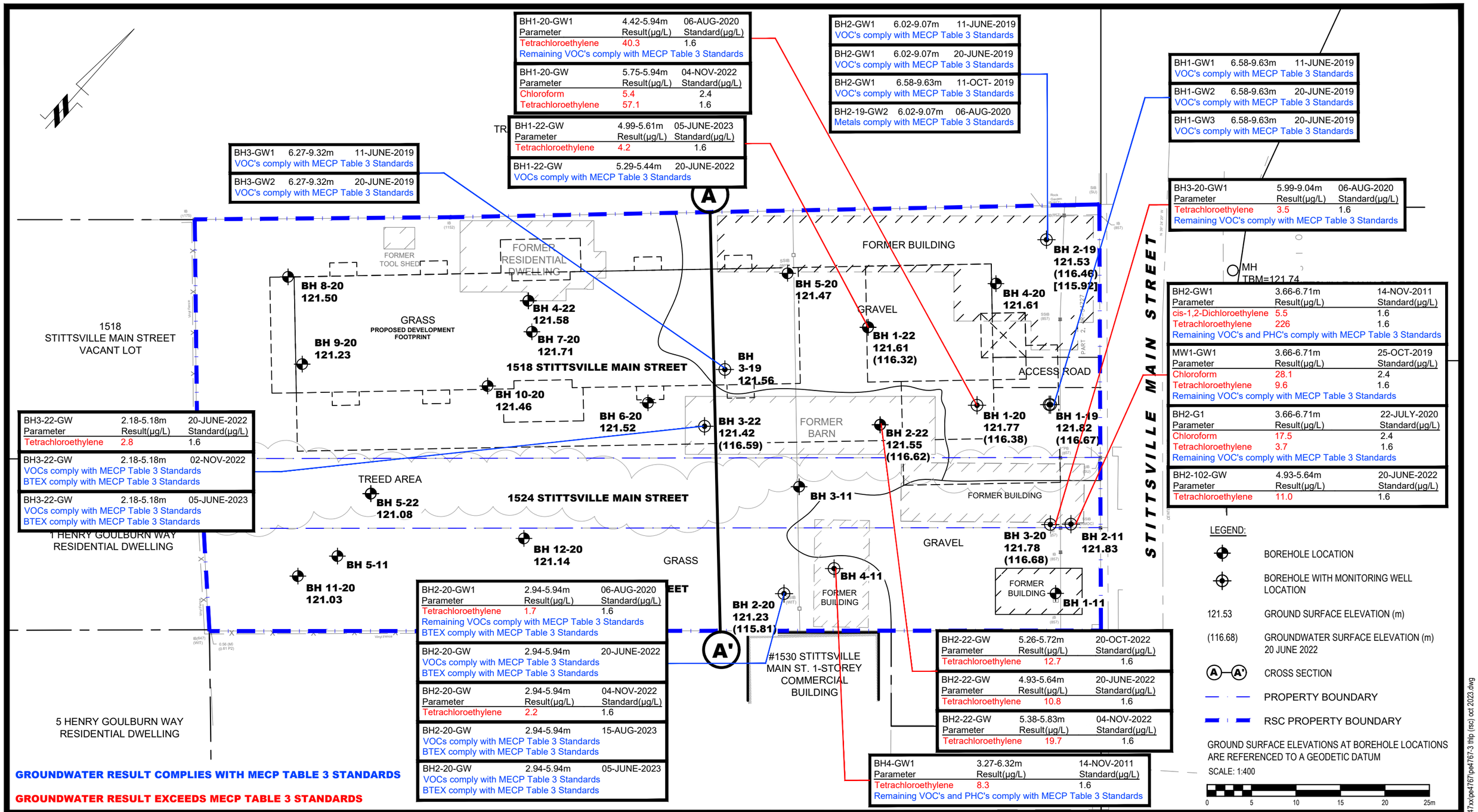

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1.	2022 BOREHOLES ADDED TO THE PLAN	05/07/2022	MB

INVERNESS HOMES

PHASE II - ENVIRONMENTAL SITE ASSESSMENT
1518, 1524, 1526 STITTSVILLE MAIN STREET
ONTARIO

Title:

ANALYTICAL TETSING PLAN - GROUNDWATER

Scale: 1:400	Date: 10/2020
Drawn by: MPG	Report No.: PE4767-2
Checked by: MSP	Dwg. No.: PE4767-5
Approved by: MSD	Revision No.:

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SOIL PROFILE AND TEST DATA

Phase II - Environmenta Site Assessment
1520, 1524 and 1526 Stittsville Main Street
Ottawa, Ontario

DATUM Geodetic

FILE NO. PE4767

REMARKS

HOLE NO. BH 1-20

BORINGS BY CME-55 Low Clearance Drill **DATE** July 22, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	121.77
FILL: Brown silty sand with crushed stone		AU	1				
0.66							
FILL: Red-brown silty sand, trace organics		SS	2	54	5	1	120.77
1.37							
		SS	3	46	12	2	119.77
		SS	4	54	17		
Compact, brown **SILTY SAND**		SS	5	58	33	3	118.77
		SS	6	50	28	4	117.77
		SS	7	67	24	5	116.77
5.18							
GLACIAL TILL: Dense, brown silty sand with gravel, cobbles and boulders		SS	8	67	55		
5.94							
End of Borehole							
Practical refusal to augering at 5.94m depth.							
(GWL @ 5.39m - Aug. 6, 2020)							

Photo Ionization Detector

● Volatile Organic Rdg. (ppm)

○ **Lower Explosive Limit %**

20 40 60 80

100 200 300 400 500

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

Monitoring Well Construction

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154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Phase II - Environmenta Site Assessment
1520, 1524 and 1526 Stittsville Main Street
Ottawa, Ontario

DATUM Geodetic

FILE NO. PE4767

REMARKS

HOLE NO. BH 2-20

BORINGS BY CME-55 Low Clearance Drill **DATE** July 22, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE							
TOPSOIL 0.18		AU	1			0	121.23
		SS	2	54	6	1	120.23
Loose to compact, brown **SILTY SAND**		SS	3	46	4	2	119.23
		SS	4	58	14		
		SS	5	79	18	3	118.23
3.80							
		SS	6	67	45	4	117.23
Dense, brown **SANDY SILT**		SS	7	62	40	5	116.23
5.77		SS	8	76	50+		
GLACIAL TILL: Dense, brown silty sand with gravel, cobbles and boulders 5.94							
End of Borehole							
Practical refusal to augering at 5.94m depth.							
(GWL @ 5.42m - Aug. 6, 2020)							

Photo Ionization Detector

● Volatile Organic Rdg. (ppm)

○ **Lower Explosive Limit %**

20 40 60 80

100 200 300 400 500

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

Monitoring Well Construction

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154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Phase II - Environmenta Site Assessment
1520, 1524 and 1526 Stittsville Main Street
Ottawa, Ontario

DATUM Geodetic

FILE NO. PE4767

REMARKS

HOLE NO. BH 3-20

BORINGS BY CME-55 Low Clearance Drill **DATE** July 22, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	121.78
		AU	1				
FILL: Brown silty sand with crushed stone		SS	2	17	10	1	120.78
		SS	3	25	6	2	119.78
2.29							
		SS	4	42	23		
		SS	5	75	24	3	118.78
Compact, brown **SILTY SAND**		SS	6	58	22	4	117.78
		SS	7	71	24	5	116.78
5.49							
		RC	1	100	56	6	115.78
BEDROCK: Very poor to fair quality, grey limestone with interbedded shale		RC	2	60	0	7	114.78
		RC	3	100	60	8	113.78
9.04						9	112.78
End of Borehole							
(GWL @ 5.10m - Aug. 6, 2020)							

Photo Ionization Detector

● Volatile Organic Rdg. (ppm)

○ **Lower Explosive Limit %**

20 40 60 80

100 200 300 400 500

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

Monitoring Well Construction

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Phase II - Environmenta Site Assessment
1520, 1524 and 1526 Stittsville Main Street
Ottawa, Ontario

DATUM Geodetic

FILE NO. PE4767

REMARKS

HOLE NO. BH 4-20

BORINGS BY CME-55 Low Clearance Drill **DATE** July 22, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Photo Ionization Detector: Volatile Organic Rdg. (ppm) / Lower Explosive Limit %	Monitoring Well Construction
GROUND SURFACE									
FILL: Brown sand with gravel		AU	1			0	121.61		
0.53									
FILL: Brown silty sand with gravel, some cobbles, concrete, trace brick, wood		SS	2	29	23	1	120.61		
		SS	3	12	50+	2	119.61		
2.13									
		SS	4	58	16	3	118.61		
Compact, brown **SILTY SAND**		SS	5	54	21				
		SS	6	62	27	4	117.61		
		SS	7	75	21	5	116.61		
5.18									
End of Borehole									

Photo Ionization Detector: ○ Lower Explosive Limit % (20, 40, 60, 80)

RKI Eagle Rdg. (ppm) (100, 200, 300, 400, 500)

▲ Full Gas Resp. △ Methane Elim.

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SOIL PROFILE AND TEST DATA

Phase II - Environmenta Site Assessment
1520, 1524 and 1526 Stittsville Main Street
Ottawa, Ontario

DATUM Geodetic

FILE NO. PE4767

REMARKS

HOLE NO. BH 5-20

BORINGS BY CME-55 Low Clearance Drill **DATE** July 22, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Photo Ionization Detector: Volatile Organic Rdg. (ppm) / Lower Explosive Limit %	Monitoring Well Construction
GROUND SURFACE									
FILL: Brown silty sand with gravel, trace organics		AU	1			0	121.47		
0.38									
		SS	2	54	6	1	120.47		
		SS	3	50	13	2	119.47		
Compact, brown **SILTY SAND**		SS	4	54	20				
		SS	5	79	33	3	118.47		
		SS	6	58	33	4	117.47		
		SS	7	79	28	5	116.47		
5.18									
End of Borehole									

Photo Ionization Detector
● Volatile Organic Rdg. (ppm)
○ Lower Explosive Limit %
20 40 60 80
100 200 300 400 500
RKI Eagle Rdg. (ppm)
▲ Full Gas Resp. △ Methane Elim.

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SOIL PROFILE AND TEST DATA

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DATUM Geodetic

FILE NO. PE4767

REMARKS

HOLE NO. BH 6-20

BORINGS BY CME-55 Low Clearance Drill **DATE** July 23, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Photo Ionization Detector: Volatile Organic Rdg. (ppm) / Lower Explosive Limit %	Monitoring Well Construction
GROUND SURFACE									
FILL: Brown silty sand with gravel, trace organics (0.38)		AU	1			0	121.52		
		SS	2	54	9	1	120.52		
		SS	3	67	18	2	119.52		
Compact to dense, brown **SILTY SAND**		SS	4	71	28	3	118.52		
		SS	5	62	26	4	117.52		
		SS	6	79	25				
		SS	7	62	31	5	116.52		
(5.11) End of Borehole									
Practical refusal to augering at 5.11m depth.									

Photo Ionization Detector: ● Volatile Organic Rdg. (ppm); ○ Lower Explosive Limit %

20 40 60 80

100 200 300 400 500

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

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FILE NO. PE4767

REMARKS

HOLE NO. BH 7-20

BORINGS BY CME-55 Low Clearance Drill **DATE** July 23, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Photo Ionization Detector: Volatile Organic Rdg. (ppm) / Lower Explosive Limit %	Monitoring Well Construction
GROUND SURFACE									
TOPSOIL 0.10		AU	1			0	121.71		
		SS	2	50	5	1	120.71		
		SS	3	50	8	2	119.71		
Loose to dense, brown **SILTY SAND**		SS	4	75	26	3	118.71		
		SS	5	75	28				
		SS	6	83	33	4	117.71		
4.57									
Compact, brown **SANDY SILT**		SS	7	92	28	5	116.71		
5.18									
End of Borehole									

Photo Ionization Detector: ○ Lower Explosive Limit % — 20 40 60 80

RKI Eagle Rdg. (ppm): 100 200 300 400 500

▲ Full Gas Resp. △ Methane Elim.

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SOIL PROFILE AND TEST DATA

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FILE NO. PE4767

REMARKS

HOLE NO. BH 8-20

BORINGS BY CME-55 Low Clearance Drill **DATE** July 23, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Photo Ionization Detector: Volatile Organic Rdg. (ppm) / Lower Explosive Limit %	Monitoring Well Construction
GROUND SURFACE									
FILL: Topsoil with sand, some gravel, organics and boulders		AU	1			0	121.50		
0.51									
		SS	2	50	5	1	120.50		
Loose to compact, brown **SILTY SAND**		SS	3	42	3	2	119.50		
		SS	4	50	18	3	118.50		
		SS	5	58	23				
3.81									
Dense, brown **SANDY SILT**		SS	6	75	50+	4	117.50		
4.19									
GLACIAL TILL: Brown silty sand with weathered bedrock 4.22									
End of Borehole									
Practical refusal to augering at 4.22m depth.									

Photo Ionization Detector: ○ Lower Explosive Limit % — 20 40 60 80

100 200 300 400 500

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

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SOIL PROFILE AND TEST DATA

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Ottawa, Ontario

DATUM Geodetic

FILE NO. PE4767

REMARKS

HOLE NO. BH 9-20

BORINGS BY CME-55 Low Clearance Drill **DATE** July 23, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Photo Ionization Detector: Volatile Organic Rdg. (ppm) / Lower Explosive Limit %	Monitoring Well Construction
GROUND SURFACE									
TOPSOIL 0.15		AU	1			0	121.23		
		SS	2	50	6	1	120.23		
		SS	3	75	8	2	119.23		
Loose to compact, brown **SILTY SAND**		SS	4	62	13	3	118.23		
		SS	5	54	18	4	117.23		
		SS	6	58	32				
4.57									
Dense, brown **SANDY SILT,** trace gravel		SS	7	79	31	5	116.23		
5.18									
End of Borehole									

Photo Ionization Detector: ● Volatile Organic Rdg. (ppm); ○ Lower Explosive Limit %

20 40 60 80

100 200 300 400 500

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

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SOIL PROFILE AND TEST DATA

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Ottawa, Ontario

DATUM Geodetic

FILE NO. PE4767

REMARKS

HOLE NO. BH10-20

BORINGS BY CME-55 Low Clearance Drill **DATE** July 23, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Photo Ionization Detector: Volatile Organic Rdg. (ppm) / Lower Explosive Limit %	Monitoring Well Construction
GROUND SURFACE									
TOPSOIL 0.13		AU	1			0	121.46		
Loose, red-brown **SILTY SAND,** trace gravel		SS	2	58	6	1	120.46		
1.37		SS	3	50	4	2	119.46		
Loose to compact, brown **SILTY SAND**		SS	4	58	8	3	118.46		
		SS	5	79	28	4	117.46		
		SS	6	67	30				
4.57 Dense, brown **SANDY SILT,** trace clay 5.00		SS	7	59	50+	5	116.46		
End of Borehole									
Practical refusal to augering at 5.00m depth.									

Photo Ionization Detector: ○ Lower Explosive Limit % — 20 40 60 80

RKI Eagle Rdg. (ppm): 100 200 300 400 500

▲ Full Gas Resp. △ Methane Elim.

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SOIL PROFILE AND TEST DATA

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DATUM Geodetic

FILE NO. PE4767

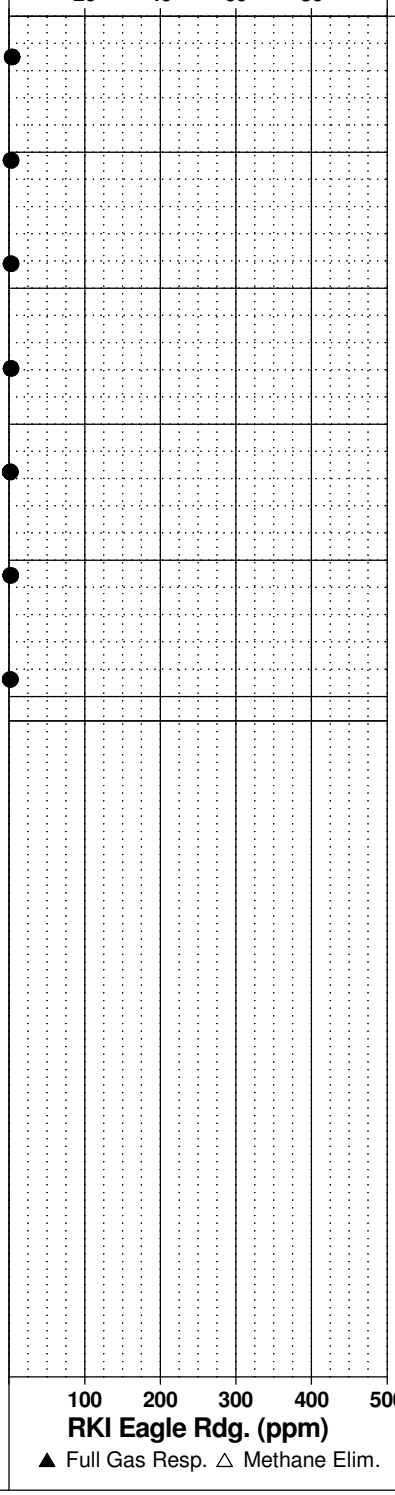
REMARKS

HOLE NO. BH11-20

BORINGS BY CME-55 Low Clearance Drill **DATE** July 22, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE							
TOPSOIL 0.18		AU	1			0	121.03
Loose to compact, red-brown **SILTY SAND**		SS	2	42	5	1	120.03
- brown by 1.4m depth		SS	3	75	10	2	119.03
		SS	4	75	14		
3.05						3	118.03
Compact to dense, grey **SANDY SILT,** trace clay		SS	5	71	27		
		SS	6	58	32	4	117.03
4.57							
GLACIAL TILL: Dense, brown silty sand with gravel, cobbles and boulders 5.18		SS	7	46	31	5	116.03
End of Borehole							

Photo Ionization Detector
● Volatile Organic Rdg. (ppm)
○ **Lower Explosive Limit %**



Monitoring Well Construction

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SOIL PROFILE AND TEST DATA

Phase II - Environmenta Site Assessment
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Ottawa, Ontario

DATUM Geodetic

FILE NO. PE4767

REMARKS

HOLE NO. BH12-20

BORINGS BY CME-55 Low Clearance Drill **DATE** July 22, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Photo Ionization Detector: Volatile Organic Rdg. (ppm) / Lower Explosive Limit %	Monitoring Well Construction
GROUND SURFACE									
TOPSOIL 0.20		AU	1			0	121.14		
Loose, brown **SILTY SAND,** some gravel		SS	2	8	8	1	120.14		
1.52		SS	3	50	5	2	119.14		
Loose to compact, brown **SILTY SAND**		SS	4	58	10	3	118.14		
		SS	5	62	18				
3.81 **GLACIAL TILL:** Dense, brown silty sand with weathered bedrock 4.22		SS	6	50	50+	4	117.14		
End of Borehole									
Practical refusal to augering at 4.22m depth.									

Photo Ionization Detector: ○ Lower Explosive Limit % — 20 40 60 80

100 200 300 400 500

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

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SOIL PROFILE AND TEST DATA

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REMARKS

BORINGS BY CME-55 Low Clearance Drill **DATE** June 16, 2022

FILE NO. PE4767

HOLE NO. BH 1-22

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE							
FILL: Brown silty sand with gravel and crushed stone 0.15		AU	1			0	121.61
		SS	2	50	10	1	120.61
		SS	0	50	16	2	119.61
Compact to dense, brown **SILTY SAND**		SS	4	67	21	3	118.61
		SS	5	50	32		
		SS	6	58	31	4	117.61
		SS	7	50	33	5	116.61
5.26							
GLACIAL TILL: Dense, brown silty sand, trace clay and gravel 5.56		SS	8	50	50+		
End of Borehole							
Practical refusal to augering at 5.56m depth							
(GWL @ 5.29m - June 20, 2022)							

Photo Ionization Detector

● Volatile Organic Rdg. (ppm)

○ **Lower Explosive Limit %**

20 40 60 80

100 200 300 400 500

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

Monitoring Well Construction

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SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment
1520, 1524 and 1526 Stittsville Main Street
Ottawa, Ontario

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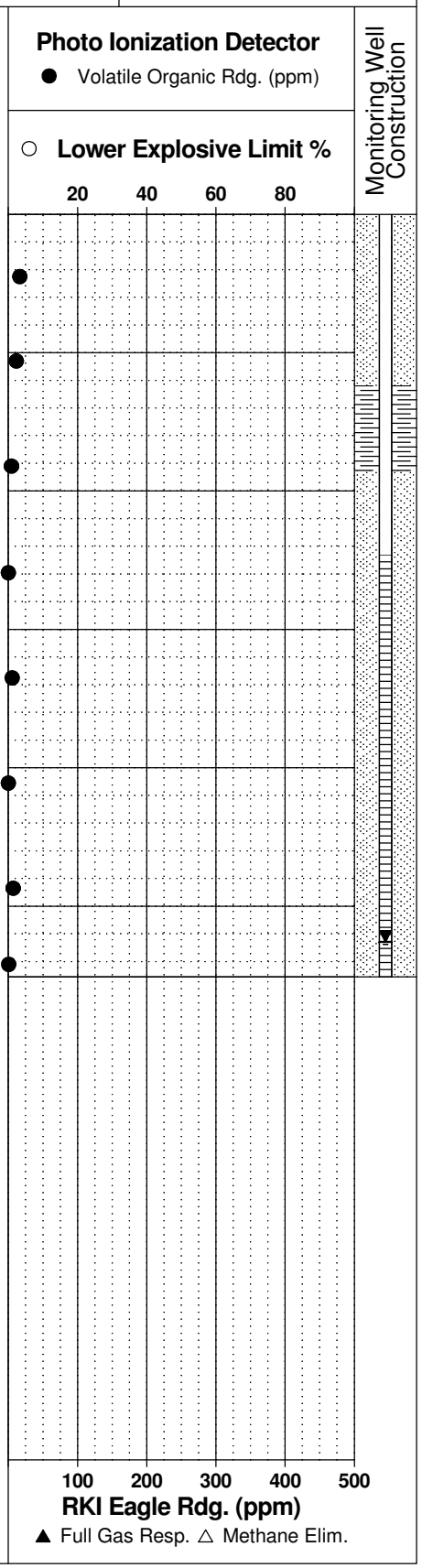
REMARKS

BORINGS BY CME-55 Low Clearance Drill **DATE** June 16, 2022

FILE NO. PE4767

HOLE NO. BH 2-22

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE							
FILL: Brown silty sand with crushed stone, gravel and organics						0	121.55
0.28							
Brown **SILTY SAND,** trace cobbles and topsoil		AU	1				
0.76							
		SS	2	67	6	1	120.55
		SS	3	67	19	2	119.55
Loose to compact, brown **SILTY SAND**		SS	4	75	8		
		SS	5	75	6	3	118.55
		SS	6	58	20	4	117.55
4.32							
Dense, brown **SANDY SILT**							
4.65							
GLACIAL TILL: Dense, brown silty sand with gravel and cobbles		SS	7	67	41	5	116.55
5.51		SS	8	86	50+		
End of Borehole							
Practical refusal to augering at 5.51m depth							
(GWL @ 5.26m - October 20, 2022)							



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SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment
1520, 1524 and 1526 Stittsville Main Street
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REMARKS

BORINGS BY CME-55 Low Clearance Drill **DATE** June 16, 2022

FILE NO. PE4767

HOLE NO. BH 3-22

SOIL DESCRIPTION		STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE								
TOPSOIL	0.18						0	121.42
FILL: Brown silty sand, trace cobbles and topsoil	0.76		AU	1				
			SS	2	67	6	1	120.42
			SS	3	83	13	2	119.42
Loose to compact, brown to grey **SILTY SAND**			SS	4	58	30		
			SS	5	75	30	3	118.42
			SS	6	83	27	4	117.42
	4.32							
Compact, grey **SANDY SILT**	5.08		SS	7	58	50+	5	116.42
GLACIAL TILL	5.26							
End of Borehole								
Practical refusal to augering at 5.56m depth								
(GWL @ 4.83m - June 20, 2022)								

Photo Ionization Detector
● Volatile Organic Rdg. (ppm)

○ **Lower Explosive Limit %**

20 40 60 80

100 200 300 400 500

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

Monitoring Well Construction

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SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment
1520, 1524 and 1526 Stittsville Main Street
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill **DATE** June 16, 2022

FILE NO. PE4767

HOLE NO. BH 4-22

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE							
TOPSOIL 0.23						0	121.58
FILL: Brown silty sand, trace topsoil and gravel 0.76		AU	1				
		SS	2	58	5	1	120.58
		SS	3	50	16	2	119.58
Loose to dense, brownt o grey **SILTY SAND**		SS	4	62	27	3	118.58
		SS	5	58	26		
		SS	6	92	35	4	117.58
5.03		SS	7	62	29	5	116.58
Compact, grey **SANDY SILT** 5.46							
End of Borehole							

Photo Ionization Detector

● Volatile Organic Rdg. (ppm)

○ **Lower Explosive Limit %**

20 40 60 80

100 200 300 400 500

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

Monitoring Well Construction

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SOIL PROFILE AND TEST DATA

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REMARKS

BORINGS BY CME-55 Low Clearance Drill **DATE** June 16, 2022

FILE NO. PE4767

HOLE NO. BH 5-22

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE							
TOPSOIL 0.10						0	121.08
Loose, brown **SILTY SAND**		AU	1				
0.76		SS	2	17	8	1	120.08
		SS	3	67	13	2	119.08
Loose to dense, brown to grey **SILTY SAND,** trace organics		SS	4	67	24	3	118.08
		SS	5	88	33		
3.73		SS	6	75	40	4	117.08
Dense to compact, grey **SANDY SILT**		SS	7	71	23	5	116.08
5.49							
End of Borehole							

Photo Ionization Detector

● Volatile Organic Rdg. (ppm)

○ **Lower Explosive Limit %**

20 40 60 80

100 200 300 400 500

RKI Eagle Rdg. (ppm)

▲ Full Gas Resp. △ Methane Elim.

Monitoring Well Construction

Parameter	Units	MDL	Regulation	Sample														
				BH1-SS1	BH2-SS7	BH4-SS8	BH1-SS7	BH2-SS2	BH2-SS6	BH3-SS6	BH1-20-SS8	BH2_20-SS7	BH3-20-SS2	BH3-20-SS7	DUP1	BH4-20-SS2	BH1-22-SS2	BH1-22-SS7
Sample Date (m/d/y)			**Reg 153/04 (2011)-Table 3 Residential, coarse**	**11/09/2011**	**11/09/2011**	**11/09/2011**	**06/03/2019**	**06/03/2019**	**06/03/2019**	**06/03/2019**	**07/22/2020**	**07/22/2020**	**07/22/2020**	**07/22/2020**	**07/22/2020**	**07/23/2020**	**06/16/2022**	**06/16/2022**
Metals																		
Chromium (VI)	ug/g dry	0.2	8 ug/g dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.2)	NA	NA	ND (0.2)	NA	NA
Mercury	ug/g dry	0.1	0.27 ug/g dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.1)	NA	NA	0.5	NA	NA
Antimony	ug/g dry	1.0	7.5 ug/g dry	NA	NA	NA	NA	ND (1.0)	NA	NA	NA	NA	ND (1.0)	NA	NA	ND (1.0)	ND (1.0)	ND (1.0)
Arsenic	ug/g dry	1.0	18 ug/g dry	NA	NA	NA	NA	2.1	NA	NA	NA	NA	3.2	NA	NA	5.8	1.8	1.3
Barium	ug/g dry	1.0	390 ug/g dry	NA	NA	NA	NA	51.3	NA	NA	NA	NA	198	NA	NA	185	14.0	8.3
Beryllium	ug/g dry	0.5	4 ug/g dry	NA	NA	NA	NA	ND (0.5)	NA	NA	NA	NA	ND (0.5)	NA	NA	ND (0.5)	ND (0.5)	ND (0.5)
Boron	ug/g dry	5.0	120 ug/g dry	NA	NA	NA	NA	5	NA	NA	NA	NA	10.3	NA	NA	10.1	ND (5.0)	ND (5.0)
Cadmium	ug/g dry	0.5	1.2 ug/g dry	NA	NA	NA	NA	ND (0.5)	NA	NA	NA	NA	ND (0.5)	NA	NA	ND (0.5)	ND (0.5)	ND (0.5)
Chromium	ug/g dry	5.0	160 ug/g dry	NA	NA	NA	NA	11.6	NA	NA	NA	NA	14.3	NA	NA	22.9	8.8	6.4
Cobalt	ug/g dry	1.0	22 ug/g dry	NA	NA	NA	NA	3	NA	NA	NA	NA	5.8	NA	NA	5.6	5.5	3.7
Copper	ug/g dry	5.0	140 ug/g dry	NA	NA	NA	NA	15.9	NA	NA	NA	NA	12.4	NA	NA	43.3	12.2	9.3
Lead	ug/g dry	1.0	120 ug/g dry	NA	NA	NA	NA	61.3	NA	NA	NA	NA	13.1	NA	NA	268	3.6	2.5
Molybdenum	ug/g dry	1.0	6.9 ug/g dry	NA	NA	NA	NA	ND (1.0)	NA	NA	NA	NA	ND (1.0)	NA	NA	ND (1.0)	ND (1.0)	ND (1.0)
Nickel	ug/g dry	5.0	100 ug/g dry	NA	NA	NA	NA	5.6	NA	NA	NA	NA	13.1	NA	NA	11.6	8.0	ND (5.0)
Selenium	ug/g dry	1.0	2.4 ug/g dry	NA	NA	NA	NA	ND (1.0)	NA	NA	NA	NA	ND (1.0)	NA	NA	ND (1.0)	ND (1.0)	ND (1.0)
Silver	ug/g dry	0.3	20 ug/g dry	NA	NA	NA	NA	ND (0.3)	NA	NA	NA	NA	ND (0.3)	NA	NA	0.3	ND (0.3)	ND (0.3)
Thallium	ug/g dry	1.0	1 ug/g dry	NA	NA	NA	NA	ND (1.0)	NA	NA	NA	NA	ND (1.0)	NA	NA	ND (1.0)	ND (1.0)	ND (1.0)
Uranium	ug/g dry	1.0	23 ug/g dry	NA	NA	NA	NA	ND (1.0)	NA	NA	NA	NA	ND (1.0)	NA	NA	ND (1.0)	ND (1.0)	ND (1.0)
Vanadium	ug/g dry	10.0	86 ug/g dry	NA	NA	NA	NA	12.5	NA	NA	NA	NA	21.4	NA	NA	23.9	22.3	16.1
Zinc	ug/g dry	20.0	340 ug/g dry	NA	NA	NA	NA	82.9	NA	NA	NA	NA	ND (20.0)	NA	NA	236	ND (20.0)	ND (20.0)
Volatiles																		
Acetone	ug/L	5.0	16 ug/g dry	NA	ND(0.5)	ND(0.5)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)
Benzene	ug/L	0.5	0.21 ug/g dry	NA	ND(0.02)	ND(0.02)	ND (0.02)	NA	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	NA	ND (0.02)	ND (0.02)	NA	ND (0.02)	ND (0.02)
Bromodichloromethane	ug/L	0.5	13 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Bromoform	ug/L	0.5	0.27 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Bromomethane	ug/L	0.5	0.05 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Carbon Tetrachloride	ug/L	0.2	0.05 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Chlorobenzene	ug/L	0.5	2.4 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Chloroethane	ug/g dry	0.05		NA	ND(0.05)	ND(0.05)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	ug/L	0.5	0.05 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Chloromethane	ug/g dry	0.05		NA	ND(0.2)	ND(0.2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	ug/L	0.5	9.4 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Dichlorodifluoromethane	ug/L	1.0	16 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,2-Dichlorobenzene	ug/L	0.5	3.4 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,3-Dichlorobenzene	ug/L	0.5	4.8 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,4-Dichlorobenzene	ug/L	0.5	0.083 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,1-Dichloroethane	ug/L	0.5	3.5 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,2-Dichloroethane	ug/L	0.5	0.05 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)

Parameter	Units	MDL	Regulation	Sample														
				BH1-SS1	BH2-SS7	BH4-SS8	BH1-SS7	BH2-SS2	BH2-SS6	BH3-SS6	BH1-20-SS8	BH2_20-SS7	BH3-20-SS2	BH3-20-SS7	DUP1	BH4-20-SS2	BH1-22-SS2	BH1-22-SS7
Sample Date (m/d/y)			Reg 153/04 (2011)-Table 3 Residential, coarse	11/09/2011	11/09/2011	11/09/2011	06/03/2019	06/03/2019	06/03/2019	06/03/2019	07/22/2020	07/22/2020	07/22/2020	07/22/2020	07/22/2020	07/23/2020	06/16/2022	06/16/2022
1,1-Dichloroethylene	ug/L	0.5	0.05 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
cis-1,2-Dichloroethylene	ug/L	0.5	3.4 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
trans-1,2-Dichloroethyle	ug/L	0.5	0.084 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,2-Dichloropropane	ug/L	0.5	0.05 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
cis-1,3-Dichloropropylen	ug/L	0.5		NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
trans-1,3-Dichloropropyl	ug/L	0.5		NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,3-Dichloropropene, tot	ug/L	0.5	0.05 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Ethylbenzene	ug/L	0.5	2 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Ethylene dibromide (dibr	ug/L	0.2	0.05 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Hexane	ug/L	1.0	2.8 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Methyl Ethyl Ketone (2-B	ug/L	5.0	16 ug/g dry	NA	ND(0.5)	ND(0.5)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)
Methyl Isobutyl Ketone	ug/L	5.0	1.7 ug/g dry	NA	ND(0.5)	ND(0.5)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)
Methyl tert-butyl ether	ug/L	2.0	0.75 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Methylene Chloride	ug/L	5.0	0.1 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Styrene	ug/L	0.5	0.7 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,1,1,2-Tetrachloroethan	ug/L	0.5	0.058 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,1,2,2-Tetrachloroethan	ug/L	0.5	0.05 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Tetrachloroethylene	ug/L	0.5	0.28 ug/g dry	NA	1.9	0.09	1.01	NA	ND (0.05)	ND (0.05)	0.25	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Toluene	ug/L	0.5	2.3 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,2,4-Trichlorobenzene	ug/g dry	0.05	0.36 ug/g dry	NA	ND(0.05)	ND(0.05)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.05)	ND (0.05)
1,1,1-Trichloroethane	ug/L	0.5	0.38 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,1,2-Trichloroethane	ug/L	0.5	0.05 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Trichloroethylene	ug/L	0.5	0.061 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Trichlorofluoromethane	ug/L	1.0	4 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Vinyl Chloride	ug/L	0.5	0.02 ug/g dry	NA	ND(0.02)	ND(0.02)	ND (0.02)	NA	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	NA	ND (0.02)	ND (0.02)	NA	ND (0.02)	ND (0.02)
m/p-Xylene	ug/L	0.5		NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
o-Xylene	ug/L	0.5		NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Xylenes, total	ug/L	0.5	3.1 ug/g dry	NA	ND(0.05)	ND(0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)
Hydrocarbons																		
F1 PHCs (C6-C10)	ug/g dry	7	55 ug/g dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (7)	ND (7)
F2 PHCs (C10-C16)	ug/g dry	4	98 ug/g dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (4)	ND (4)
F3 PHCs (C16-C34)	ug/g dry	8	300 ug/g dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (8)	ND (8)
F4 PHCs (C34-C50)	ug/g dry	6	2800 ug/g dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (6)	ND (6)
Semi-Volatiles																		
Acenaphthene	ug/g dry	0.02	7.9 ug/g dry	ND(0.02)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.02)	NA	NA	ND (0.02)	NA	NA
Acenaphthylene	ug/g dry	0.02	0.15 ug/g dry	ND(0.02)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.02)	NA	NA	0.07	NA	NA
Anthracene	ug/g dry	0.02	0.67 ug/g dry	ND(0.02)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.02)	NA	NA	0.04	NA	NA
Benzo[a]anthracene	ug/g dry	0.02	0.5 ug/g dry	0.02	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.02)	NA	NA	0.12	NA	NA
Benzo[a]pyrene	ug/g dry	0.02	0.3 ug/g dry	ND(0.02)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.02)	NA	NA	0.17	NA	NA
Benzo[b]fluoranthene	ug/g dry	0.02	0.78 ug/g dry	0.03	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.02)	NA	NA	0.25	NA	NA

Parameter	Units	MDL	Regulation	Sample														
				BH1-SS1	BH2-SS7	BH4-SS8	BH1-SS7	BH2-SS2	BH2-SS6	BH3-SS6	BH1-20-SS8	BH2_20-SS7	BH3-20-SS2	BH3-20-SS7	DUP1	BH4-20-SS2	BH1-22-SS2	BH1-22-SS7
Sample Date (m/d/y)			Reg 153/04 (2011)-Table 3 Residential, coarse	11/09/2011	11/09/2011	11/09/2011	06/03/2019	06/03/2019	06/03/2019	06/03/2019	07/22/2020	07/22/2020	07/22/2020	07/22/2020	07/22/2020	07/23/2020	06/16/2022	06/16/2022
Benzo[g,h,i]perylene	ug/g dry	0.02	6.6 ug/g dry	ND(0.02)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.02)	NA	NA	0.17	NA	NA
Benzo[k]fluoranthene	ug/g dry	0.02	0.78 ug/g dry	ND(0.02)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.02)	NA	NA	0.12	NA	NA
Chrysene	ug/g dry	0.02	7 ug/g dry	0.02	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.02)	NA	NA	0.13	NA	NA
Dibenzo[a,h]anthracene	ug/g dry	0.02	0.1 ug/g dry	ND(0.02)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.02)	NA	NA	0.05	NA	NA
Fluoranthene	ug/g dry	0.02	0.69 ug/g dry	0.03	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.02)	NA	NA	0.24	NA	NA
Fluorene	ug/g dry	0.02	62 ug/g dry	ND(0.02)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.02)	NA	NA	ND (0.02)	NA	NA
Indeno[1,2,3-cd]pyrene	ug/g dry	0.02	0.38 ug/g dry	ND(0.02)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.02)	NA	NA	0.15	NA	NA
1-Methylnaphthalene	ug/g dry	0.02	0.99 ug/g dry	ND(0.02)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.02)	NA	NA	ND (0.02)	NA	NA
2-Methylnaphthalene	ug/g dry	0.02	0.99 ug/g dry	ND(0.02)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.02)	NA	NA	ND (0.02)	NA	NA
Methylnaphthalene (1&2	ug/g dry	0.04	0.99 ug/g dry	ND(0.04)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.04)	NA	NA	ND (0.04)	NA	NA
Naphthalene	ug/g dry	0.01	0.6 ug/g dry	ND(0.02)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.01)	NA	NA	ND (0.01)	NA	NA
Phenanthrene	ug/g dry	0.02	6.2 ug/g dry	ND(0.02)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.02)	NA	NA	0.09	NA	NA
Pyrene	ug/g dry	0.02	78 ug/g dry	0.04	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.02)	NA	NA	0.2	NA	NA
Biphenyl	ug/g dry	0.03		ND(0.02)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Parameter	Units	MDL	Regulation	Sample					
				BH2-22-SS5	BH3-22-SS7	BH3-102	BH4-22-SS5	BH5-22-SS2	BH5-22-SS6
Sample Date (m/d/y)			Reg 153/04 (2011)-Table 3 Residential, coarse	06/16/2022	06/16/2022	06/16/2022	06/16/2022	06/16/2022	06/16/2022
Metals									
Chromium (VI)	ug/g dry	0.2	8 ug/g dry	NA	NA	NA	NA	NA	NA
Mercury	ug/g dry	0.1	0.27 ug/g dry	NA	NA	NA	NA	NA	NA
Antimony	ug/g dry	1.0	7.5 ug/g dry	ND (1.0)	ND (1.0)	N/A	ND (1.0)	ND (1.0)	ND (1.0)
Arsenic	ug/g dry	1.0	18 ug/g dry	1.7	1.6	N/A	1.3	2.0	2.0
Barium	ug/g dry	1.0	390 ug/g dry	11.7	29.9	N/A	14.9	16.9	93.3
Beryllium	ug/g dry	0.5	4 ug/g dry	ND (0.5)	ND (0.5)	N/A	ND (0.5)	ND (0.5)	ND (0.5)
Boron	ug/g dry	5.0	120 ug/g dry	ND (5.0)	ND (5.0)	N/A	ND (5.0)	ND (5.0)	ND (5.0)
Cadmium	ug/g dry	0.5	1.2 ug/g dry	ND (0.5)	ND (0.5)	N/A	ND (0.5)	ND (0.5)	ND (0.5)
Chromium	ug/g dry	5.0	160 ug/g dry	9.2	11.2	N/A	6.1	7.6	19.0
Cobalt	ug/g dry	1.0	22 ug/g dry	5.4	3.6	N/A	3.6	4.3	5.4
Copper	ug/g dry	5.0	140 ug/g dry	11.7	8.6	N/A	9.2	5.7	13.7
Lead	ug/g dry	1.0	120 ug/g dry	2.8	2.6	N/A	3.5	6.8	3.3
Molybdenum	ug/g dry	1.0	6.9 ug/g dry	ND (1.0)	ND (1.0)	N/A	ND (1.0)	ND (1.0)	ND (1.0)
Nickel	ug/g dry	5.0	100 ug/g dry	6.7	13.9	N/A	5.4	6.3	11.8
Selenium	ug/g dry	1.0	2.4 ug/g dry	ND (1.0)	ND (1.0)	N/A	ND (1.0)	ND (1.0)	ND (1.0)
Silver	ug/g dry	0.3	20 ug/g dry	ND (0.3)	ND (0.3)	N/A	ND (0.3)	ND (0.3)	ND (0.3)
Thallium	ug/g dry	1.0	1 ug/g dry	ND (1.0)	ND (1.0)	N/A	ND (1.0)	ND (1.0)	ND (1.0)
Uranium	ug/g dry	1.0	23 ug/g dry	ND (1.0)	ND (1.0)	N/A	ND (1.0)	ND (1.0)	ND (1.0)
Vanadium	ug/g dry	10.0	86 ug/g dry	27.5	22.6	N/A	15.6	15.6	32.2
Zinc	ug/g dry	20.0	340 ug/g dry	ND (20.0)	ND (20.0)	N/A	ND (20.0)	ND (20.0)	27.2
Volatiles									
Acetone	ug/L	5.0	16 ug/g dry	ND (0.50)	NA	ND (0.50)	NA	ND (0.50)	ND (0.50)
Benzene	ug/L	0.5	0.21 ug/g dry	ND (0.02)	NA	ND (0.02)	NA	ND (0.02)	ND (0.02)
Bromodichloromethane	ug/L	0.5	13 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Bromoform	ug/L	0.5	0.27 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Bromomethane	ug/L	0.5	0.05 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Carbon Tetrachloride	ug/L	0.2	0.05 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Chlorobenzene	ug/L	0.5	2.4 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Chloroethane	ug/g dry	0.05		NA	NA	NA	NA	NA	NA
Chloroform	ug/L	0.5	0.05 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Chloromethane	ug/g dry	0.05		NA	NA	NA	NA	NA	NA
Dibromochloromethane	ug/L	0.5	9.4 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Dichlorodifluoromethane	ug/L	1.0	16 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,2-Dichlorobenzene	ug/L	0.5	3.4 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,3-Dichlorobenzene	ug/L	0.5	4.8 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,4-Dichlorobenzene	ug/L	0.5	0.083 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,1-Dichloroethane	ug/L	0.5	3.5 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,2-Dichloroethane	ug/L	0.5	0.05 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)

Parameter	Units	MDL	Regulation	Sample					
				BH2-22-SS5	BH3-22-SS7	BH3-102	BH4-22-SS5	BH5-22-SS2	BH5-22-SS6
Sample Date (m/d/y)			Reg 153/04 (2011)-Table 3 Residential, coarse	06/16/2022	06/16/2022	06/16/2022	06/16/2022	06/16/2022	06/16/2022
1,1-Dichloroethylene	ug/L	0.5	0.05 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
cis-1,2-Dichloroethylene	ug/L	0.5	3.4 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
trans-1,2-Dichloroethyle	ug/L	0.5	0.084 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,2-Dichloropropane	ug/L	0.5	0.05 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
cis-1,3-Dichloropropylen	ug/L	0.5		ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
trans-1,3-Dichloropropyl	ug/L	0.5		ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,3-Dichloropropene, tot	ug/L	0.5	0.05 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Ethylbenzene	ug/L	0.5	2 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Ethylene dibromide (dibr	ug/L	0.2	0.05 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Hexane	ug/L	1.0	2.8 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Methyl Ethyl Ketone (2-B	ug/L	5.0	16 ug/g dry	ND (0.50)	NA	ND (0.50)	NA	ND (0.50)	ND (0.50)
Methyl Isobutyl Ketone	ug/L	5.0	1.7 ug/g dry	ND (0.50)	NA	ND (0.50)	NA	ND (0.50)	ND (0.50)
Methyl tert-butyl ether	ug/L	2.0	0.75 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Methylene Chloride	ug/L	5.0	0.1 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Styrene	ug/L	0.5	0.7 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,1,1,2-Tetrachloroethan	ug/L	0.5	0.058 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,1,2,2-Tetrachloroethan	ug/L	0.5	0.05 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Tetrachloroethylene	ug/L	0.5	0.28 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Toluene	ug/L	0.5	2.3 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,2,4-Trichlorobenzene	ug/g dry	0.05	0.36 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,1,1-Trichloroethane	ug/L	0.5	0.38 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
1,1,2-Trichloroethane	ug/L	0.5	0.05 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Trichloroethylene	ug/L	0.5	0.061 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Trichlorofluoromethane	ug/L	1.0	4 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Vinyl Chloride	ug/L	0.5	0.02 ug/g dry	ND (0.02)	NA	ND (0.02)	NA	ND (0.02)	ND (0.02)
m/p-Xylene	ug/L	0.5		ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
o-Xylene	ug/L	0.5		ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Xylenes, total	ug/L	0.5	3.1 ug/g dry	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)
Hydrocarbons									
F1 PHCs (C6-C10)	ug/g dry	7	55 ug/g dry	ND (7)	ND (7)	NA	ND (7)	ND (7)	ND (7)
F2 PHCs (C10-C16)	ug/g dry	4	98 ug/g dry	ND (4)	ND (4)	NA	ND (4)	ND (4)	ND (4)
F3 PHCs (C16-C34)	ug/g dry	8	300 ug/g dry	ND (8)	ND (8)	NA	ND (8)	ND (8)	ND (8)
F4 PHCs (C34-C50)	ug/g dry	6	2800 ug/g dry	ND (6)	ND (6)	NA	ND (6)	ND (6)	ND (6)
Semi-Volatiles									
Acenaphthene	ug/g dry	0.02	7.9 ug/g dry	NA	NA	NA	NA	NA	NA
Acenaphthylene	ug/g dry	0.02	0.15 ug/g dry	NA	NA	NA	NA	NA	NA
Anthracene	ug/g dry	0.02	0.67 ug/g dry	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	ug/g dry	0.02	0.5 ug/g dry	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	ug/g dry	0.02	0.3 ug/g dry	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	ug/g dry	0.02	0.78 ug/g dry	NA	NA	NA	NA	NA	NA

Parameter	Units	MDL	Regulation	Sample					
				BH2-22-SS5	BH3-22-SS7	BH3-102	BH4-22-SS5	BH5-22-SS2	BH5-22-SS6
Sample Date (m/d/y)			Reg 153/04 (2011)-Table 3 Residential, coarse	06/16/2022	06/16/2022	06/16/2022	06/16/2022	06/16/2022	06/16/2022
Benzo[g,h,i]perylene	ug/g dry	0.02	6.6 ug/g dry	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	ug/g dry	0.02	0.78 ug/g dry	NA	NA	NA	NA	NA	NA
Chrysene	ug/g dry	0.02	7 ug/g dry	NA	NA	NA	NA	NA	NA
Dibenzo[a,h]anthracene	ug/g dry	0.02	0.1 ug/g dry	NA	NA	NA	NA	NA	NA
Fluoranthene	ug/g dry	0.02	0.69 ug/g dry	NA	NA	NA	NA	NA	NA
Fluorene	ug/g dry	0.02	62 ug/g dry	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	ug/g dry	0.02	0.38 ug/g dry	NA	NA	NA	NA	NA	NA
1-Methylnaphthalene	ug/g dry	0.02	0.99 ug/g dry	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	ug/g dry	0.02	0.99 ug/g dry	NA	NA	NA	NA	NA	NA
Methylnaphthalene (1&2	ug/g dry	0.04	0.99 ug/g dry	NA	NA	NA	NA	NA	NA
Naphthalene	ug/g dry	0.01	0.6 ug/g dry	NA	NA	NA	NA	NA	NA
Phenanthrene	ug/g dry	0.02	6.2 ug/g dry	NA	NA	NA	NA	NA	NA
Pyrene	ug/g dry	0.02	78 ug/g dry	NA	NA	NA	NA	NA	NA
Biphenyl	ug/g dry	0.03		NA	NA	NA	NA	NA	NA

Parameter	Units	MDL	Regulation	Sample														
				BH2-GW1	BH4-GW1	BH1-GW1	BH2-GW1	BH3-GW1	BH1-GW2	BH2-GW2	BH3-GW2	BH1-GW3	BH2-GW1	MW1-GW1	BH2-G1	BH1-20-GW1	BH2-20-GW1	BH3-20-GW1
Sample Date (m/d/y)			Reg 153/04 (2011)-Table 3 Non-Potable Groundwater, coarse	11/14/2011	11/14/2011	06/11/2019	06/11/2019	06/11/2019	06/20/2019	06/20/2019	06/20/2019	06/20/2019	10/11/2019	10/25/2019	7/22/2020	08/06/2020	08/06/2020	08/06/2020
Volatiles																		
Acetone	ug/L	5.0	130000 ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND(30)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Benzene	ug/L	0.5	44 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bromodichloromethane	ug/L	0.5	85000 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.3)	ND (0.5)	3.0	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bromoform	ug/L	0.5	380 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.4)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bromomethane	ug/L	0.5	5.6 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Carbon Tetrachloride	ug/L	0.2	0.79 ug/L	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND(0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Chlorobenzene	ug/L	0.5	630 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Chloroethane	ug/L	1.0		ND (1.0)	ND (1.0)	NA	NA	NA	NA	NA	NA	ND(0.2)	ND (1.0)	NA	NA	NA	NA	NA
Chloroform	ug/L	0.5	2.4 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.5)	ND (0.5)	28.1	17.5	ND (0.5)	ND (0.5)	ND (0.5)
Chloromethane	ug/L	3.0		ND (3.0)	ND (3.0)	NA	NA	NA	NA	NA	NA	NA	ND (3.0)	NA	NA	NA	NA	NA
Dibromochloromethane	ug/L	0.5	82000 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.3)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Dichlorodifluoromethane	ug/L	1.0	4400 ug/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(0.5)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2-Dichlorobenzene	ug/L	0.5	4600 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.4)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,3-Dichlorobenzene	ug/L	0.5	9600 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.4)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,4-Dichlorobenzene	ug/L	0.5	8 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.4)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,1-Dichloroethane	ug/L	0.5	320 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.4)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,2-Dichloroethane	ug/L	0.5	1.6 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.2)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,1-Dichloroethylene	ug/L	0.5	1.6 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
cis-1,2-Dichloroethylene	ug/L	0.5	1.6 ug/L	5.5	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.4)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
trans-1,2-Dichloroethyle	ug/L	0.5	1.6 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.4)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,2-Dichloroethylene, tot	ug/L	0.5		5.5	ND(0.5)	NA	NA	NA	NA	NA	NA	NA	ND (0.5)	NA	NA	NA	NA	NA
1,2-Dichloropropane	ug/L	0.5	16 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
cis-1,3-Dichloropropylen	ug/L	0.5		ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.2)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
trans-1,3-Dichloropropyl	ug/L	0.5		ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.2)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,3-Dichloropropene, tot	ug/L	0.5	5.2 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ethylbenzene	ug/L	0.5	2300 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ethylene dibromide (dibr	ug/L	0.2	0.25 ug/L	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND(0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Hexane	ug/L	1.0	51 ug/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(5)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Methyl Ethyl Ketone (2-B	ug/L	5.0	470000 ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND(10)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Methyl Butyl Ketone (2-H	ug/L	10		ND (10.0)	ND (10.0)	NA	NA	NA	NA	NA	NA	NA	ND (10.0)	NA	NA	NA	NA	NA
Methyl Isobutyl Ketone	ug/L	5.0	140000 ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND(10)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Methyl tert-butyl ether	ug/L	2.0	190 ug/L	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND(2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Methylene Chloride	ug/L	5.0	610 ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND(4.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Styrene	ug/L	0.5	1300 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,1,1,2-Tetrachloroethan	ug/L	0.5	3.3 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,1,2,2-Tetrachloroethan	ug/L	0.5	3.2 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Tetrachloroethylene	ug/L	0.5	1.6 ug/L	226	8.3	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.3)	ND (0.5)	9.6	3.7	40.3	1.7	3.5

Parameter	Units	MDL	Regulation	Sample														
				BH2-GW1	BH4-GW1	BH1-GW1	BH2-GW1	BH3-GW1	BH1-GW2	BH2-GW2	BH3-GW2	BH1-GW3	BH2-GW1	MW1-GW1	BH2-G1	BH1-20-GW1	BH2-20-GW1	BH3-20-GW1
Sample Date (m/d/y)			**Reg 153/04 (2011)-Table 3 Non-Potable Groundwater, coarse**	**11/14/2011**	**11/14/2011**	**06/11/2019**	**06/11/2019**	**06/11/2019**	**06/20/2019**	**06/20/2019**	**06/20/2019**	**06/20/2019**	**10/11/2019**	**10/25/2019**	**7/22/2020**	**08/06/2020**	**08/06/2020**	**08/06/2020**
Toluene	ug/L	0.5	18000 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,2,4-Tichlorobenzene	ug/L	0.5		ND(0.5)	ND(0.5)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	ug/L	0.5	640 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.4)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,1,2-Trichloroethane	ug/L	0.5	4.7 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.4)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Trichloroethylene	ug/L	0.5	1.6 ug/L	1.6	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.3)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Trichlorofluoromethane	ug/L	1.0	2500 ug/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(0.5)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,3,5-Trimethylbenzene	ug/L	0.5		ND(0.5)	ND(0.5)	NA	NA	NA	NA	NA	NA	ND(0.3)	ND (0.5)	NA	NA	NA	NA	NA
Vinyl Chloride	ug/L	0.5	0.5 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.2)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
m/p-Xylene	ug/L	0.5		ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.4)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
o-Xylene	ug/L	0.5		ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.4)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Xylenes, total	ug/L	0.5	4200 ug/L	ND(0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Hydrocarbons																		
F1 PHCs (C6-C10)	ug/L	25	750 ug/L	<25	<25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
F2 PHCs (C10-C16)	ug/L	100	150 ug/L	<100	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
F3 PHCs (C16-C34)	ug/L	100	500 ug/L	<100	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
F4 PHCs (C34-C50)	ug/L	100	500 ug/L	<100	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals																		
Mercury	ug/L	0.1	0.29 ug/L	NA	NA	NA	NA	NA	NA	ND (0.1)	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	ug/L	0.1	20000 ug/L	NA	NA	NA	NA	NA	NA	ND (0.5)	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	ug/L	0.5	1900 ug/L	NA	NA	NA	NA	NA	NA	ND (1)	NA	NA	NA	NA	NA	NA	NA	NA
Barium	ug/L	1	29000 ug/L	NA	NA	NA	NA	NA	NA	114	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	ug/L	1	67 ug/L	NA	NA	NA	NA	NA	NA	ND (0.5)	NA	NA	NA	NA	NA	NA	NA	NA
Boron	ug/L	0.5	45000 ug/L	NA	NA	NA	NA	NA	NA	101	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	ug/L	10	2.7 ug/L	NA	NA	NA	NA	NA	NA	ND (0.1)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	ug/L	0.1	810 ug/L	NA	NA	NA	NA	NA	NA	ND (1)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (VI)	ug/L	1	140 ug/L	NA	NA	NA	NA	NA	NA	ND (10)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	ug/L	10	66 ug/L	NA	NA	NA	NA	NA	NA	ND (0.5)	NA	NA	NA	NA	NA	NA	NA	NA
Copper	ug/L	0.5	87 ug/L	NA	NA	NA	NA	NA	NA	ND (0.5)	NA	NA	NA	NA	NA	NA	NA	NA
Lead	ug/L	0.5	25 ug/L	NA	NA	NA	NA	NA	NA	ND (0.1)	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum	ug/L	0.5	9200 ug/L	NA	NA	NA	NA	NA	NA	1.5	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	ug/L	1	490 ug/L	NA	NA	NA	NA	NA	NA	ND (1)	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	ug/L	1	63 ug/L	NA	NA	NA	NA	NA	NA	ND (1)	NA	NA	NA	NA	NA	NA	NA	NA
Silver	ug/L	0.1	1.5 ug/L	NA	NA	NA	NA	NA	NA	ND (0.1)	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	ug/L	200	2300000 ug/L	NA	NA	NA	NA	NA	NA	94500	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	ug/L	0.1	510 ug/L	NA	NA	NA	NA	NA	NA	ND (0.1)	NA	NA	NA	NA	NA	NA	NA	NA
Uranium	ug/L	0.1	420 ug/L	NA	NA	NA	NA	NA	NA	3.4	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	ug/L	0.5	250 ug/L	NA	NA	NA	NA	NA	NA	ND (0.5)	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	ug/L	5	1100 ug/L	NA	NA	NA	NA	NA	NA	6	NA	NA	NA	NA	NA	NA	NA	NA

Parameter	Units	MDL	Regulation	Sample														
				BH2-19-GW2	BH2-20-GW	BH1-22-GW	BH2-22-GW	BH3-22-GW	BH2-102-GW	BH1-20-GW	BH2-20-GW	BH2-22-GW	BH3-22-GW	BH2-20-GW	BH1-22-GW	BH3-22-GW	DUP	BH2-20-GW
Sample Date (m/d/y)			Reg 153/04 (2011)-Table 3 Non-Potable Groundwater, coarse	08/06/2020	06/20/2022	06/20/2022	06/20/2022	06/20/2022	06/20/2022	11/04/2022	11/04/2022	11/04/2022	11/04/2022	06/05/2023	06/05/2023	06/05/2023	06/05/2023	08/15/2023
Volatiles																		
Acetone	ug/L	5.0	130000 ug/L	NA	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Benzene	ug/L	0.5	44 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bromodichloromethane	ug/L	0.5	85000 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bromoform	ug/L	0.5	380 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bromomethane	ug/L	0.5	5.6 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Carbon Tetrachloride	ug/L	0.2	0.79 ug/L	NA	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Chlorobenzene	ug/L	0.5	630 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Chloroethane	ug/L	1.0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	ug/L	0.5	2.4 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	5.4	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Chloromethane	ug/L	3.0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	ug/L	0.5	82000 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Dichlorodifluoromethane	ug/L	1.0	4400 ug/L	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2-Dichlorobenzene	ug/L	0.5	4600 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,3-Dichlorobenzene	ug/L	0.5	9600 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,4-Dichlorobenzene	ug/L	0.5	8 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,1-Dichloroethane	ug/L	0.5	320 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,2-Dichloroethane	ug/L	0.5	1.6 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,1-Dichloroethylene	ug/L	0.5	1.6 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
cis-1,2-Dichloroethylene	ug/L	0.5	1.6 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
trans-1,2-Dichloroethyle	ug/L	0.5	1.6 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,2-Dichloroethylene, tot	ug/L	0.5		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	ug/L	0.5	16 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
cis-1,3-Dichloropropylen	ug/L	0.5		NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
trans-1,3-Dichloropropyl	ug/L	0.5		NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,3-Dichloropropene, tot	ug/L	0.5	5.2 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ethylbenzene	ug/L	0.5	2300 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ethylene dibromide (dibr	ug/L	0.2	0.25 ug/L	NA	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Hexane	ug/L	1.0	51 ug/L	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Methyl Ethyl Ketone (2-B	ug/L	5.0	470000 ug/L	NA	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Methyl Butyl Ketone (2-H	ug/L	10		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Isobutyl Ketone	ug/L	5.0	140000 ug/L	NA	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	NA	NA	NA	NA	ND (5.0)
Methyl tert-butyl ether	ug/L	2.0	190 ug/L	NA	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Methylene Chloride	ug/L	5.0	610 ug/L	NA	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Styrene	ug/L	0.5	1300 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,1,1,2-Tetrachloroethan	ug/L	0.5	3.3 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,1,2,2-Tetrachloroethan	ug/L	0.5	3.2 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Tetrachloroethylene	ug/L	0.5	1.6 ug/L	NA	1.1	1.4	10.8	2.8	11.0	57.1	2.2	19.7	1.5	ND (0.5)	4.2	ND (0.5)	4.1	ND (0.5)

Parameter	Units	MDL	Regulation	Sample														
				BH2-19-GW2	BH2-20-GW	BH1-22-GW	BH2-22-GW	BH3-22-GW	BH2-102-GW	BH1-20-GW	BH2-20-GW	BH2-22-GW	BH3-22-GW	BH2-20-GW	BH1-22-GW	BH3-22-GW	DUP	BH2-20-GW
Sample Date (m/d/y)			Reg 153/04 (2011)-Table 3 Non-Potable Groundwater, coarse	08/06/2020	06/20/2022	06/20/2022	06/20/2022	06/20/2022	06/20/2022	11/04/2022	11/04/2022	11/04/2022	11/04/2022	06/05/2023	06/05/2023	06/05/2023	06/05/2023	08/15/2023
Toluene	ug/L	0.5	18000 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,2,4-Tichlorobenzene	ug/L	0.5		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	ug/L	0.5	640 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,1,2-Trichloroethane	ug/L	0.5	4.7 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Trichloroethylene	ug/L	0.5	1.6 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Trichlorofluoromethane	ug/L	1.0	2500 ug/L	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,3,5-Trimethylbenzene	ug/L	0.5		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	ug/L	0.5	0.5 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
m/p-Xylene	ug/L	0.5		NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
o-Xylene	ug/L	0.5		NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Xylenes, total	ug/L	0.5	4200 ug/L	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Hydrocarbons																		
F1 PHCs (C6-C10)	ug/L	25	750 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
F2 PHCs (C10-C16)	ug/L	100	150 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
F3 PHCs (C16-C34)	ug/L	100	500 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
F4 PHCs (C34-C50)	ug/L	100	500 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals																		
Mercury	ug/L	0.1	0.29 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	ug/L	0.1	20000 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	ug/L	0.5	1900 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	ug/L	1	29000 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	ug/L	1	67 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	ug/L	0.5	45000 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	ug/L	10	2.7 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	ug/L	0.1	810 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (VI)	ug/L	1	140 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	ug/L	10	66 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	ug/L	0.5	87 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	ug/L	0.5	25 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum	ug/L	0.5	9200 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	ug/L	1	490 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	ug/L	1	63 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	ug/L	0.1	1.5 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	ug/L	200	2300000 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	ug/L	0.1	510 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Uranium	ug/L	0.1	420 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	ug/L	0.5	250 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	ug/L	5	1100 ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Certificate of Analysis

Paterson Group Consulting Engineers

154 Colonnade Rd South
Nepean, ON K2E 7J5
Attn: Mark St. Pierre

Client PO: 30459
Project: PE4767
Custody: 128563

Report Date: 29-Jul-2020
Order Date: 23-Jul-2020

Order #: 2030460

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

Paracel ID	Client ID
2030460-01	BH1-20-SS8
2030460-02	BH2-20-SS7
2030460-03	BH3-20-SS2
2030460-04	BH3-20-SS7

Approved By:

Dale Robertson, BSc
Laboratory Director

Any use of these results implies your agreement that our total liabilty 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 any circumstances be liable to you in connection with this work.

Certificate of Analysis

Report Date: 29-Jul-2020

Client: Paterson Group Consulting Engineers

Order Date: 23-Jul-2020

Client PO: 30459

Project Description: PE4767

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Chromium, hexavalent - soil	MOE E3056 - Extraction, colourimetric	24-Jul-20	28-Jul-20
Mercury by CVAA	EPA 7471B - CVAA, digestion	28-Jul-20	29-Jul-20
REG 153: Metals by ICP/MS, soil	EPA 6020 - Digestion - ICP-MS	28-Jul-20	28-Jul-20
REG 153: PAHs by GC-MS	EPA 8270 - GC-MS, extraction	23-Jul-20	27-Jul-20
REG 153: VOCs by P&T GC/MS	EPA 8260 - P&T GC-MS	24-Jul-20	26-Jul-20
Solids, %	Gravimetric, calculation	28-Jul-20	28-Jul-20

Certificate of Analysis

Report Date: 29-Jul-2020

Client: Paterson Group Consulting Engineers

Order Date: 23-Jul-2020

Client PO: 30459

Project Description: PE4767

	Client ID:	BH1-20-SS8	BH2-20-SS7	BH3-20-SS2	BH3-20-SS7
	Sample Date:	22-Jul-20 09:00	22-Jul-20 09:00	22-Jul-20 09:00	22-Jul-20 09:00
	Sample ID:	2030460-01	2030460-02	2030460-03	2030460-04
	MDL/Units	Soil	Soil	Soil	Soil
Physical Characteristics					
% Solids	0.1 % by Wt.	90.7	81.0	97.2	87.4
Metals					
Antimony	1.0 ug/g dry	-	-	<1.0	-
Arsenic	1.0 ug/g dry	-	-	3.2	-
Barium	1.0 ug/g dry	-	-	198	-
Beryllium	0.5 ug/g dry	-	-	<0.5	-
Boron	5.0 ug/g dry	-	-	10.3	-
Cadmium	0.5 ug/g dry	-	-	<0.5	-
Chromium	5.0 ug/g dry	-	-	14.3	-
Chromium (VI)	0.2 ug/g dry	-	-	<0.2	-
Cobalt	1.0 ug/g dry	-	-	5.8	-
Copper	5.0 ug/g dry	-	-	12.4	-
Lead	1.0 ug/g dry	-	-	13.1	-
Mercury	0.1 ug/g dry	-	-	<0.1	-
Molybdenum	1.0 ug/g dry	-	-	<1.0	-
Nickel	5.0 ug/g dry	-	-	13.1	-
Selenium	1.0 ug/g dry	-	-	<1.0	-
Silver	0.3 ug/g dry	-	-	<0.3	-
Thallium	1.0 ug/g dry	-	-	<1.0	-
Uranium	1.0 ug/g dry	-	-	<1.0	-
Vanadium	10.0 ug/g dry	-	-	21.4	-
Zinc	20.0 ug/g dry	-	-	<20.0	-
Volatiles					
Acetone	0.50 ug/g dry	<0.50	<0.50	-	<0.50
Benzene	0.02 ug/g dry	<0.02	<0.02	-	<0.02
Bromodichloromethane	0.05 ug/g dry	<0.05	<0.05	-	<0.05
Bromoform	0.05 ug/g dry	<0.05	<0.05	-	<0.05
Bromomethane	0.05 ug/g dry	<0.05	<0.05	-	<0.05
Carbon Tetrachloride	0.05 ug/g dry	<0.05	<0.05	-	<0.05
Chlorobenzene	0.05 ug/g dry	<0.05	<0.05	-	<0.05
Chloroform	0.05 ug/g dry	<0.05	<0.05	-	<0.05
Dibromochloromethane	0.05 ug/g dry	<0.05	<0.05	-	<0.05
Dichlorodifluoromethane	0.05 ug/g dry	<0.05	<0.05	-	<0.05
1,2-Dichlorobenzene	0.05 ug/g dry	<0.05	<0.05	-	<0.05
1,3-Dichlorobenzene	0.05 ug/g dry	<0.05	<0.05	-	<0.05

Certificate of Analysis

Report Date: 29-Jul-2020

Client: Paterson Group Consulting Engineers

Order Date: 23-Jul-2020

Client PO: 30459

Project Description: PE4767

	Client ID:	BH1-20-SS8	BH2-20-SS7	BH3-20-SS2	BH3-20-SS7
	Sample Date:	22-Jul-20 09:00	22-Jul-20 09:00	22-Jul-20 09:00	22-Jul-20 09:00
	Sample ID:	2030460-01	2030460-02	2030460-03	2030460-04
	MDL/Units	Soil	Soil	Soil	Soil
1,4-Dichlorobenzene	0.05 ug/g dry	<0.05	<0.05	-	<0.05
1,1-Dichloroethane	0.05 ug/g dry	<0.05	<0.05	-	<0.05
1,2-Dichloroethane	0.05 ug/g dry	<0.05	<0.05	-	<0.05
1,1-Dichloroethylene	0.05 ug/g dry	<0.05	<0.05	-	<0.05
cis-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	<0.05	-	<0.05
trans-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	<0.05	-	<0.05
1,2-Dichloropropane	0.05 ug/g dry	<0.05	<0.05	-	<0.05
cis-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	<0.05	-	<0.05
trans-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	<0.05	-	<0.05
1,3-Dichloropropene, total	0.05 ug/g dry	<0.05	<0.05	-	<0.05
Ethylbenzene	0.05 ug/g dry	<0.05	<0.05	-	<0.05
Ethylene dibromide (dibromoethane, 1,2-)	0.05 ug/g dry	<0.05	<0.05	-	<0.05
Hexane	0.05 ug/g dry	<0.05	<0.05	-	<0.05
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g dry	<0.50	<0.50	-	<0.50
Methyl Isobutyl Ketone	0.50 ug/g dry	<0.50	<0.50	-	<0.50
Methyl tert-butyl ether	0.05 ug/g dry	<0.05	<0.05	-	<0.05
Methylene Chloride	0.05 ug/g dry	<0.05	<0.05	-	<0.05
Styrene	0.05 ug/g dry	<0.05	<0.05	-	<0.05
1,1,1,2-Tetrachloroethane	0.05 ug/g dry	<0.05	<0.05	-	<0.05
1,1,2,2-Tetrachloroethane	0.05 ug/g dry	<0.05	<0.05	-	<0.05
Tetrachloroethylene	0.05 ug/g dry	0.25	<0.05	-	<0.05
Toluene	0.05 ug/g dry	<0.05	<0.05	-	<0.05
1,1,1-Trichloroethane	0.05 ug/g dry	<0.05	<0.05	-	<0.05
1,1,2-Trichloroethane	0.05 ug/g dry	<0.05	<0.05	-	<0.05
Trichloroethylene	0.05 ug/g dry	<0.05	<0.05	-	<0.05
Trichlorofluoromethane	0.05 ug/g dry	<0.05	<0.05	-	<0.05
Vinyl chloride	0.02 ug/g dry	<0.02	<0.02	-	<0.02
m,p-Xylenes	0.05 ug/g dry	<0.05	<0.05	-	<0.05
o-Xylene	0.05 ug/g dry	<0.05	<0.05	-	<0.05
Xylenes, total	0.05 ug/g dry	<0.05	<0.05	-	<0.05
4-Bromofluorobenzene	Surrogate	119%	116%	-	124%
Dibromofluoromethane	Surrogate	85.4%	85.9%	-	83.2%
Toluene-d8	Surrogate	122%	121%	-	119%
Semi-Volatiles					
Acenaphthene	0.02 ug/g dry	-	-	<0.02	-
Acenaphthylene	0.02 ug/g dry	-	-	<0.02	-

Certificate of Analysis

Report Date: 29-Jul-2020

Client: Paterson Group Consulting Engineers

Order Date: 23-Jul-2020

Client PO: 30459

Project Description: PE4767

	Client ID:	BH1-20-SS8	BH2-20-SS7	BH3-20-SS2	BH3-20-SS7
	Sample Date:	22-Jul-20 09:00	22-Jul-20 09:00	22-Jul-20 09:00	22-Jul-20 09:00
	Sample ID:	2030460-01	2030460-02	2030460-03	2030460-04
	MDL/Units	Soil	Soil	Soil	Soil
Anthracene	0.02 ug/g dry	-	-	<0.02	-
Benzo [a] anthracene	0.02 ug/g dry	-	-	<0.02	-
Benzo [a] pyrene	0.02 ug/g dry	-	-	<0.02	-
Benzo [b] fluoranthene	0.02 ug/g dry	-	-	<0.02	-
Benzo [g,h,i] perylene	0.02 ug/g dry	-	-	<0.02	-
Benzo [k] fluoranthene	0.02 ug/g dry	-	-	<0.02	-
Chrysene	0.02 ug/g dry	-	-	<0.02	-
Dibenzo [a,h] anthracene	0.02 ug/g dry	-	-	<0.02	-
Fluoranthene	0.02 ug/g dry	-	-	<0.02	-
Fluorene	0.02 ug/g dry	-	-	<0.02	-
Indeno [1,2,3-cd] pyrene	0.02 ug/g dry	-	-	<0.02	-
1-Methylnaphthalene	0.02 ug/g dry	-	-	<0.02	-
2-Methylnaphthalene	0.02 ug/g dry	-	-	<0.02	-
Methylnaphthalene (1&2)	0.04 ug/g dry	-	-	<0.04	-
Naphthalene	0.01 ug/g dry	-	-	<0.01	-
Phenanthrene	0.02 ug/g dry	-	-	<0.02	-
Pyrene	0.02 ug/g dry	-	-	<0.02	-
2-Fluorobiphenyl	Surrogate	-	-	121%	-
Terphenyl-d14	Surrogate	-	-	90.4%	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Metals									
Antimony	ND	1.0	ug/g						
Arsenic	ND	1.0	ug/g						
Barium	ND	1.0	ug/g						
Beryllium	ND	0.5	ug/g						
Boron	ND	5.0	ug/g						
Cadmium	ND	0.5	ug/g						
Chromium (VI)	ND	0.2	ug/g						
Chromium	ND	5.0	ug/g						
Cobalt	ND	1.0	ug/g						
Copper	ND	5.0	ug/g						
Lead	ND	1.0	ug/g						
Mercury	ND	0.1	ug/g						
Molybdenum	ND	1.0	ug/g						
Nickel	ND	5.0	ug/g						
Selenium	ND	1.0	ug/g						
Silver	ND	0.3	ug/g						
Thallium	ND	1.0	ug/g						
Uranium	ND	1.0	ug/g						
Vanadium	ND	10.0	ug/g						
Zinc	ND	20.0	ug/g						
Semi-Volatiles									
Acenaphthene	ND	0.02	ug/g						
Acenaphthylene	ND	0.02	ug/g						
Anthracene	ND	0.02	ug/g						
Benzo [a] anthracene	ND	0.02	ug/g						
Benzo [a] pyrene	ND	0.02	ug/g						
Benzo [b] fluoranthene	ND	0.02	ug/g						
Benzo [g,h,i] perylene	ND	0.02	ug/g						
Benzo [k] fluoranthene	ND	0.02	ug/g						
Chrysene	ND	0.02	ug/g						
Dibenzo [a,h] anthracene	ND	0.02	ug/g						
Fluoranthene	ND	0.02	ug/g						
Fluorene	ND	0.02	ug/g						
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g						
1-Methylnaphthalene	ND	0.02	ug/g						
2-Methylnaphthalene	ND	0.02	ug/g						
Methylnaphthalene (1&2)	ND	0.04	ug/g						
Naphthalene	ND	0.01	ug/g						
Phenanthrene	ND	0.02	ug/g						
Pyrene	ND	0.02	ug/g						
Surrogate: 2-Fluorobiphenyl	*1.12*		*ug/g*		*83.9*	*50-140*			
Surrogate: Terphenyl-d14	*1.26*		*ug/g*		*94.6*	*50-140*			
Volatiles									
Acetone	ND	0.50	ug/g						
Benzene	ND	0.02	ug/g						
Bromodichloromethane	ND	0.05	ug/g						
Bromoform	ND	0.05	ug/g						
Bromomethane	ND	0.05	ug/g						
Carbon Tetrachloride	ND	0.05	ug/g						
Chlorobenzene	ND	0.05	ug/g						
Chloroform	ND	0.05	ug/g						
Dibromochloromethane	ND	0.05	ug/g						
Dichlorodifluoromethane	ND	0.05	ug/g						
1,2-Dichlorobenzene	ND	0.05	ug/g						
1,3-Dichlorobenzene	ND	0.05	ug/g						
1,4-Dichlorobenzene	ND	0.05	ug/g						
1,1-Dichloroethane	ND	0.05	ug/g						
1,2-Dichloroethane	ND	0.05	ug/g						

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,1-Dichloroethylene	ND	0.05	ug/g						
cis-1,2-Dichloroethylene	ND	0.05	ug/g						
trans-1,2-Dichloroethylene	ND	0.05	ug/g						
1,2-Dichloropropane	ND	0.05	ug/g						
cis-1,3-Dichloropropylene	ND	0.05	ug/g						
trans-1,3-Dichloropropylene	ND	0.05	ug/g						
1,3-Dichloropropene, total	ND	0.05	ug/g						
Ethylbenzene	ND	0.05	ug/g						
Ethylene dibromide (dibromoethane, 1,2	ND	0.05	ug/g						
Hexane	ND	0.05	ug/g						
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g						
Methyl Isobutyl Ketone	ND	0.50	ug/g						
Methyl tert-butyl ether	ND	0.05	ug/g						
Methylene Chloride	ND	0.05	ug/g						
Styrene	ND	0.05	ug/g						
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g						
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g						
Tetrachloroethylene	ND	0.05	ug/g						
Toluene	ND	0.05	ug/g						
1,1,1-Trichloroethane	ND	0.05	ug/g						
1,1,2-Trichloroethane	ND	0.05	ug/g						
Trichloroethylene	ND	0.05	ug/g						
Trichlorofluoromethane	ND	0.05	ug/g						
Vinyl chloride	ND	0.02	ug/g						
m,p-Xylenes	ND	0.05	ug/g						
o-Xylene	ND	0.05	ug/g						
Xylenes, total	ND	0.05	ug/g						
Surrogate: 4-Bromofluorobenzene	*3.82*		*ug/g*		*119*	*50-140*			
Surrogate: Dibromofluoromethane	*2.26*		*ug/g*		*70.7*	*50-140*			
Surrogate: Toluene-d8	*3.88*		*ug/g*		*121*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Metals									
Antimony	1.3	1.0	ug/g dry	1.1			14.5	30	
Arsenic	4.0	1.0	ug/g dry	3.7			6.6	30	
Barium	64.5	1.0	ug/g dry	56.9			12.6	30	
Beryllium	0.6	0.5	ug/g dry	0.6			9.7	30	
Boron	7.6	5.0	ug/g dry	6.6			14.6	30	
Cadmium	ND	0.5	ug/g dry	ND			NC	30	
Chromium (VI)	ND	0.2	ug/g dry	ND			NC	35	
Chromium	22.6	5.0	ug/g dry	18.5			20.1	30	
Cobalt	7.7	1.0	ug/g dry	6.4			18.0	30	
Copper	20.5	5.0	ug/g dry	16.9			18.9	30	
Lead	16.5	1.0	ug/g dry	14.3			13.9	30	
Mercury	ND	0.1	ug/g dry	ND			NC	30	
Molybdenum	1.1	1.0	ug/g dry	ND			NC	30	
Nickel	18.7	5.0	ug/g dry	15.1			21.3	30	
Selenium	ND	1.0	ug/g dry	ND			NC	30	
Silver	ND	0.3	ug/g dry	ND			NC	30	
Thallium	ND	1.0	ug/g dry	ND			NC	30	
Uranium	ND	1.0	ug/g dry	ND			NC	30	
Vanadium	27.0	10.0	ug/g dry	22.3			18.8	30	
Zinc	64.1	20.0	ug/g dry	45.5			NC	30	
Physical Characteristics									
% Solids	87.5	0.1	% by Wt.	81.2			7.4	25	
Semi-Volatiles									
Acenaphthene	ND	0.02	ug/g dry	ND			NC	40	
Acenaphthylene	ND	0.02	ug/g dry	ND			NC	40	
Anthracene	ND	0.02	ug/g dry	ND			NC	40	
Benzo [a] anthracene	ND	0.02	ug/g dry	ND			NC	40	
Benzo [a] pyrene	ND	0.02	ug/g dry	ND			NC	40	
Benzo [b] fluoranthene	ND	0.02	ug/g dry	ND			NC	40	
Benzo [g,h,i] perylene	ND	0.02	ug/g dry	ND			NC	40	
Benzo [k] fluoranthene	ND	0.02	ug/g dry	ND			NC	40	
Chrysene	ND	0.02	ug/g dry	ND			NC	40	
Dibenzo [a,h] anthracene	ND	0.02	ug/g dry	ND			NC	40	
Fluoranthene	ND	0.02	ug/g dry	ND			NC	40	
Fluorene	ND	0.02	ug/g dry	ND			NC	40	
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g dry	ND			NC	40	
1-Methylnaphthalene	ND	0.02	ug/g dry	ND			NC	40	
2-Methylnaphthalene	ND	0.02	ug/g dry	ND			NC	40	
Naphthalene	ND	0.01	ug/g dry	ND			NC	40	
Phenanthrene	ND	0.02	ug/g dry	ND			NC	40	
Pyrene	ND	0.02	ug/g dry	ND			NC	40	
Surrogate: 2-Fluorobiphenyl	*0.994*		*ug/g dry*		*70.9*	*50-140*			
Surrogate: Terphenyl-d14	*1.10*		*ug/g dry*		*78.3*	*50-140*			
Volatiles									
Acetone	ND	0.50	ug/g dry	ND			NC	50	
Benzene	ND	0.02	ug/g dry	ND			NC	50	
Bromodichloromethane	ND	0.05	ug/g dry	ND			NC	50	
Bromoform	ND	0.05	ug/g dry	ND			NC	50	
Bromomethane	ND	0.05	ug/g dry	ND			NC	50	
Carbon Tetrachloride	ND	0.05	ug/g dry	ND			NC	50	
Chlorobenzene	ND	0.05	ug/g dry	ND			NC	50	
Chloroform	ND	0.05	ug/g dry	ND			NC	50	
Dibromochloromethane	ND	0.05	ug/g dry	ND			NC	50	
Dichlorodifluoromethane	ND	0.05	ug/g dry	ND			NC	50	
1,2-Dichlorobenzene	ND	0.05	ug/g dry	ND			NC	50	
1,3-Dichlorobenzene	ND	0.05	ug/g dry	ND			NC	50	

Certificate of Analysis

Report Date: 29-Jul-2020

Client: Paterson Group Consulting Engineers

Order Date: 23-Jul-2020

Client PO: 30459

Project Description: PE4767

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,4-Dichlorobenzene	ND	0.05	ug/g dry	ND			NC	50	
1,1-Dichloroethane	ND	0.05	ug/g dry	ND			NC	50	
1,2-Dichloroethane	ND	0.05	ug/g dry	ND			NC	50	
1,1-Dichloroethylene	ND	0.05	ug/g dry	ND			NC	50	
cis-1,2-Dichloroethylene	ND	0.05	ug/g dry	ND			NC	50	
trans-1,2-Dichloroethylene	ND	0.05	ug/g dry	ND			NC	50	
1,2-Dichloropropane	ND	0.05	ug/g dry	ND			NC	50	
cis-1,3-Dichloropropylene	ND	0.05	ug/g dry	ND			NC	50	
trans-1,3-Dichloropropylene	ND	0.05	ug/g dry	ND			NC	50	
Ethylbenzene	ND	0.05	ug/g dry	ND			NC	50	
Ethylene dibromide (dibromoethane, 1,2	ND	0.05	ug/g dry	ND			NC	50	
Hexane	ND	0.05	ug/g dry	ND			NC	50	
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g dry	ND			NC	50	
Methyl Isobutyl Ketone	ND	0.50	ug/g dry	ND			NC	50	
Methyl tert-butyl ether	ND	0.05	ug/g dry	ND			NC	50	
Methylene Chloride	ND	0.05	ug/g dry	ND			NC	50	
Styrene	ND	0.05	ug/g dry	ND			NC	50	
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g dry	ND			NC	50	
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g dry	ND			NC	50	
Tetrachloroethylene	ND	0.05	ug/g dry	ND			NC	50	
Toluene	ND	0.05	ug/g dry	ND			NC	50	
1,1,1-Trichloroethane	ND	0.05	ug/g dry	ND			NC	50	
1,1,2-Trichloroethane	ND	0.05	ug/g dry	ND			NC	50	
Trichloroethylene	ND	0.05	ug/g dry	ND			NC	50	
Trichlorofluoromethane	ND	0.05	ug/g dry	ND			NC	50	
Vinyl chloride	ND	0.02	ug/g dry	ND			NC	50	
m,p-Xylenes	ND	0.05	ug/g dry	ND			NC	50	
o-Xylene	ND	0.05	ug/g dry	ND			NC	50	
Surrogate: 4-Bromofluorobenzene	*4.78*		*ug/g dry*		*114*	*50-140*			
Surrogate: Dibromofluoromethane	*3.56*		*ug/g dry*		*85.4*	*50-140*			
Surrogate: Toluene-d8	*5.18*		*ug/g dry*		*124*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Metals									
Antimony	44.7	1.0	ug/g	ND	88.5	70-130			
Arsenic	53.6	1.0	ug/g	1.5	104	70-130			
Barium	75.0	1.0	ug/g	22.8	105	70-130			
Beryllium	49.6	0.5	ug/g	ND	98.8	70-130			
Boron	48.7	5.0	ug/g	ND	92.1	70-130			
Cadmium	47.5	0.5	ug/g	ND	94.9	70-130			
Chromium (VI)	3.3	0.2	ug/g	ND	61.5	70-130			QM-05
Chromium	62.6	5.0	ug/g	7.4	111	70-130			
Cobalt	55.6	1.0	ug/g	2.6	106	70-130			
Copper	58.3	5.0	ug/g	6.8	103	70-130			
Lead	54.7	1.0	ug/g	5.7	98.0	70-130			
Mercury	1.68	0.1	ug/g	ND	112	70-130			
Molybdenum	54.3	1.0	ug/g	ND	108	70-130			
Nickel	59.1	5.0	ug/g	6.0	106	70-130			
Selenium	47.8	1.0	ug/g	ND	95.4	70-130			
Silver	54.9	0.3	ug/g	ND	110	70-130			
Thallium	48.2	1.0	ug/g	ND	96.2	70-130			
Uranium	51.6	1.0	ug/g	ND	103	70-130			
Vanadium	65.2	10.0	ug/g	ND	113	70-130			
Zinc	70.8	20.0	ug/g	ND	105	70-130			
Semi-Volatiles									
Acenaphthene	0.123	0.02	ug/g	ND	70.3	50-140			
Acenaphthylene	0.116	0.02	ug/g	ND	66.2	50-140			
Anthracene	0.129	0.02	ug/g	ND	73.9	50-140			
Benzo [a] anthracene	0.137	0.02	ug/g	ND	78.2	50-140			
Benzo [a] pyrene	0.137	0.02	ug/g	ND	78.0	50-140			
Benzo [b] fluoranthene	0.196	0.02	ug/g	ND	112	50-140			
Benzo [g,h,i] perylene	0.118	0.02	ug/g	ND	67.6	50-140			
Benzo [k] fluoranthene	0.177	0.02	ug/g	ND	101	50-140			
Chrysene	0.144	0.02	ug/g	ND	82.5	50-140			
Dibenzo [a,h] anthracene	0.115	0.02	ug/g	ND	65.5	50-140			
Fluoranthene	0.121	0.02	ug/g	ND	68.8	50-140			
Fluorene	0.127	0.02	ug/g	ND	72.7	50-140			
Indeno [1,2,3-cd] pyrene	0.119	0.02	ug/g	ND	67.9	50-140			
1-Methylnaphthalene	0.145	0.02	ug/g	ND	82.9	50-140			
2-Methylnaphthalene	0.178	0.02	ug/g	ND	102	50-140			
Naphthalene	0.131	0.01	ug/g	ND	74.8	50-140			
Phenanthrene	0.123	0.02	ug/g	ND	70.1	50-140			
Pyrene	0.119	0.02	ug/g	ND	68.0	50-140			
Surrogate: 2-Fluorobiphenyl	*0.916*		*ug/g*		*65.4*	*50-140*			
Surrogate: Terphenyl-d14	*1.00*		*ug/g*		*71.4*	*50-140*			
Volatiles									
Acetone	5.99	0.50	ug/g	ND	59.9	50-140			
Benzene	2.57	0.02	ug/g	ND	64.2	60-130			
Bromodichloromethane	2.45	0.05	ug/g	ND	61.2	60-130			
Bromoform	4.38	0.05	ug/g	ND	110	60-130			
Bromomethane	2.46	0.05	ug/g	ND	61.5	50-140			
Carbon Tetrachloride	2.51	0.05	ug/g	ND	62.7	60-130			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Chlorobenzene	4.02	0.05	ug/g	ND	101	60-130			
Chloroform	2.45	0.05	ug/g	ND	61.3	60-130			
Dibromochloromethane	4.15	0.05	ug/g	ND	104	60-130			
Dichlorodifluoromethane	2.62	0.05	ug/g	ND	65.4	50-140			
1,2-Dichlorobenzene	3.70	0.05	ug/g	ND	92.5	60-130			
1,3-Dichlorobenzene	3.53	0.05	ug/g	ND	88.3	60-130			
1,4-Dichlorobenzene	3.62	0.05	ug/g	ND	90.6	60-130			
1,1-Dichloroethane	2.84	0.05	ug/g	ND	71.0	60-130			
1,2-Dichloroethane	2.87	0.05	ug/g	ND	71.9	60-130			
1,1-Dichloroethylene	2.52	0.05	ug/g	ND	63.0	60-130			
cis-1,2-Dichloroethylene	2.41	0.05	ug/g	ND	60.2	60-130			
trans-1,2-Dichloroethylene	2.41	0.05	ug/g	ND	60.4	60-130			
1,2-Dichloropropane	3.75	0.05	ug/g	ND	93.9	60-130			
cis-1,3-Dichloropropylene	3.88	0.05	ug/g	ND	97.0	60-130			
trans-1,3-Dichloropropylene	2.51	0.05	ug/g	ND	62.7	60-130			
Ethylbenzene	4.16	0.05	ug/g	ND	104	60-130			
Ethylene dibromide (dibromoethane, 1,2	4.38	0.05	ug/g	ND	110	60-130			
Hexane	2.47	0.05	ug/g	ND	61.7	60-130			
Methyl Ethyl Ketone (2-Butanone)	6.35	0.50	ug/g	ND	63.5	50-140			
Methyl Isobutyl Ketone	6.60	0.50	ug/g	ND	66.0	50-140			
Methyl tert-butyl ether	5.34	0.05	ug/g	ND	53.4	50-140			
Methylene Chloride	2.52	0.05	ug/g	ND	62.9	60-130			
Styrene	3.85	0.05	ug/g	ND	96.3	60-130			
1,1,1,2-Tetrachloroethane	4.15	0.05	ug/g	ND	104	60-130			
1,1,2,2-Tetrachloroethane	4.43	0.05	ug/g	ND	111	60-130			
Tetrachloroethylene	4.00	0.05	ug/g	ND	99.9	60-130			
Toluene	4.05	0.05	ug/g	ND	101	60-130			
1,1,1-Trichloroethane	3.50	0.05	ug/g	ND	87.4	60-130			
1,1,2-Trichloroethane	2.72	0.05	ug/g	ND	68.0	60-130			
Trichloroethylene	3.72	0.05	ug/g	ND	92.9	60-130			
Trichlorofluoromethane	2.72	0.05	ug/g	ND	68.0	50-140			
Vinyl chloride	2.47	0.02	ug/g	ND	61.7	50-140			
m,p-Xylenes	8.32	0.05	ug/g	ND	104	60-130			
o-Xylene	4.30	0.05	ug/g	ND	107	60-130			
Surrogate: 4-Bromofluorobenzene	*2.72*		*ug/g*		*85.1*	*50-140*			
Surrogate: Dibromofluoromethane	*2.46*		*ug/g*		*76.8*	*50-140*			
Surrogate: Toluene-d8	*2.92*		*ug/g*		*91.3*	*50-140*			

Qualifier Notes:

QC Qualifiers :

QM-05 : The spike recovery was outside acceptance limits for the matrix spike due to matrix interference.

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.
NC: Not Calculated

Soil results are reported on a dry weight basis when the units are denoted with 'dry'.
Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

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Paracel ID: 2030460

Paracel Order Number (Lab Use Only): 2030460

Chain Of Custody (Lab Use Only) Nº 128563

Client Name: Paterson Group	Project Ref: PE 4767
Contact Name: Mark St Pierre	Quote #:
Address: 154 Colonnade Road South	PO #: 30459
	E-mail: mstpierre@patersongroup.ca
Telephone: 613-226-7381	

Page __ of __

Turnaround Time

☐ 1 day ☐ 3 day ☐ 2 day ☑ Regular

Date Required:

Regulation 153/04			Other Regulation	
☐ Table 1	☑ Res/Park	☐ Med/Fine	☐ REG 558	☐ PWQO
☐ Table 2	☐ Ind/Comm	☑ Coarse	☐ CCME	☐ MISA
☑ Table 3	☐ Agri/Other		☐ SU - Sani	☐ SU - Storm
☐ Table			Mun:	
For RSC: ☑ Yes ☐ No			☐ 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)						
1	BH1-20 - SS8	S		2	July 22 2020			x											
2	BH2-20 - SS7	S		2	↓			x											
3	BH3-20 - SS2	S		1	↓				x	x	x	x							
4	BH3-20 - SS7	S		2	↓			x											
5																			
6																			
7																			
8																			
9																			
10																			

Comments:

Method of Delivery: Paracel

Relinquished By (Sign): [signature]	Received By Driver/Depot: M. Tlouie	Received at Lab: Vineeporn Dokmai	Verified By: [signature]
Relinquished By (Print): Mark St Pierre	Date/Time: 23/07/20 3:40	Date/Time: Jul 23, 2020 04.54	Date/Time: 7-23-20 17:04
Date/Time: July 23.2020	Temperature: °C	Temperature: 20.4 °C	pH Verified: ☐ By:

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Ottawa, Ontario K1G 4J8
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e: paracel@paracellabs.com
www.paracellabs.com

Certificate of Analysis

Paterson Group Consulting Engineers
28 Concourse Gate, Unit 1
Nepean, ON K2E 7T7
Attn: Mark D'Arcy

Phone: (613) 226-7381
Fax: (613) 226-6344

Client PO: 11427
Project: PE2459
Custody: 90222

Report Date: 16-Nov-2011
Order Date: 10-Nov-2011
Order #: 1146174

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

Paracel ID	Client ID
1146174-01	BH1-SS1
1146174-02	BH2-SS7
1146174-03	BH4-SS8

Approved By: Mark Foto

Mark Foto, M.Sc. For Dale Robertson, BSc
Laboratory Director

Any use of these results implies your agreement that our total liabilty 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

Report Date: 16-Nov-2011

Client: **Paterson Group Consulting Engineers**

Order Date:10-Nov-2011

Client PO: 11427 Project Description: PE2459

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
PAHs by GC-MS, standard scan	EPA 8270 - GC-MS, extraction	11-Nov-11	11-Nov-11
Solids, %	Gravimetric, calculation	11-Nov-11	11-Nov-11
VOCs	EPA 8260 - P&T GC-MS	15-Nov-11	15-Nov-11

Certificate of Analysis

Report Date: 16-Nov-2011

Client: **Paterson Group Consulting Engineers**

Order Date:10-Nov-2011

Client PO: 11427

Project Description: PE2459

	Client ID:	BH1-SS1	BH2-SS7	BH4-SS8	-
	Sample Date:	09-Nov-11	09-Nov-11	09-Nov-11	-
	Sample ID:	1146174-01	1146174-02	1146174-03	-
	MDL/Units	Soil	Soil	Soil	-
Physical Characteristics					
% Solids	0.1 % by Wt.	93.6	89.0	88.9	-
Volatiles					
Acetone	0.5 ug/g dry	-	<0.5	<0.5	-
Benzene	0.02 ug/g dry	-	<0.02	<0.02	-
Bromodichloromethane	0.05 ug/g dry	-	<0.05	<0.05	-
Bromoform	0.05 ug/g dry	-	<0.05	<0.05	-
Bromomethane	0.05 ug/g dry	-	<0.05	<0.05	-
Carbon Tetrachloride	0.05 ug/g dry	-	<0.05	<0.05	-
Chlorobenzene	0.05 ug/g dry	-	<0.05	<0.05	-
Chloroethane	0.05 ug/g dry	-	<0.05	<0.05	-
Chloroform	0.05 ug/g dry	-	<0.05	<0.05	-
Chloromethane	0.2 ug/g dry	-	<0.2	<0.2	-
Dibromochloromethane	0.05 ug/g dry	-	<0.05	<0.05	-
Dichlorodifluoromethane	0.05 ug/g dry	-	<0.05	<0.05	-
1,2-Dibromoethane	0.05 ug/g dry	-	<0.05	<0.05	-
1,2-Dichlorobenzene	0.05 ug/g dry	-	<0.05	<0.05	-
1,3-Dichlorobenzene	0.05 ug/g dry	-	<0.05	<0.05	-
1,4-Dichlorobenzene	0.05 ug/g dry	-	<0.05	<0.05	-
1,1-Dichloroethane	0.05 ug/g dry	-	<0.05	<0.05	-
1,2-Dichloroethane	0.05 ug/g dry	-	<0.05	<0.05	-
1,1-Dichloroethylene	0.05 ug/g dry	-	<0.05	<0.05	-
cis-1,2-Dichloroethylene	0.05 ug/g dry	-	<0.05	<0.05	-
trans-1,2-Dichloroethylene	0.05 ug/g dry	-	<0.05	<0.05	-
1,2-Dichloroethylene, total	0.05 ug/g dry	-	<0.05	<0.05	-
1,2-Dichloropropane	0.05 ug/g dry	-	<0.05	<0.05	-
cis-1,3-Dichloropropylene	0.05 ug/g dry	-	<0.05	<0.05	-
trans-1,3-Dichloropropylene	0.05 ug/g dry	-	<0.05	<0.05	-
1,3-Dichloropropene, total	0.05 ug/g dry	-	<0.05	<0.05	-
Ethylbenzene	0.05 ug/g dry	-	<0.05	<0.05	-
Hexane	0.05 ug/g dry	-	<0.05	<0.05	-
Methyl Ethyl Ketone (2-Butanone)	0.5 ug/g dry	-	<0.5	<0.5	-
Methyl Butyl Ketone (2-Hexanone)	2.0 ug/g dry	-	<2.0	<2.0	-
Methyl Isobutyl Ketone	0.5 ug/g dry	-	<0.5	<0.5	-

Certificate of Analysis

Report Date: 16-Nov-2011

Client: **Paterson Group Consulting Engineers**

Order Date:10-Nov-2011

Client PO: 11427

Project Description: PE2459

	Client ID:	BH1-SS1	BH2-SS7	BH4-SS8	-
	Sample Date:	09-Nov-11	09-Nov-11	09-Nov-11	-
	Sample ID:	1146174-01	1146174-02	1146174-03	-
	MDL/Units	Soil	Soil	Soil	-
Methyl tert-butyl ether	0.05 ug/g dry	-	<0.05	<0.05	-
Methylene Chloride	0.05 ug/g dry	-	<0.05	<0.05	-
Styrene	0.05 ug/g dry	-	<0.05	<0.05	-
1,1,1,2-Tetrachloroethane	0.05 ug/g dry	-	<0.05	<0.05	-
1,1,2,2-Tetrachloroethane	0.05 ug/g dry	-	<0.05	<0.05	-
Tetrachloroethylene	0.05 ug/g dry	-	1.9	0.09	-
Toluene	0.05 ug/g dry	-	<0.05	<0.05	-
1,2,4-Trichlorobenzene	0.05 ug/g dry	-	<0.05	<0.05	-
1,1,1-Trichloroethane	0.05 ug/g dry	-	<0.05	<0.05	-
1,1,2-Trichloroethane	0.05 ug/g dry	-	<0.05	<0.05	-
Trichloroethylene	0.05 ug/g dry	-	<0.05	<0.05	-
Trichlorofluoromethane	0.05 ug/g dry	-	<0.05	<0.05	-
1,3,5-Trimethylbenzene	0.05 ug/g dry	-	<0.05	<0.05	-
Vinyl chloride	0.02 ug/g dry	-	<0.02	<0.02	-
m,p-Xylenes	0.05 ug/g dry	-	<0.05	<0.05	-
o-Xylene	0.05 ug/g dry	-	<0.05	<0.05	-
Xylenes, total	0.05 ug/g dry	-	<0.05	<0.05	-
4-Bromofluorobenzene	Surrogate	-	92.8%	95.3%	-
Dibromofluoromethane	Surrogate	-	101%	103%	-
Toluene-d8	Surrogate	-	109%	107%	-
Semi-Volatiles					
Acenaphthene	0.02 ug/g dry	<0.02	-	-	-
Acenaphthylene	0.02 ug/g dry	<0.02	-	-	-
Anthracene	0.02 ug/g dry	<0.02	-	-	-
Benzo [a] anthracene	0.02 ug/g dry	0.02	-	-	-
Benzo [a] pyrene	0.02 ug/g dry	<0.02	-	-	-
Benzo [b] fluoranthene	0.02 ug/g dry	0.03	-	-	-
Benzo [g,h,i] perylene	0.02 ug/g dry	<0.02	-	-	-
Benzo [k] fluoranthene	0.02 ug/g dry	<0.02	-	-	-
Biphenyl	0.02 ug/g dry	<0.02	-	-	-
Chrysene	0.02 ug/g dry	0.02	-	-	-
Dibenzo [a,h] anthracene	0.02 ug/g dry	<0.02	-	-	-
Fluoranthene	0.02 ug/g dry	0.03	-	-	-
Fluorene	0.02 ug/g dry	<0.02	-	-	-
Indeno [1,2,3-cd] pyrene	0.02 ug/g dry	<0.02	-	-	-

Certificate of Analysis

Report Date: 16-Nov-2011

Client: **Paterson Group Consulting Engineers**

Order Date:10-Nov-2011

Client PO: 11427

Project Description: PE2459

	Client ID:	BH1-SS1	BH2-SS7	BH4-SS8	-
	Sample Date:	09-Nov-11	09-Nov-11	09-Nov-11	-
	Sample ID:	1146174-01	1146174-02	1146174-03	-
	MDL/Units	Soil	Soil	Soil	-
1-Methylnaphthalene	0.02 ug/g dry	<0.02	-	-	-
2-Methylnaphthalene	0.02 ug/g dry	<0.02	-	-	-
Methylnaphthalene (1&2)	0.04 ug/g dry	<0.04	-	-	-
Naphthalene	0.02 ug/g dry	<0.02	-	-	-
Phenanthrene	0.02 ug/g dry	<0.02	-	-	-
Pyrene	0.02 ug/g dry	0.04	-	-	-
2-Fluorobiphenyl	Surrogate	98.5%	-	-	-
Terphenyl-d14	Surrogate	90.2%	-	-	-

Certificate of Analysis

Report Date: 16-Nov-2011

Client: **Paterson Group Consulting Engineers**

Order Date:10-Nov-2011

Client PO: 11427 Project Description: PE2459

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Semi-Volatiles									
Acenaphthene	ND	0.02	ug/g						
Acenaphthylene	ND	0.02	ug/g						
Anthracene	ND	0.02	ug/g						
Benzo [a] anthracene	ND	0.02	ug/g						
Benzo [a] pyrene	ND	0.02	ug/g						
Benzo [b] fluoranthene	ND	0.02	ug/g						
Benzo [g,h,i] perylene	ND	0.02	ug/g						
Benzo [k] fluoranthene	ND	0.02	ug/g						
Biphenyl	ND	0.02	ug/g						
Chrysene	ND	0.02	ug/g						
Dibenzo [a,h] anthracene	ND	0.02	ug/g						
Fluoranthene	ND	0.02	ug/g						
Fluorene	ND	0.02	ug/g						
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g						
1-Methylnaphthalene	ND	0.02	ug/g						
2-Methylnaphthalene	ND	0.02	ug/g						
Methylnaphthalene (1&2)	ND	0.04	ug/g						
Naphthalene	ND	0.02	ug/g						
Phenanthrene	ND	0.02	ug/g						
Pyrene	ND	0.02	ug/g						
Surrogate: 2-Fluorobiphenyl	*1.21*	*0.01*	*ug/g*		*91.0*	*50-140*			
Surrogate: Terphenyl-d14	*1.19*	*0.01*	*ug/g*		*89.2*	*50-140*			
Volatiles									
Acetone	ND	0.5	ug/g						
Benzene	ND	0.02	ug/g						
Bromodichloromethane	ND	0.05	ug/g						
Bromoform	ND	0.05	ug/g						
Bromomethane	ND	0.05	ug/g						
Carbon Tetrachloride	ND	0.05	ug/g						
Chlorobenzene	ND	0.05	ug/g						
Chloroethane	ND	0.05	ug/g						
Chloroform	ND	0.05	ug/g						
Chloromethane	ND	0.2	ug/g						
Dibromochloromethane	ND	0.05	ug/g						
Dichlorodifluoromethane	ND	0.05	ug/g						
1,2-Dibromoethane	ND	0.05	ug/g						
1,2-Dichlorobenzene	ND	0.05	ug/g						
1,3-Dichlorobenzene	ND	0.05	ug/g						
1,4-Dichlorobenzene	ND	0.05	ug/g						
1,1-Dichloroethane	ND	0.05	ug/g						
1,2-Dichloroethane	ND	0.05	ug/g						
1,1-Dichloroethylene	ND	0.05	ug/g						
cis-1,2-Dichloroethylene	ND	0.05	ug/g						
trans-1,2-Dichloroethylene	ND	0.05	ug/g						
1,2-Dichloroethylene, total	ND	0.05	ug/g						
1,2-Dichloropropane	ND	0.05	ug/g						
cis-1,3-Dichloropropylene	ND	0.05	ug/g						
trans-1,3-Dichloropropylene	ND	0.05	ug/g						
1,3-Dichloropropene, total	ND	0.05	ug/g						
Ethylbenzene	ND	0.05	ug/g						
Hexane	ND	0.05	ug/g						
Methyl Ethyl Ketone (2-Butanone)	ND	0.5	ug/g						
Methyl Butyl Ketone (2-Hexanone)	ND	2.0	ug/g						
Methyl Isobutyl Ketone	ND	0.5	ug/g						
Methyl tert-butyl ether	ND	0.05	ug/g						
Methylene Chloride	ND	0.05	ug/g						
Styrene	ND	0.05	ug/g						

Certificate of Analysis

Report Date: 16-Nov-2011

Client: **Paterson Group Consulting Engineers**

Order Date:10-Nov-2011

Client PO: 11427 Project Description: PE2459

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g						
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g						
Tetrachloroethylene	ND	0.05	ug/g						
Toluene	ND	0.05	ug/g						
1,2,4-Trichlorobenzene	ND	0.05	ug/g						
1,1,1-Trichloroethane	ND	0.05	ug/g						
1,1,2-Trichloroethane	ND	0.05	ug/g						
Trichloroethylene	ND	0.05	ug/g						
Trichlorofluoromethane	ND	0.05	ug/g						
1,3,5-Trimethylbenzene	ND	0.05	ug/g						
Vinyl chloride	ND	0.02	ug/g						
m,p-Xylenes	ND	0.05	ug/g						
o-Xylene	ND	0.05	ug/g						
Xylenes, total	ND	0.05	ug/g						
Surrogate: 4-Bromofluorobenzene	*7.39*		*ug/g*		*92.3*	*50-140*			
Surrogate: Dibromofluoromethane	*8.25*		*ug/g*		*103*	*50-140*			
Surrogate: Toluene-d8	*8.75*		*ug/g*		*109*	*50-140*			

Certificate of Analysis

Report Date: 16-Nov-2011

Client: **Paterson Group Consulting Engineers**

Order Date:10-Nov-2011

Client PO: 11427

Project Description: PE2459

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Physical Characteristics									
% Solids	87.6	0.1	% by Wt.	88.8			1.5	25	
Semi-Volatiles									
Acenaphthene	ND	0.02	ug/g dry	ND				40	
Acenaphthylene	ND	0.02	ug/g dry	ND				40	
Anthracene	ND	0.02	ug/g dry	ND				40	
Benzo [a] anthracene	0.044	0.02	ug/g dry	0.040			10.1	40	
Benzo [a] pyrene	0.031	0.02	ug/g dry	0.025			19.1	40	
Benzo [b] fluoranthene	0.053	0.02	ug/g dry	0.039			29.5	40	
Benzo [g,h,i] perylene	0.020	0.02	ug/g dry	ND				40	
Benzo [k] fluoranthene	0.031	0.02	ug/g dry	0.029			7.0	40	
Biphenyl	ND	0.02	ug/g dry	ND				40	
Chrysene	0.046	0.02	ug/g dry	0.040			12.4	40	
Dibenzo [a,h] anthracene	ND	0.02	ug/g dry	ND				40	
Fluoranthene	0.076	0.02	ug/g dry	0.061			21.6	40	
Fluorene	ND	0.02	ug/g dry	ND				40	
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g dry	ND				40	
1-Methylnaphthalene	ND	0.02	ug/g dry	ND				40	
2-Methylnaphthalene	ND	0.02	ug/g dry	ND				40	
Naphthalene	ND	0.02	ug/g dry	ND				40	
Phenanthrene	0.036	0.02	ug/g dry	0.028			24.8	40	
Pyrene	0.071	0.02	ug/g dry	0.060			17.3	40	
Surrogate: 2-Fluorobiphenyl	*1.12*	*0.01*	*ug/g dry*	*ND*	*80.8*	*50-140*			
Surrogate: Terphenyl-d14	*0.986*	*0.01*	*ug/g dry*	*ND*	*71.0*	*50-140*			
Volatiles									
Acetone	ND	0.5	ug/g dry	ND				50	
Benzene	ND	0.02	ug/g dry	ND				50	
Bromodichloromethane	ND	0.05	ug/g dry	ND				50	
Bromoform	ND	0.05	ug/g dry	ND				50	
Bromomethane	ND	0.05	ug/g dry	ND				50	
Carbon Tetrachloride	ND	0.05	ug/g dry	ND				50	
Chlorobenzene	ND	0.05	ug/g dry	ND				50	
Chloroethane	ND	0.05	ug/g dry	ND				50	
Chloroform	ND	0.05	ug/g dry	ND				50	
Chloromethane	ND	0.2	ug/g dry	ND				50	
Dibromochloromethane	ND	0.05	ug/g dry	ND				50	
Dichlorodifluoromethane	ND	0.05	ug/g dry	ND				50	
1,2-Dibromoethane	ND	0.05	ug/g dry	ND				50	
1,2-Dichlorobenzene	ND	0.05	ug/g dry	ND				50	
1,3-Dichlorobenzene	ND	0.05	ug/g dry	ND				50	
1,4-Dichlorobenzene	ND	0.05	ug/g dry	ND				50	
1,1-Dichloroethane	ND	0.05	ug/g dry	ND				50	
1,2-Dichloroethane	ND	0.05	ug/g dry	ND				50	
1,1-Dichloroethylene	ND	0.05	ug/g dry	ND				50	
cis-1,2-Dichloroethylene	ND	0.05	ug/g dry	ND				50	
trans-1,2-Dichloroethylene	ND	0.05	ug/g dry	ND				50	
1,2-Dichloropropane	ND	0.05	ug/g dry	ND				50	
cis-1,3-Dichloropropylene	ND	0.05	ug/g dry	ND				50	
trans-1,3-Dichloropropylene	ND	0.05	ug/g dry	ND				50	
Ethylbenzene	ND	0.05	ug/g dry	ND				50	
Hexane	ND	0.05	ug/g dry	ND				50	
Methyl Ethyl Ketone (2-Butanone)	ND	0.5	ug/g dry	ND				50	
Methyl Butyl Ketone (2-Hexanone)	ND	2.0	ug/g dry	ND				50	
Methyl Isobutyl Ketone	ND	0.5	ug/g dry	ND				50	
Methyl tert-butyl ether	ND	0.05	ug/g dry	ND				50	
Methylene Chloride	ND	0.05	ug/g dry	ND				50	

Certificate of Analysis

Report Date: 16-Nov-2011

Client: **Paterson Group Consulting Engineers**

Order Date:10-Nov-2011

Client PO: 11427 Project Description: PE2459

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Styrene	ND	0.05	ug/g dry	ND				50	
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g dry	ND				50	
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g dry	ND				50	
Tetrachloroethylene	ND	0.05	ug/g dry	ND				50	
Toluene	ND	0.05	ug/g dry	ND				50	
1,2,4-Trichlorobenzene	ND	0.05	ug/g dry	ND				50	
1,1,1-Trichloroethane	ND	0.05	ug/g dry	ND				50	
1,1,2-Trichloroethane	ND	0.05	ug/g dry	ND				50	
Trichloroethylene	ND	0.05	ug/g dry	ND				50	
Trichlorofluoromethane	ND	0.05	ug/g dry	ND				50	
1,3,5-Trimethylbenzene	ND	0.05	ug/g dry	ND				50	
Vinyl chloride	ND	0.02	ug/g dry	ND				50	
m,p-Xylenes	ND	0.05	ug/g dry	ND				50	
o-Xylene	ND	0.05	ug/g dry	ND				50	
Surrogate: 4-Bromofluorobenzene	*12.4*		*ug/g dry*	*ND*	*131*	*50-140*			
Surrogate: Dibromofluoromethane	*8.66*		*ug/g dry*	*ND*	*91.5*	*50-140*			
Surrogate: Toluene-d8	*9.28*		*ug/g dry*	*ND*	*98.0*	*50-140*			

Certificate of Analysis

Report Date: 16-Nov-2011

Client: **Paterson Group Consulting Engineers**

Order Date:10-Nov-2011

Client PO: 11427 Project Description: PE2459

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Semi-Volatiles									
Acenaphthene	0.114	0.02	ug/g	ND	68.2	50-140			
Acenaphthylene	0.113	0.02	ug/g	ND	67.5	50-140			
Anthracene	0.112	0.02	ug/g	ND	67.2	50-140			
Benzo [a] anthracene	0.133	0.02	ug/g	ND	79.9	50-140			
Benzo [a] pyrene	0.123	0.02	ug/g	ND	73.9	50-140			
Benzo [b] fluoranthene	0.114	0.02	ug/g	ND	68.2	50-140			
Benzo [g,h,i] perylene	0.104	0.02	ug/g	ND	62.3	50-140			
Benzo [k] fluoranthene	0.151	0.02	ug/g	ND	90.4	50-140			
Biphenyl	0.115	0.02	ug/g	ND	69.1	50-140			
Chrysene	0.128	0.02	ug/g	ND	77.0	50-140			
Dibenzo [a,h] anthracene	0.112	0.02	ug/g	ND	67.5	50-140			
Fluoranthene	0.114	0.02	ug/g	ND	68.3	50-140			
Fluorene	0.105	0.02	ug/g	ND	63.2	50-140			
Indeno [1,2,3-cd] pyrene	0.102	0.02	ug/g	ND	60.9	50-140			
1-Methylnaphthalene	0.123	0.02	ug/g	ND	74.1	50-140			
2-Methylnaphthalene	0.129	0.02	ug/g	ND	77.6	50-140			
Naphthalene	0.114	0.02	ug/g	ND	68.6	50-140			
Phenanthrene	0.102	0.02	ug/g	ND	61.3	50-140			
Pyrene	0.128	0.02	ug/g	ND	76.7	50-140			
Surrogate: 2-Fluorobiphenyl	*1.19*	0.01	*ug/g*		*89.5*	*50-140*			
Volatiles									
Acetone	11.7	0.5	ug/g	ND	117	50-140			
Benzene	3.9	0.02	ug/g	ND	97.2	60-130			
Bromodichloromethane	3.7	0.05	ug/g	ND	93.6	60-130			
Bromoform	4.0	0.05	ug/g	ND	99.3	60-130			
Bromomethane	2.1	0.05	ug/g	ND	51.6	50-140			
Carbon Tetrachloride	3.6	0.05	ug/g	ND	90.3	60-130			
Chlorobenzene	5.1	0.05	ug/g	ND	128	60-130			
Chloroethane	2.7	0.05	ug/g	ND	68.2	50-140			
Chloroform	3.7	0.05	ug/g	ND	91.6	60-130			
Chloromethane	2.9	0.2	ug/g	ND	71.9	50-140			
Dibromochloromethane	4.1	0.05	ug/g	ND	103	60-130			
Dichlorodifluoromethane	2.9	0.05	ug/g	ND	73.1	50-140			
1,2-Dibromoethane	4.3	0.05	ug/g	ND	107	60-130			
1,2-Dichlorobenzene	4.3	0.05	ug/g	ND	108	60-130			
1,3-Dichlorobenzene	4.4	0.05	ug/g	ND	111	60-130			
1,4-Dichlorobenzene	4.3	0.05	ug/g	ND	108	60-130			
1,1-Dichloroethane	3.9	0.05	ug/g	ND	98.5	60-130			
1,2-Dichloroethane	3.8	0.05	ug/g	ND	95.2	60-130			
1,1-Dichloroethylene	3.5	0.05	ug/g	ND	87.9	60-130			
cis-1,2-Dichloroethylene	3.8	0.05	ug/g	ND	96.2	60-130			
trans-1,2-Dichloroethylene	3.8	0.05	ug/g	ND	95.0	60-130			
1,2-Dichloropropane	3.4	0.05	ug/g	ND	85.9	60-130			
cis-1,3-Dichloropropylene	3.9	0.05	ug/g	ND	97.0	60-130			
trans-1,3-Dichloropropylene	3.6	0.05	ug/g	ND	91.1	60-130			
Ethylbenzene	4.3	0.05	ug/g	ND	109	60-130			
Hexane	3.1	0.05	ug/g	ND	77.9	60-130			
Methyl Ethyl Ketone (2-Butanone)	11.6	0.5	ug/g	ND	116	50-140			
Methyl Butyl Ketone (2-Hexanone)	12.1	2.0	ug/g	ND	121	50-140			

Certificate of Analysis

Report Date: 16-Nov-2011

Client: **Paterson Group Consulting Engineers**

Order Date:10-Nov-2011

Client PO: 11427 Project Description: PE2459

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Methyl Isobutyl Ketone	10.5	0.5	ug/g	ND	105	50-140			
Methyl tert-butyl ether	9.7	0.05	ug/g	ND	96.6	50-140			
Methylene Chloride	4.1	0.05	ug/g	ND	101	60-130			
Styrene	4.1	0.05	ug/g	ND	103	60-130			
1,1,1,2-Tetrachloroethane	4.1	0.05	ug/g	ND	103	60-130			
1,1,2,2-Tetrachloroethane	3.5	0.05	ug/g	ND	88.2	60-130			
Tetrachloroethylene	3.9	0.05	ug/g	ND	98.5	60-130			
Toluene	3.9	0.05	ug/g	ND	97.7	60-130			
1,2,4-Trichlorobenzene	4.3	0.05	ug/g	ND	108	60-130			
1,1,1-Trichloroethane	3.5	0.05	ug/g	ND	87.4	60-130			
1,1,2-Trichloroethane	4.5	0.05	ug/g	ND	112	60-130			
Trichloroethylene	3.7	0.05	ug/g	ND	92.5	60-130			
Trichlorofluoromethane	3.5	0.05	ug/g	ND	86.7	50-140			
1,3,5-Trimethylbenzene	4.8	0.05	ug/g	ND	121	60-130			
Vinyl chloride	2.6	0.02	ug/g	ND	63.9	50-140			
m,p-Xylenes	8.4	0.05	ug/g	ND	105	60-130			
o-Xylene	4.6	0.05	ug/g	ND	114	60-130			

Certificate of Analysis

Report Date: 16-Nov-2011

Client: **Paterson Group Consulting Engineers**

Order Date:10-Nov-2011

Client PO: 11427 Project Description: PE2459

Sample and QC Qualifiers Notes

None

Sample Data Revisions

None

Work Order Revisions/Comments:

None

Other Report Notes:

n/a: not applicable
MDL: Method Detection Limit
Source Result: Data used as source for matrix and duplicate samples
%REC: Percent recovery.
RPD: Relative percent difference.
Soil results are reported on a dry weight basis when the units are denoted with 'dry'.
Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

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PE2459

Chain of Custody (Lab Use Only) № 90222

Page __ of __

Client Name: PATERSON GROUP	Project Reference: PE 2459		TAT: [X] Regular [ ] 2 Day [ ] 1 Day
Contact Name: MARK D'ARCY	Quote #		
Address: 28 CONCOURSE GATE UNIT 1	PO # 11427		
Telephone: 613 226 7381	Email Address: mdarcy@patersongroup.ca		Date Required:

Criteria: [ ] O. Reg. 153/04 Table __ [X] O. Reg 179/11 Table 3 [ ] 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)

Paracel Order Number: 1146174

Required Analyses

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken Date	Sample Taken Time	VOC	~~[illegible]~~	PAH's								
1	BH1-SS1	S		1	Nov9/11	9Am		X	X			120ml					/
2	BH2-SS7	S		2	Nov9/11	10Am	X					120ml + vial					/
3	BH4-SS8	S		2	Nov9/11	11Am	X					"					/
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Comments:

Method of Delivery: Paracel

Relinquished By (Print & Sign):	Received by Driver/Depot:	Received at Lab:	Verified By:
Mike Beaudoin [signature]	M. Devise	SUNEEPORN	MC [signature]
Date/Time: Nov 10/11	Date/Time: 10/11/11 2:56pm	Date/Time: NOV 10 11 03.30	Date/Time: Nov 10/11 3:50
	Temperature: / °C	Temperature: 16.9 °C	pH Verified [ ] By: N/A

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Certificate of Analysis

Paterson Group Consulting Engineers

154 Colonnade Road South
Nepean, ON K2E 7J5
Attn: Eric Leveque

Client PO: 22908
Project: PE4629
Custody: 122297

Report Date: 10-Jun-2019
Order Date: 4-Jun-2019

Order #: 1923237

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

Paracel ID	Client ID
1923237-01	BH1-SS7
1923237-02	BH2-SS2
1923237-03	BH2-SS6
1923237-04	BH3-SS6

Approved By:

Mark Foto

Mark Foto, M.Sc.
Lab Supervisor

Any use of these results implies your agreement that our total liabilty 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 any circumstances be liable to you in connection with this work.

Certificate of Analysis
Client: Paterson Group Consulting Engineers
Client PO: 22908

Report Date: 10-Jun-2019
Order Date: 4-Jun-2019
Project Description: PE4629

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
REG 153: Metals by ICP/MS, soil	EPA 6020 - Digestion - ICP-MS	7-Jun-19	7-Jun-19
REG 153: VOCs by P&T GC/MS	EPA 8260 - P&T GC-MS	7-Jun-19	8-Jun-19
Solids, %	Gravimetric, calculation	6-Jun-19	6-Jun-19

Certificate of Analysis
Client: Paterson Group Consulting Engineers
Client PO: 22908

Report Date: 10-Jun-2019
Order Date: 4-Jun-2019
Project Description: PE4629

	Client ID:	BH1-SS7	BH2-SS2	BH2-SS6	BH3-SS6
	Sample Date:	03-Jun-19 09:00	03-Jun-19 09:00	03-Jun-19 09:00	03-Jun-19 09:00
	Sample ID:	1923237-01	1923237-02	1923237-03	1923237-04
	MDL/Units	Soil	Soil	Soil	Soil
Physical Characteristics					
% Solids	0.1 % by Wt.	86.2	86.4	87.2	82.7
Metals					
Antimony	1.0 ug/g dry	-	<1.0	-	-
Arsenic	1.0 ug/g dry	-	2.1	-	-
Barium	1.0 ug/g dry	-	51.3	-	-
Beryllium	0.5 ug/g dry	-	<0.5	-	-
Boron	5.0 ug/g dry	-	5.0	-	-
Cadmium	0.5 ug/g dry	-	<0.5	-	-
Chromium	5.0 ug/g dry	-	11.6	-	-
Cobalt	1.0 ug/g dry	-	3.0	-	-
Copper	5.0 ug/g dry	-	15.9	-	-
Lead	1.0 ug/g dry	-	61.3	-	-
Molybdenum	1.0 ug/g dry	-	<1.0	-	-
Nickel	5.0 ug/g dry	-	5.6	-	-
Selenium	1.0 ug/g dry	-	<1.0	-	-
Silver	0.3 ug/g dry	-	<0.3	-	-
Thallium	1.0 ug/g dry	-	<1.0	-	-
Uranium	1.0 ug/g dry	-	<1.0	-	-
Vanadium	10.0 ug/g dry	-	12.5	-	-
Zinc	20.0 ug/g dry	-	82.9	-	-
Volatiles					
Acetone	0.50 ug/g dry	<0.50	-	<0.50	<0.50
Benzene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
Bromodichloromethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Bromoform	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Bromomethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Carbon Tetrachloride	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Chlorobenzene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Chloroform	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Dibromochloromethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Dichlorodifluoromethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,2-Dichlorobenzene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,3-Dichlorobenzene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,4-Dichlorobenzene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,1-Dichloroethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05

Certificate of Analysis
Client: Paterson Group Consulting Engineers
Client PO: 22908

Report Date: 10-Jun-2019
Order Date: 4-Jun-2019
Project Description: PE4629

	Client ID:	BH1-SS7	BH2-SS2	BH2-SS6	BH3-SS6
	Sample Date:	03-Jun-19 09:00	03-Jun-19 09:00	03-Jun-19 09:00	03-Jun-19 09:00
	Sample ID:	1923237-01	1923237-02	1923237-03	1923237-04
	MDL/Units	Soil	Soil	Soil	Soil
1,2-Dichloroethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,1-Dichloroethylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
cis-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
trans-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,2-Dichloropropane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
cis-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
trans-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,3-Dichloropropene, total	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Ethylbenzene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Ethylene dibromide (dibromoethan	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Hexane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g dry	<0.50	-	<0.50	<0.50
Methyl Isobutyl Ketone	0.50 ug/g dry	<0.50	-	<0.50	<0.50
Methyl tert-butyl ether	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Methylene Chloride	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Styrene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,1,1,2-Tetrachloroethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,1,2,2-Tetrachloroethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Tetrachloroethylene	0.05 ug/g dry	1.01	-	<0.05	<0.05
Toluene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,1,1-Trichloroethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,1,2-Trichloroethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Trichloroethylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Trichlorofluoromethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Vinyl chloride	0.02 ug/g dry	<0.02	-	<0.02	<0.02
m,p-Xylenes	0.05 ug/g dry	<0.05	-	<0.05	<0.05
o-Xylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Xylenes, total	0.05 ug/g dry	<0.05	-	<0.05	<0.05
4-Bromofluorobenzene	Surrogate	80.3%	-	126%	111%
Dibromofluoromethane	Surrogate	75.9%	-	74.8%	137%
Toluene-d8	Surrogate	73.8%	-	79.8%	74.2%

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Metals									
Antimony	ND	1.0	ug/g						
Arsenic	ND	1.0	ug/g						
Barium	ND	1.0	ug/g						
Beryllium	ND	0.5	ug/g						
Boron	ND	5.0	ug/g						
Cadmium	ND	0.5	ug/g						
Chromium	ND	5.0	ug/g						
Cobalt	ND	1.0	ug/g						
Copper	ND	5.0	ug/g						
Lead	ND	1.0	ug/g						
Molybdenum	ND	1.0	ug/g						
Nickel	ND	5.0	ug/g						
Selenium	ND	1.0	ug/g						
Silver	ND	0.3	ug/g						
Thallium	ND	1.0	ug/g						
Uranium	ND	1.0	ug/g						
Vanadium	ND	10.0	ug/g						
Zinc	ND	20.0	ug/g						
Volatiles									
Acetone	ND	0.50	ug/g						
Benzene	ND	0.02	ug/g						
Bromodichloromethane	ND	0.05	ug/g						
Bromoform	ND	0.05	ug/g						
Bromomethane	ND	0.05	ug/g						
Carbon Tetrachloride	ND	0.05	ug/g						
Chlorobenzene	ND	0.05	ug/g						
Chloroform	ND	0.05	ug/g						
Dibromochloromethane	ND	0.05	ug/g						
Dichlorodifluoromethane	ND	0.05	ug/g						
1,2-Dichlorobenzene	ND	0.05	ug/g						
1,3-Dichlorobenzene	ND	0.05	ug/g						
1,4-Dichlorobenzene	ND	0.05	ug/g						
1,1-Dichloroethane	ND	0.05	ug/g						
1,2-Dichloroethane	ND	0.05	ug/g						
1,1-Dichloroethylene	ND	0.05	ug/g						
cis-1,2-Dichloroethylene	ND	0.05	ug/g						
trans-1,2-Dichloroethylene	ND	0.05	ug/g						
1,2-Dichloropropane	ND	0.05	ug/g						
cis-1,3-Dichloropropylene	ND	0.05	ug/g						
trans-1,3-Dichloropropylene	ND	0.05	ug/g						
1,3-Dichloropropene, total	ND	0.05	ug/g						
Ethylbenzene	ND	0.05	ug/g						
Ethylene dibromide (dibromoethane	ND	0.05	ug/g						
Hexane	ND	0.05	ug/g						
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g						
Methyl Isobutyl Ketone	ND	0.50	ug/g						
Methyl tert-butyl ether	ND	0.05	ug/g						
Methylene Chloride	ND	0.05	ug/g						
Styrene	ND	0.05	ug/g						
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g						
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g						
Tetrachloroethylene	ND	0.05	ug/g						
Toluene	ND	0.05	ug/g						
1,1,1-Trichloroethane	ND	0.05	ug/g						
1,1,2-Trichloroethane	ND	0.05	ug/g						
Trichloroethylene	ND	0.05	ug/g						
Trichlorofluoromethane	ND	0.05	ug/g						
Vinyl chloride	ND	0.02	ug/g						
m,p-Xylenes	ND	0.05	ug/g						

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
o-Xylene	ND	0.05	ug/g						
Xylenes, total	ND	0.05	ug/g						
Surrogate: 4-Bromofluorobenzene	*4.24*		*ug/g*		*132*	*50-140*			
Surrogate: Dibromofluoromethane	*2.98*		*ug/g*		*93.2*	*50-140*			
Surrogate: Toluene-d8	*2.83*		*ug/g*		*88.5*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Metals									
Antimony	1.0	1.0	ug/g dry	ND			0.0	30	
Arsenic	1.9	1.0	ug/g dry	2.2			12.8	30	
Barium	10.8	1.0	ug/g dry	11.7			8.1	30	
Beryllium	ND	0.5	ug/g dry	ND			0.0	30	
Boron	6.1	5.0	ug/g dry	6.0			0.4	30	
Cadmium	ND	0.5	ug/g dry	ND			0.0	30	
Chromium	6.2	5.0	ug/g dry	6.6			5.9	30	
Cobalt	3.3	1.0	ug/g dry	3.6			7.5	30	
Copper	ND	5.0	ug/g dry	ND			0.0	30	
Lead	4.0	1.0	ug/g dry	4.3			5.4	30	
Molybdenum	ND	1.0	ug/g dry	ND			0.0	30	
Nickel	6.0	5.0	ug/g dry	6.3			4.7	30	
Selenium	ND	1.0	ug/g dry	ND			0.0	30	
Silver	ND	0.3	ug/g dry	ND			0.0	30	
Thallium	ND	1.0	ug/g dry	ND			0.0	30	
Uranium	ND	1.0	ug/g dry	ND			0.0	30	
Vanadium	11.1	10.0	ug/g dry	12.0			8.0	30	
Zinc	ND	20.0	ug/g dry	ND			0.0	30	
Physical Characteristics									
% Solids	83.4	0.1	% by Wt.	84.1			0.9	25	
Volatiles									
Acetone	ND	0.50	ug/g dry	ND				50	
Benzene	ND	0.02	ug/g dry	ND				50	
Bromodichloromethane	ND	0.05	ug/g dry	ND				50	
Bromoform	ND	0.05	ug/g dry	ND				50	
Bromomethane	ND	0.05	ug/g dry	ND				50	
Carbon Tetrachloride	ND	0.05	ug/g dry	ND				50	
Chlorobenzene	ND	0.05	ug/g dry	ND				50	
Chloroform	ND	0.05	ug/g dry	ND				50	
Dibromochloromethane	ND	0.05	ug/g dry	ND				50	
Dichlorodifluoromethane	ND	0.05	ug/g dry	ND				50	
1,2-Dichlorobenzene	ND	0.05	ug/g dry	ND				50	
1,3-Dichlorobenzene	ND	0.05	ug/g dry	ND				50	
1,4-Dichlorobenzene	ND	0.05	ug/g dry	ND				50	
1,1-Dichloroethane	ND	0.05	ug/g dry	ND				50	
1,2-Dichloroethane	ND	0.05	ug/g dry	ND				50	
1,1-Dichloroethylene	ND	0.05	ug/g dry	ND				50	
cis-1,2-Dichloroethylene	ND	0.05	ug/g dry	ND				50	
trans-1,2-Dichloroethylene	ND	0.05	ug/g dry	ND				50	
1,2-Dichloropropane	ND	0.05	ug/g dry	ND				50	
cis-1,3-Dichloropropylene	ND	0.05	ug/g dry	ND				50	
trans-1,3-Dichloropropylene	ND	0.05	ug/g dry	ND				50	
Ethylbenzene	ND	0.05	ug/g dry	ND				50	
Ethylene dibromide (dibromoethane	ND	0.05	ug/g dry	ND				50	
Hexane	ND	0.05	ug/g dry	ND				50	
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g dry	ND				50	
Methyl Isobutyl Ketone	ND	0.50	ug/g dry	ND				50	
Methyl tert-butyl ether	ND	0.05	ug/g dry	ND				50	
Methylene Chloride	ND	0.05	ug/g dry	ND				50	
Styrene	ND	0.05	ug/g dry	ND				50	
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g dry	ND				50	
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g dry	ND				50	
Tetrachloroethylene	ND	0.05	ug/g dry	ND				50	
Toluene	ND	0.05	ug/g dry	ND				50	
1,1,1-Trichloroethane	ND	0.05	ug/g dry	ND				50	
1,1,2-Trichloroethane	ND	0.05	ug/g dry	ND				50	
Trichloroethylene	ND	0.05	ug/g dry	ND				50	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Trichlorofluoromethane	ND	0.05	ug/g dry	ND				50	
Vinyl chloride	ND	0.02	ug/g dry	ND				50	
m,p-Xylenes	ND	0.05	ug/g dry	ND				50	
o-Xylene	ND	0.05	ug/g dry	ND				50	
Surrogate: 4-Bromofluorobenzene	*5.17*		*ug/g dry*		*136*	*50-140*			
Surrogate: Dibromofluoromethane	*5.13*		*ug/g dry*		*134*	*50-140*			
Surrogate: Toluene-d8	*2.96*		*ug/g dry*		*77.5*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Metals									
Antimony	41.7		ug/L	ND	83.2	70-130			
Arsenic	47.2		ug/L	ND	92.7	70-130			
Barium	50.0		ug/L	4.7	90.6	70-130			
Beryllium	45.4		ug/L	ND	90.6	70-130			
Boron	42.7		ug/L	ND	80.5	70-130			
Cadmium	45.0		ug/L	ND	90.0	70-130			
Chromium	50.1		ug/L	ND	95.0	70-130			
Cobalt	47.0		ug/L	1.4	91.2	70-130			
Copper	46.3		ug/L	ND	89.3	70-130			
Lead	47.1		ug/L	1.7	90.7	70-130			
Molybdenum	47.2		ug/L	ND	93.8	70-130			
Nickel	47.8		ug/L	ND	90.6	70-130			
Selenium	44.8		ug/L	ND	89.5	70-130			
Silver	45.0		ug/L	ND	90.0	70-130			
Thallium	45.6		ug/L	ND	91.2	70-130			
Uranium	46.7		ug/L	ND	92.9	70-130			
Vanadium	52.6		ug/L	ND	95.5	70-130			
Zinc	50.2		ug/L	ND	88.6	70-130			
Volatiles									
Acetone	10.8	0.50	ug/g		108	50-140			
Benzene	4.24	0.02	ug/g		106	60-130			
Bromodichloromethane	4.33	0.05	ug/g		108	60-130			
Bromoform	5.00	0.05	ug/g		125	60-130			
Bromomethane	3.49	0.05	ug/g		87.3	50-140			
Carbon Tetrachloride	3.80	0.05	ug/g		94.9	60-130			
Chlorobenzene	3.62	0.05	ug/g		90.6	60-130			
Chloroform	3.74	0.05	ug/g		93.6	60-130			
Dibromochloromethane	4.90	0.05	ug/g		123	60-130			
Dichlorodifluoromethane	3.19	0.05	ug/g		79.9	50-140			
1,2-Dichlorobenzene	3.98	0.05	ug/g		99.4	60-130			
1,3-Dichlorobenzene	3.86	0.05	ug/g		96.5	60-130			
1,4-Dichlorobenzene	3.13	0.05	ug/g		78.2	60-130			
1,1-Dichloroethane	4.34	0.05	ug/g		108	60-130			
1,2-Dichloroethane	3.75	0.05	ug/g		93.7	60-130			
1,1-Dichloroethylene	4.54	0.05	ug/g		113	60-130			
cis-1,2-Dichloroethylene	4.11	0.05	ug/g		103	60-130			
trans-1,2-Dichloroethylene	3.73	0.05	ug/g		93.2	60-130			
1,2-Dichloropropane	4.63	0.05	ug/g		116	60-130			
cis-1,3-Dichloropropylene	3.65	0.05	ug/g		91.3	60-130			
trans-1,3-Dichloropropylene	4.34	0.05	ug/g		108	60-130			
Ethylbenzene	3.53	0.05	ug/g		88.3	60-130			
Ethylene dibromide (dibromoethane	4.70	0.05	ug/g		118	60-130			
Hexane	4.68	0.05	ug/g		117	60-130			
Methyl Ethyl Ketone (2-Butanone)	12.6	0.50	ug/g		126	50-140			
Methyl Isobutyl Ketone	10.6	0.50	ug/g		106	50-140			
Methyl tert-butyl ether	9.18	0.05	ug/g		91.8	50-140			
Methylene Chloride	4.37	0.05	ug/g		109	60-130			
Styrene	4.10	0.05	ug/g		102	60-130			
1,1,1,2-Tetrachloroethane	4.47	0.05	ug/g		112	60-130			
1,1,2,2-Tetrachloroethane	4.96	0.05	ug/g		124	60-130			
Tetrachloroethylene	4.01	0.05	ug/g		100	60-130			

Certificate of Analysis
Client: Paterson Group Consulting Engineers
Client PO: 22908

Report Date: 10-Jun-2019
Order Date: 4-Jun-2019
Project Description: PE4629

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Toluene	4.20	0.05	ug/g		105	60-130			
1,1,1-Trichloroethane	3.81	0.05	ug/g		95.1	60-130			
1,1,2-Trichloroethane	4.86	0.05	ug/g		122	60-130			
Trichloroethylene	2.88	0.05	ug/g		71.9	60-130			
Trichlorofluoromethane	2.90	0.05	ug/g		72.6	50-140			
Vinyl chloride	3.72	0.02	ug/g		92.9	50-140			
m,p-Xylenes	10.3	0.05	ug/g		129	60-130			
o-Xylene	4.42	0.05	ug/g		110	60-130			
Surrogate: 4-Bromofluorobenzene	*3.00*		*ug/g*		*93.8*	*50-140*			

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.

Soil results are reported on a dry weight basis when the units are denoted with 'dry'.
Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

PARACEL LABORATORIES LTD.

PARACEL WO: 1923237

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Chain of Custody (Lab Use Only)
№ 122297

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Client Name: PATERSON GROUP	Project Reference: PE4629
Contact Name: ERIC LEVEQUE	Quote #
Address: 154 COLONNADE ROAD SOUTH OTTAWA, ONT K2E 7J5	PO # 22908
Telephone: 226-7381	Email Address: eleveque@patersongroup.ca

Turnaround Time: ☐ 1 Day ☐ 3 Day ☐ 2 Day ☒ Regular
Date Required:

Criteria: ☒ O. Reg. 153/04 (As Amended) Table 3 ☐ 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)

Paracel Order Number: 1923237

Required Analyses

	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)							
1	BH1-SS7	S		2	June3/19			✓								120ml + 1 vial				
2	BH2-SS2	S		1	"					✓						120mL				
3	BH2-SS6	S		2	"			✓								120ml + 1 vial				
4	BH3-SS6	S		2	"			✓								↓				
5																				
6																				
7																				
8																				
9																				
10																				

Comments:

Method of Delivery: Swift

Relinquished By (Sign): [signature]	Received by Driver/Depot: J. CLAUDE LAROUCHE	Received at Lab: Juneporm Rohmai	Verified By: [signature]
Relinquished By (Print): MARK STRECENT	Date/Time:	Date/Time: JUN 04, 2019 03.49	Date/Time: 06-04-19 1611
Date/Time:	Temperature: °C	Temperature: 21.5 °C	pH Verified [ ] By:

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Certificate of Analysis

Paterson Group Consulting Engineers

154 Colonnade Rd South
Nepean, ON K2E 7J5
Attn: Mark St. Pierre

Client PO: 30463
Project: PE4767
Custody: 128568

Report Date: 30-Jul-2020
Order Date: 24-Jul-2020

Order #: 2030589

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

Paracel ID	Client ID
2030589-01	BH4-20-SS2

Approved By:

Dale Robertson, BSc
Laboratory Director

Any use of these results implies your agreement that our total liabilty 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 any circumstances be liable to you in connection with this work.

Certificate of Analysis

Report Date: 30-Jul-2020

Client: Paterson Group Consulting Engineers

Order Date: 24-Jul-2020

Client PO: 30463

Project Description: PE4767

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Chromium, hexavalent - soil	MOE E3056 - Extraction, colourimetric	25-Jul-20	28-Jul-20
Mercury by CVAA	EPA 7471B - CVAA, digestion	30-Jul-20	30-Jul-20
REG 153: Metals by ICP/MS, soil	EPA 6020 - Digestion - ICP-MS	30-Jul-20	30-Jul-20
REG 153: PAHs by GC-MS	EPA 8270 - GC-MS, extraction	25-Jul-20	29-Jul-20
Solids, %	Gravimetric, calculation	30-Jul-20	30-Jul-20

Certificate of Analysis

Report Date: 30-Jul-2020

Client: **Paterson Group Consulting Engineers**

Order Date: 24-Jul-2020

Client PO: **30463**

Project Description: PE4767

	Client ID:	BH4-20-SS2	-	-	-
	Sample Date:	23-Jul-20 09:00	-	-	-
	Sample ID:	2030589-01	-	-	-
	MDL/Units	Soil	-	-	-
Physical Characteristics					
% Solids	0.1 % by Wt.	93.4	-	-	-
Metals					
Antimony	1.0 ug/g dry	<1.0	-	-	-
Arsenic	1.0 ug/g dry	5.8	-	-	-
Barium	1.0 ug/g dry	185	-	-	-
Beryllium	0.5 ug/g dry	<0.5	-	-	-
Boron	5.0 ug/g dry	10.1	-	-	-
Cadmium	0.5 ug/g dry	<0.5	-	-	-
Chromium	5.0 ug/g dry	22.9	-	-	-
Chromium (VI)	0.2 ug/g dry	<0.2	-	-	-
Cobalt	1.0 ug/g dry	5.6	-	-	-
Copper	5.0 ug/g dry	43.3	-	-	-
Lead	1.0 ug/g dry	268	-	-	-
Mercury	0.1 ug/g dry	0.5	-	-	-
Molybdenum	1.0 ug/g dry	<1.0	-	-	-
Nickel	5.0 ug/g dry	11.6	-	-	-
Selenium	1.0 ug/g dry	<1.0	-	-	-
Silver	0.3 ug/g dry	0.3	-	-	-
Thallium	1.0 ug/g dry	<1.0	-	-	-
Uranium	1.0 ug/g dry	<1.0	-	-	-
Vanadium	10.0 ug/g dry	23.9	-	-	-
Zinc	20.0 ug/g dry	236	-	-	-
Semi-Volatiles					
Acenaphthene	0.02 ug/g dry	<0.02	-	-	-
Acenaphthylene	0.02 ug/g dry	0.07	-	-	-
Anthracene	0.02 ug/g dry	0.04	-	-	-
Benzo [a] anthracene	0.02 ug/g dry	0.12	-	-	-
Benzo [a] pyrene	0.02 ug/g dry	0.17	-	-	-
Benzo [b] fluoranthene	0.02 ug/g dry	0.25	-	-	-
Benzo [g,h,i] perylene	0.02 ug/g dry	0.17	-	-	-
Benzo [k] fluoranthene	0.02 ug/g dry	0.12	-	-	-
Chrysene	0.02 ug/g dry	0.13	-	-	-
Dibenzo [a,h] anthracene	0.02 ug/g dry	0.05	-	-	-
Fluoranthene	0.02 ug/g dry	0.24	-	-	-
Fluorene	0.02 ug/g dry	<0.02	-	-	-

Certificate of Analysis

Report Date: 30-Jul-2020

Client: Paterson Group Consulting Engineers

Order Date: 24-Jul-2020

Client PO: 30463

Project Description: PE4767

	Client ID:	BH4-20-SS2	-	-	-
	Sample Date:	23-Jul-20 09:00	-	-	-
	Sample ID:	2030589-01	-	-	-
	MDL/Units	Soil	-	-	-
Indeno [1,2,3-cd] pyrene	0.02 ug/g dry	0.15	-	-	-
1-Methylnaphthalene	0.02 ug/g dry	<0.02	-	-	-
2-Methylnaphthalene	0.02 ug/g dry	<0.02	-	-	-
Methylnaphthalene (1&2)	0.04 ug/g dry	<0.04	-	-	-
Naphthalene	0.01 ug/g dry	<0.01	-	-	-
Phenanthrene	0.02 ug/g dry	0.09	-	-	-
Pyrene	0.02 ug/g dry	0.20	-	-	-
2-Fluorobiphenyl	Surrogate	89.3%	-	-	-
Terphenyl-d14	Surrogate	92.8%	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Metals									
Antimony	ND	1.0	ug/g						
Arsenic	ND	1.0	ug/g						
Barium	ND	1.0	ug/g						
Beryllium	ND	0.5	ug/g						
Boron	ND	5.0	ug/g						
Cadmium	ND	0.5	ug/g						
Chromium (VI)	ND	0.2	ug/g						
Chromium	ND	5.0	ug/g						
Cobalt	ND	1.0	ug/g						
Copper	ND	5.0	ug/g						
Lead	ND	1.0	ug/g						
Mercury	ND	0.1	ug/g						
Molybdenum	ND	1.0	ug/g						
Nickel	ND	5.0	ug/g						
Selenium	ND	1.0	ug/g						
Silver	ND	0.3	ug/g						
Thallium	ND	1.0	ug/g						
Uranium	ND	1.0	ug/g						
Vanadium	ND	10.0	ug/g						
Zinc	ND	20.0	ug/g						
Semi-Volatiles									
Acenaphthene	ND	0.02	ug/g						
Acenaphthylene	ND	0.02	ug/g						
Anthracene	ND	0.02	ug/g						
Benzo [a] anthracene	ND	0.02	ug/g						
Benzo [a] pyrene	ND	0.02	ug/g						
Benzo [b] fluoranthene	ND	0.02	ug/g						
Benzo [g,h,i] perylene	ND	0.02	ug/g						
Benzo [k] fluoranthene	ND	0.02	ug/g						
Chrysene	ND	0.02	ug/g						
Dibenzo [a,h] anthracene	ND	0.02	ug/g						
Fluoranthene	ND	0.02	ug/g						
Fluorene	ND	0.02	ug/g						
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g						
1-Methylnaphthalene	ND	0.02	ug/g						
2-Methylnaphthalene	ND	0.02	ug/g						
Methylnaphthalene (1&2)	ND	0.04	ug/g						
Naphthalene	ND	0.01	ug/g						
Phenanthrene	ND	0.02	ug/g						
Pyrene	ND	0.02	ug/g						
Surrogate: 2-Fluorobiphenyl	*0.782*		*ug/g*		*58.7*	*50-140*			
Surrogate: Terphenyl-d14	*1.24*		*ug/g*		*93.0*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Metals									
Antimony	1.3	1.0	ug/g dry	ND			NC	30	
Arsenic	5.4	1.0	ug/g dry	4.9			9.4	30	
Barium	94.6	1.0	ug/g dry	81.1			15.4	30	
Beryllium	0.8	0.5	ug/g dry	0.6			19.6	30	
Boron	11.0	5.0	ug/g dry	8.6			24.5	30	
Cadmium	ND	0.5	ug/g dry	ND			NC	30	
Chromium (VI)	ND	0.2	ug/g dry	ND			NC	35	
Chromium	26.7	5.0	ug/g dry	23.4			13.0	30	
Cobalt	9.6	1.0	ug/g dry	8.4			13.1	30	
Copper	24.0	5.0	ug/g dry	21.0			13.3	30	
Lead	20.3	1.0	ug/g dry	18.8			8.0	30	
Mercury	ND	0.1	ug/g dry	ND			NC	30	
Molybdenum	ND	1.0	ug/g dry	ND			NC	30	
Nickel	21.4	5.0	ug/g dry	18.9			12.3	30	
Selenium	ND	1.0	ug/g dry	ND			NC	30	
Silver	ND	0.3	ug/g dry	ND			NC	30	
Thallium	ND	1.0	ug/g dry	ND			NC	30	
Uranium	ND	1.0	ug/g dry	ND			NC	30	
Vanadium	36.7	10.0	ug/g dry	31.9			13.9	30	
Zinc	76.4	20.0	ug/g dry	67.9			11.7	30	
Physical Characteristics									
% Solids	95.3	0.1	% by Wt.	93.2			2.3	25	
Semi-Volatiles									
Acenaphthene	ND	0.02	ug/g dry	ND			NC	40	
Acenaphthylene	ND	0.02	ug/g dry	ND			NC	40	
Anthracene	ND	0.02	ug/g dry	ND			NC	40	
Benzo [a] anthracene	ND	0.02	ug/g dry	ND			NC	40	
Benzo [a] pyrene	ND	0.02	ug/g dry	ND			NC	40	
Benzo [b] fluoranthene	ND	0.02	ug/g dry	ND			NC	40	
Benzo [g,h,i] perylene	ND	0.02	ug/g dry	ND			NC	40	
Benzo [k] fluoranthene	ND	0.02	ug/g dry	ND			NC	40	
Chrysene	ND	0.02	ug/g dry	ND			NC	40	
Dibenzo [a,h] anthracene	ND	0.02	ug/g dry	ND			NC	40	
Fluoranthene	ND	0.02	ug/g dry	ND			NC	40	
Fluorene	ND	0.02	ug/g dry	ND			NC	40	
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g dry	ND			NC	40	
1-Methylnaphthalene	0.021	0.02	ug/g dry	0.023			10.0	40	
2-Methylnaphthalene	0.021	0.02	ug/g dry	0.021			1.3	40	
Naphthalene	0.011	0.01	ug/g dry	0.012			7.3	40	
Phenanthrene	ND	0.02	ug/g dry	ND			NC	40	
Pyrene	ND	0.02	ug/g dry	ND			NC	40	
Surrogate: 2-Fluorobiphenyl	*1.30*		*ug/g dry*		*83.9*	*50-140*			
Surrogate: Terphenyl-d14	*1.49*		*ug/g dry*		*96.2*	*50-140*			

Certificate of Analysis

Report Date: 30-Jul-2020

Client: Paterson Group Consulting Engineers

Order Date: 24-Jul-2020

Client PO: 30463

Project Description: PE4767

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Metals									
Antimony	50.0	1.0	ug/g	ND	99.8	70-130			
Arsenic	58.9	1.0	ug/g	2.0	114	70-130			
Barium	93.7	1.0	ug/g	32.4	123	70-130			
Beryllium	53.7	0.5	ug/g	ND	107	70-130			
Boron	54.3	5.0	ug/g	ND	102	70-130			
Cadmium	51.8	0.5	ug/g	ND	103	70-130			
Chromium (VI)	4.0	0.2	ug/g	ND	64.5	70-130			QM-05
Chromium	71.6	5.0	ug/g	9.4	125	70-130			
Cobalt	60.8	1.0	ug/g	3.4	115	70-130			
Copper	63.5	5.0	ug/g	8.4	110	70-130			
Lead	62.6	1.0	ug/g	7.5	110	70-130			
Mercury	1.87	0.1	ug/g	ND	124	70-130			
Molybdenum	58.1	1.0	ug/g	ND	116	70-130			
Nickel	64.4	5.0	ug/g	7.6	114	70-130			
Selenium	52.3	1.0	ug/g	ND	104	70-130			
Silver	44.9	0.3	ug/g	ND	89.7	70-130			
Thallium	53.9	1.0	ug/g	ND	108	70-130			
Uranium	58.3	1.0	ug/g	ND	116	70-130			
Vanadium	76.7	10.0	ug/g	12.8	128	70-130			
Zinc	84.3	20.0	ug/g	27.2	114	70-130			
Semi-Volatiles									
Acenaphthene	0.136	0.02	ug/g	ND	70.5	50-140			
Acenaphthylene	0.112	0.02	ug/g	ND	58.0	50-140			
Anthracene	0.124	0.02	ug/g	ND	64.1	50-140			
Benzo [a] anthracene	0.118	0.02	ug/g	ND	61.1	50-140			
Benzo [a] pyrene	0.114	0.02	ug/g	ND	58.8	50-140			
Benzo [b] fluoranthene	0.177	0.02	ug/g	ND	91.6	50-140			
Benzo [g,h,i] perylene	0.125	0.02	ug/g	ND	64.9	50-140			
Benzo [k] fluoranthene	0.154	0.02	ug/g	ND	79.6	50-140			
Chrysene	0.141	0.02	ug/g	ND	73.1	50-140			
Dibenzo [a,h] anthracene	0.122	0.02	ug/g	ND	63.0	50-140			
Fluoranthene	0.128	0.02	ug/g	ND	66.2	50-140			
Fluorene	0.123	0.02	ug/g	ND	63.8	50-140			
Indeno [1,2,3-cd] pyrene	0.120	0.02	ug/g	ND	62.1	50-140			
1-Methylnaphthalene	0.141	0.02	ug/g	0.023	61.1	50-140			
2-Methylnaphthalene	0.175	0.02	ug/g	0.021	79.7	50-140			
Naphthalene	0.166	0.01	ug/g	0.012	79.7	50-140			
Phenanthrene	0.124	0.02	ug/g	ND	64.2	50-140			
Pyrene	0.130	0.02	ug/g	ND	67.3	50-140			
Surrogate: 2-Fluorobiphenyl	*0.880*		*ug/g*		*57.0*	*50-140*			
Surrogate: Terphenyl-d14	*1.15*		*ug/g*		*74.7*	*50-140*			

Qualifier Notes:

QC Qualifiers :

QM-05 : The spike recovery was outside acceptance limits for the matrix spike due to matrix interference.

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.
NC: Not Calculated

Soil results are reported on a dry weight basis when the units are denoted with 'dry'.
Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

PARA LABORATORI

Paracel ID: 2030589

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Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2030589	Nº 128568

Client Name: ~~Paterson~~ Paterson Group
Project Ref: PE4767
Page 1 of 1

Contact Name: Mark St Pierre
Quote #:

Address: 154 Colonnade Road South
PO #: 30463

Telephone: 613-226-7381
E-mail: mstpierre@patersongroup.ca

Turnaround Time
☐ 1 day ☐ 3 day
☐ 2 day ☑ Regular
Date Required:

Regulation 153/04
☐ 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)
1	BH4-20-SS2	S	-	1	July.23,2020				x	x	x	x	
2													
3													
4													
5													
6													
7													
8													
9													
10													

Comments:

Method of Delivery: Paracel

Relinquished By (Sign):	Received By Driver/Depot: M. Sloane	Received at Lab: Sam	Verified By:
Relinquished By (Print): Mark St Pierre	Date/Time: 24/07/20 4:05	Date/Time: July 24,2020 16:22	Date/Time: 7-24-20 17:01
Date/Time: July. 24. 2020	Temperature: °C	Temperature: 16.8 °C	pH Verified: ☐ By:

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Certificate of Analysis

Paterson Group Consulting Engineers

154 Colonnade Rd South
Nepean, ON K2E 7J5
Attn: Mark St. Pierre

Client PO: 30464
Project: PE4767
Custody: 128569

Report Date: 30-Jul-2020
Order Date: 24-Jul-2020

Order #: 2030590

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

Paracel ID	Client ID
2030590-01	Dup1

Approved By:

Dale Robertson, BSc
Laboratory Director

Any use of these results implies your agreement that our total liabilty 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 any circumstances be liable to you in connection with this work.

Certificate of Analysis

Report Date: 30-Jul-2020

Client: Paterson Group Consulting Engineers

Order Date: 24-Jul-2020

Client PO: 30464

Project Description: PE4767

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
REG 153: VOCs by P&T GC/MS	EPA 8260 - P&T GC-MS	27-Jul-20	27-Jul-20
Solids, %	Gravimetric, calculation	30-Jul-20	30-Jul-20

Certificate of Analysis

Report Date: 30-Jul-2020

Client: Paterson Group Consulting Engineers

Order Date: 24-Jul-2020

Client PO: 30464

Project Description: PE4767

	Client ID:	Dup1	-	-	-
	Sample Date:	22-Jul-20 09:00	-	-	-
	Sample ID:	2030590-01	-	-	-
	MDL/Units	Soil	-	-	-
Physical Characteristics					
% Solids	0.1 % by Wt.	80.6	-	-	-
Volatiles					
Acetone	0.50 ug/g dry	<0.50	-	-	-
Benzene	0.02 ug/g dry	<0.02	-	-	-
Bromodichloromethane	0.05 ug/g dry	<0.05	-	-	-
Bromoform	0.05 ug/g dry	<0.05	-	-	-
Bromomethane	0.05 ug/g dry	<0.05	-	-	-
Carbon Tetrachloride	0.05 ug/g dry	<0.05	-	-	-
Chlorobenzene	0.05 ug/g dry	<0.05	-	-	-
Chloroform	0.05 ug/g dry	<0.05	-	-	-
Dibromochloromethane	0.05 ug/g dry	<0.05	-	-	-
Dichlorodifluoromethane	0.05 ug/g dry	<0.05	-	-	-
1,2-Dichlorobenzene	0.05 ug/g dry	<0.05	-	-	-
1,3-Dichlorobenzene	0.05 ug/g dry	<0.05	-	-	-
1,4-Dichlorobenzene	0.05 ug/g dry	<0.05	-	-	-
1,1-Dichloroethane	0.05 ug/g dry	<0.05	-	-	-
1,2-Dichloroethane	0.05 ug/g dry	<0.05	-	-	-
1,1-Dichloroethylene	0.05 ug/g dry	<0.05	-	-	-
cis-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	-	-	-
trans-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	-	-	-
1,2-Dichloropropane	0.05 ug/g dry	<0.05	-	-	-
cis-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	-	-	-
trans-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	-	-	-
1,3-Dichloropropene, total	0.05 ug/g dry	<0.05	-	-	-
Ethylbenzene	0.05 ug/g dry	<0.05	-	-	-
Ethylene dibromide (dibromoethane, 1,2-)	0.05 ug/g dry	<0.05	-	-	-
Hexane	0.05 ug/g dry	<0.05	-	-	-
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g dry	<0.50	-	-	-
Methyl Isobutyl Ketone	0.50 ug/g dry	<0.50	-	-	-
Methyl tert-butyl ether	0.05 ug/g dry	<0.05	-	-	-
Methylene Chloride	0.05 ug/g dry	<0.05	-	-	-
Styrene	0.05 ug/g dry	<0.05	-	-	-
1,1,1,2-Tetrachloroethane	0.05 ug/g dry	<0.05	-	-	-
1,1,2,2-Tetrachloroethane	0.05 ug/g dry	<0.05	-	-	-
Tetrachloroethylene	0.05 ug/g dry	<0.05	-	-	-

Certificate of Analysis

Report Date: 30-Jul-2020

Client: Paterson Group Consulting Engineers

Order Date: 24-Jul-2020

Client PO: 30464

Project Description: PE4767

	Client ID:	Dup1	-	-	-
	Sample Date:	22-Jul-20 09:00	-	-	-
	Sample ID:	2030590-01	-	-	-
	MDL/Units	Soil	-	-	-
Toluene	0.05 ug/g dry	<0.05	-	-	-
1,1,1-Trichloroethane	0.05 ug/g dry	<0.05	-	-	-
1,1,2-Trichloroethane	0.05 ug/g dry	<0.05	-	-	-
Trichloroethylene	0.05 ug/g dry	<0.05	-	-	-
Trichlorofluoromethane	0.05 ug/g dry	<0.05	-	-	-
Vinyl chloride	0.02 ug/g dry	<0.02	-	-	-
m,p-Xylenes	0.05 ug/g dry	<0.05	-	-	-
o-Xylene	0.05 ug/g dry	<0.05	-	-	-
Xylenes, total	0.05 ug/g dry	<0.05	-	-	-
4-Bromofluorobenzene	Surrogate	102%	-	-	-
Dibromofluoromethane	Surrogate	112%	-	-	-
Toluene-d8	Surrogate	109%	-	-	-

Certificate of Analysis

Report Date: 30-Jul-2020

Client: Paterson Group Consulting Engineers

Order Date: 24-Jul-2020

Client PO: 30464

Project Description: PE4767

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	ND	0.50	ug/g						
Benzene	ND	0.02	ug/g						
Bromodichloromethane	ND	0.05	ug/g						
Bromoform	ND	0.05	ug/g						
Bromomethane	ND	0.05	ug/g						
Carbon Tetrachloride	ND	0.05	ug/g						
Chlorobenzene	ND	0.05	ug/g						
Chloroform	ND	0.05	ug/g						
Dibromochloromethane	ND	0.05	ug/g						
Dichlorodifluoromethane	ND	0.05	ug/g						
1,2-Dichlorobenzene	ND	0.05	ug/g						
1,3-Dichlorobenzene	ND	0.05	ug/g						
1,4-Dichlorobenzene	ND	0.05	ug/g						
1,1-Dichloroethane	ND	0.05	ug/g						
1,2-Dichloroethane	ND	0.05	ug/g						
1,1-Dichloroethylene	ND	0.05	ug/g						
cis-1,2-Dichloroethylene	ND	0.05	ug/g						
trans-1,2-Dichloroethylene	ND	0.05	ug/g						
1,2-Dichloropropane	ND	0.05	ug/g						
cis-1,3-Dichloropropylene	ND	0.05	ug/g						
trans-1,3-Dichloropropylene	ND	0.05	ug/g						
1,3-Dichloropropene, total	ND	0.05	ug/g						
Ethylbenzene	ND	0.05	ug/g						
Ethylene dibromide (dibromoethane, 1,2	ND	0.05	ug/g						
Hexane	ND	0.05	ug/g						
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g						
Methyl Isobutyl Ketone	ND	0.50	ug/g						
Methyl tert-butyl ether	ND	0.05	ug/g						
Methylene Chloride	ND	0.05	ug/g						
Styrene	ND	0.05	ug/g						
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g						
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g						
Tetrachloroethylene	ND	0.05	ug/g						
Toluene	ND	0.05	ug/g						
1,1,1-Trichloroethane	ND	0.05	ug/g						
1,1,2-Trichloroethane	ND	0.05	ug/g						
Trichloroethylene	ND	0.05	ug/g						
Trichlorofluoromethane	ND	0.05	ug/g						
Vinyl chloride	ND	0.02	ug/g						
m,p-Xylenes	ND	0.05	ug/g						
o-Xylene	ND	0.05	ug/g						
Xylenes, total	ND	0.05	ug/g						
Surrogate: 4-Bromofluorobenzene	*7.90*		*ug/g*		*98.8*	*50-140*			
Surrogate: Dibromofluoromethane	*9.57*		*ug/g*		*120*	*50-140*			
Surrogate: Toluene-d8	*8.39*		*ug/g*		*105*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Physical Characteristics									
% Solids	95.3	0.1	% by Wt.	93.2			2.3	25	
Volatiles									
Acetone	ND	0.50	ug/g dry	ND			NC	50	
Benzene	ND	0.02	ug/g dry	ND			NC	50	
Bromodichloromethane	ND	0.05	ug/g dry	ND			NC	50	
Bromoform	ND	0.05	ug/g dry	ND			NC	50	
Bromomethane	ND	0.05	ug/g dry	ND			NC	50	
Carbon Tetrachloride	ND	0.05	ug/g dry	ND			NC	50	
Chlorobenzene	ND	0.05	ug/g dry	ND			NC	50	
Chloroform	ND	0.05	ug/g dry	ND			NC	50	
Dibromochloromethane	ND	0.05	ug/g dry	ND			NC	50	
Dichlorodifluoromethane	ND	0.05	ug/g dry	ND			NC	50	
1,2-Dichlorobenzene	ND	0.05	ug/g dry	ND			NC	50	
1,3-Dichlorobenzene	ND	0.05	ug/g dry	ND			NC	50	
1,4-Dichlorobenzene	ND	0.05	ug/g dry	ND			NC	50	
1,1-Dichloroethane	ND	0.05	ug/g dry	ND			NC	50	
1,2-Dichloroethane	ND	0.05	ug/g dry	ND			NC	50	
1,1-Dichloroethylene	ND	0.05	ug/g dry	ND			NC	50	
cis-1,2-Dichloroethylene	ND	0.05	ug/g dry	ND			NC	50	
trans-1,2-Dichloroethylene	ND	0.05	ug/g dry	ND			NC	50	
1,2-Dichloropropane	ND	0.05	ug/g dry	ND			NC	50	
cis-1,3-Dichloropropylene	ND	0.05	ug/g dry	ND			NC	50	
trans-1,3-Dichloropropylene	ND	0.05	ug/g dry	ND			NC	50	
Ethylbenzene	ND	0.05	ug/g dry	ND			NC	50	
Ethylene dibromide (dibromoethane, 1,2-	ND	0.05	ug/g dry	ND			NC	50	
Hexane	ND	0.05	ug/g dry	ND			NC	50	
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g dry	ND			NC	50	
Methyl Isobutyl Ketone	ND	0.50	ug/g dry	ND			NC	50	
Methyl tert-butyl ether	ND	0.05	ug/g dry	ND			NC	50	
Methylene Chloride	ND	0.05	ug/g dry	ND			NC	50	
Styrene	ND	0.05	ug/g dry	ND			NC	50	
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g dry	ND			NC	50	
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g dry	ND			NC	50	
Tetrachloroethylene	ND	0.05	ug/g dry	ND			NC	50	
Toluene	0.058	0.05	ug/g dry	0.067			15.0	50	
1,1,1-Trichloroethane	ND	0.05	ug/g dry	ND			NC	50	
1,1,2-Trichloroethane	ND	0.05	ug/g dry	ND			NC	50	
Trichloroethylene	ND	0.05	ug/g dry	ND			NC	50	
Trichlorofluoromethane	ND	0.05	ug/g dry	ND			NC	50	
Vinyl chloride	ND	0.02	ug/g dry	ND			NC	50	
m,p-Xylenes	0.458	0.05	ug/g dry	0.430			6.3	50	
o-Xylene	0.135	0.05	ug/g dry	0.134			0.7	50	
Surrogate: 4-Bromofluorobenzene	*8.27*		*ug/g dry*		*98.3*	*50-140*			
Surrogate: Dibromofluoromethane	*9.49*		*ug/g dry*		*113*	*50-140*			
Surrogate: Toluene-d8	*9.15*		*ug/g dry*		*109*	*50-140*			

Certificate of Analysis

Report Date: 30-Jul-2020

Client: Paterson Group Consulting Engineers

Order Date: 24-Jul-2020

Client PO: 30464

Project Description: PE4767

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	10.8	0.50	ug/g	ND	108	50-140			
Benzene	4.91	0.02	ug/g	ND	123	60-130			
Bromodichloromethane	4.94	0.05	ug/g	ND	123	60-130			
Bromoform	4.56	0.05	ug/g	ND	114	60-130			
Bromomethane	2.59	0.05	ug/g	ND	64.7	50-140			
Carbon Tetrachloride	4.66	0.05	ug/g	ND	117	60-130			
Chlorobenzene	4.90	0.05	ug/g	ND	123	60-130			
Chloroform	5.09	0.05	ug/g	ND	127	60-130			
Dibromochloromethane	4.88	0.05	ug/g	ND	122	60-130			
Dichlorodifluoromethane	3.31	0.05	ug/g	ND	82.7	50-140			
1,2-Dichlorobenzene	4.78	0.05	ug/g	ND	119	60-130			
1,3-Dichlorobenzene	4.78	0.05	ug/g	ND	120	60-130			
1,4-Dichlorobenzene	4.61	0.05	ug/g	ND	115	60-130			
1,1-Dichloroethane	4.88	0.05	ug/g	ND	122	60-130			
1,2-Dichloroethane	4.62	0.05	ug/g	ND	116	60-130			
1,1-Dichloroethylene	5.01	0.05	ug/g	ND	125	60-130			
cis-1,2-Dichloroethylene	4.73	0.05	ug/g	ND	118	60-130			
trans-1,2-Dichloroethylene	4.54	0.05	ug/g	ND	114	60-130			
1,2-Dichloropropane	4.91	0.05	ug/g	ND	123	60-130			
cis-1,3-Dichloropropylene	5.11	0.05	ug/g	ND	128	60-130			
trans-1,3-Dichloropropylene	4.77	0.05	ug/g	ND	119	60-130			
Ethylbenzene	5.06	0.05	ug/g	ND	127	60-130			
Ethylene dibromide (dibromoethane, 1,2	4.27	0.05	ug/g	ND	107	60-130			
Hexane	4.58	0.05	ug/g	ND	114	60-130			
Methyl Ethyl Ketone (2-Butanone)	11.5	0.50	ug/g	ND	115	50-140			
Methyl Isobutyl Ketone	12.5	0.50	ug/g	ND	125	50-140			
Methyl tert-butyl ether	12.8	0.05	ug/g	ND	128	50-140			
Methylene Chloride	4.17	0.05	ug/g	ND	104	60-130			
Styrene	4.99	0.05	ug/g	ND	125	60-130			
1,1,1,2-Tetrachloroethane	4.68	0.05	ug/g	ND	117	60-130			
1,1,2,2-Tetrachloroethane	4.86	0.05	ug/g	ND	122	60-130			
Tetrachloroethylene	4.76	0.05	ug/g	ND	119	60-130			
Toluene	4.93	0.05	ug/g	ND	123	60-130			
1,1,1-Trichloroethane	4.69	0.05	ug/g	ND	117	60-130			
1,1,2-Trichloroethane	4.40	0.05	ug/g	ND	110	60-130			
Trichloroethylene	5.13	0.05	ug/g	ND	128	60-130			
Trichlorofluoromethane	4.97	0.05	ug/g	ND	124	50-140			
Vinyl chloride	3.45	0.02	ug/g	ND	86.2	50-140			
m,p-Xylenes	9.92	0.05	ug/g	ND	124	60-130			
o-Xylene	4.40	0.05	ug/g	ND	110	60-130			
Surrogate: 4-Bromofluorobenzene	*7.94*		*ug/g*		*99.3*	*50-140*			
Surrogate: Dibromofluoromethane	*9.72*		*ug/g*		*122*	*50-140*			
Surrogate: Toluene-d8	*7.67*		*ug/g*		*95.9*	*50-140*			

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.
NC: Not Calculated

Soil results are reported on a dry weight basis when the units are denoted with 'dry'.
Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

PARACEL LABORATORIES

Paracel ID: 2030590

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Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2030590	No. 128569

Client Name: Paterson Group	Project Ref: PE4767	Page __ of __
Contact Name: Mark St Pierre	Quote #:	Turnaround Time
Address: 154 Colonnade Road South	PO #: 30464	☐ 1 day ☐ 3 day ☐ 2 day ☑ Regular
Telephone: 613-226-7381	E-mail: mstpierre@patersongroup.ca	Date Required:

Regulation 153/04	Other Regulation
☐ Table 1 ☑ Res/Park ☐ Med/Fine	☐ REG 558 ☐ PWQO
☐ Table 2 ☐ Ind/Comm ☑ Coarse	☐ CCME ☐ MISA
☑ Table 3 ☐ Agri/Other	☐ SU - Sani ☐ SU - Storm
☐ Table ___	Mun:
For RSC: ☑ Yes ☐ No	☐ Other:

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

	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)
1	DUP 1	S	-	2	July 22, 2020			X					
2													
3													
4													
5													
6													
7													
8													
9													
10													

Comments:

Method of Delivery: Paracel

Relinquished By (Sign):	Received By Driver/Depot: M. Pierre	Received at Lab: BCam	Verified By:
Relinquished By (Print): Mark St Pierre	Date/Time: 24/07/20 4:05	Date/Time: JUL 24, 2020 16:52	Date/Time: 7-24-20 17:01
Date/Time: July. 24. 2020	Temperature: °C	Temperature: 16.9 °C	pH Verified: ☐ By:

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Certificate of Analysis

Paterson Group Consulting Engineers

9 Auriga Drive
Ottawa, ON K2E 7T9
Attn: Mike Beaudoin

Client PO: 55010
Project: PE4767
Custody: 136668

Report Date: 24-Jun-2022
Order Date: 17-Jun-2022

Order #: 2225660

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

Paracel ID	Client ID
2225660-01	BH1-22-SS2
2225660-02	BH1-22-SS7
2225660-03	BH2-22-SS5
2225660-04	BH3-22-SS7
2225660-05	BH3-102
2225660-06	BH4-22-SS5
2225660-07	BH5-22-SS2
2225660-08	BH5-22-SS6

Approved By:

Mark Foto

Mark Foto, M.Sc.
Lab Supervisor

Any use of these results implies your agreement that our total liabilty 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 any circumstances be liable to you in connection with this work.

Certificate of Analysis

Report Date: 24-Jun-2022

Client: Paterson Group Consulting Engineers

Order Date: 17-Jun-2022

Client PO: 55010

Project Description: PE4767

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
BTEX by P&T GC-MS	EPA 8260 - P&T GC-MS	22-Jun-22	22-Jun-22
pH, soil	EPA 150.1 - pH probe @ 25 °C, CaCl buffered ext.	23-Jun-22	23-Jun-22
PHC F1	CWS Tier 1 - P&T GC-FID	21-Jun-22	22-Jun-22
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	20-Jun-22	24-Jun-22
REG 153: Metals by ICP/MS, soil	EPA 6020 - Digestion - ICP-MS	22-Jun-22	22-Jun-22
REG 153: VOCs by P&T GC/MS	EPA 8260 - P&T GC-MS	21-Jun-22	22-Jun-22
Solids, %	Gravimetric, calculation	22-Jun-22	23-Jun-22

Certificate of Analysis

Report Date: 24-Jun-2022

Client: Paterson Group Consulting Engineers

Order Date: 17-Jun-2022

Client PO: 55010

Project Description: PE4767

	Client ID:	BH1-22-SS2	BH1-22-SS7	BH2-22-SS5	BH3-22-SS7
	Sample Date:	16-Jun-22 09:00	16-Jun-22 09:00	16-Jun-22 09:00	16-Jun-22 09:00
	Sample ID:	2225660-01	2225660-02	2225660-03	2225660-04
	MDL/Units	Soil	Soil	Soil	Soil
Physical Characteristics					
% Solids	0.1 % by Wt.	97.0	96.6	91.6	80.6
General Inorganics					
pH	0.05 pH Units	7.61	-	7.56	-
Metals					
Antimony	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Arsenic	1.0 ug/g dry	1.8	1.3	1.7	1.6
Barium	1.0 ug/g dry	14.0	8.3	11.7	29.9
Beryllium	0.5 ug/g dry	<0.5	<0.5	<0.5	<0.5
Boron	5.0 ug/g dry	<5.0	<5.0	<5.0	<5.0
Cadmium	0.5 ug/g dry	<0.5	<0.5	<0.5	<0.5
Chromium	5.0 ug/g dry	8.8	6.4	9.2	11.2
Cobalt	1.0 ug/g dry	5.5	3.7	5.4	3.6
Copper	5.0 ug/g dry	12.2	9.3	11.7	8.6
Lead	1.0 ug/g dry	3.6	2.5	2.8	2.6
Molybdenum	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Nickel	5.0 ug/g dry	8.0	<5.0	6.7	13.9
Selenium	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Silver	0.3 ug/g dry	<0.3	<0.3	<0.3	<0.3
Thallium	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Uranium	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Vanadium	10.0 ug/g dry	22.3	16.1	27.5	22.6
Zinc	20.0 ug/g dry	<20.0	<20.0	<20.0	<20.0
Volatiles					
Acetone	0.50 ug/g dry	<0.50	<0.50	<0.50	-
Benzene	0.02 ug/g dry	<0.02	<0.02	<0.02	-
Bromodichloromethane	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Bromoform	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Bromomethane	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Carbon Tetrachloride	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Chlorobenzene	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Chloroform	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Dibromochloromethane	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Dichlorodifluoromethane	0.05 ug/g dry	<0.05	<0.05	<0.05	-
1,2-Dichlorobenzene	0.05 ug/g dry	<0.05	<0.05	<0.05	-
1,3-Dichlorobenzene	0.05 ug/g dry	<0.05	<0.05	<0.05	-

Certificate of Analysis

Report Date: 24-Jun-2022

Client: Paterson Group Consulting Engineers

Order Date: 17-Jun-2022

Client PO: 55010

Project Description: PE4767

	Client ID:	BH1-22-SS2	BH1-22-SS7	BH2-22-SS5	BH3-22-SS7
	Sample Date:	16-Jun-22 09:00	16-Jun-22 09:00	16-Jun-22 09:00	16-Jun-22 09:00
	Sample ID:	2225660-01	2225660-02	2225660-03	2225660-04
	MDL/Units	Soil	Soil	Soil	Soil
1,4-Dichlorobenzene	0.05 ug/g dry	<0.05	<0.05	<0.05	-
1,1-Dichloroethane	0.05 ug/g dry	<0.05	<0.05	<0.05	-
1,2-Dichloroethane	0.05 ug/g dry	<0.05	<0.05	<0.05	-
1,1-Dichloroethylene	0.05 ug/g dry	<0.05	<0.05	<0.05	-
cis-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	<0.05	<0.05	-
trans-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	<0.05	<0.05	-
1,2-Dichloropropane	0.05 ug/g dry	<0.05	<0.05	<0.05	-
cis-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	<0.05	<0.05	-
trans-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	<0.05	<0.05	-
1,3-Dichloropropene, total	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Ethylbenzene	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Ethylene dibromide (dibromoethane, 1,2-)	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Hexane	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g dry	<0.50	<0.50	<0.50	-
Methyl Isobutyl Ketone	0.50 ug/g dry	<0.50	<0.50	<0.50	-
Methyl tert-butyl ether	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Methylene Chloride	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Styrene	0.05 ug/g dry	<0.05	<0.05	<0.05	-
1,1,1,2-Tetrachloroethane	0.05 ug/g dry	<0.05	<0.05	<0.05	-
1,1,2,2-Tetrachloroethane	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Tetrachloroethylene	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Toluene	0.05 ug/g dry	<0.05	<0.05	<0.05	-
1,1,1-Trichloroethane	0.05 ug/g dry	<0.05	<0.05	<0.05	-
1,1,2-Trichloroethane	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Trichloroethylene	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Trichlorofluoromethane	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Vinyl chloride	0.02 ug/g dry	<0.02	<0.02	<0.02	-
m,p-Xylenes	0.05 ug/g dry	<0.05	<0.05	<0.05	-
o-Xylene	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Xylenes, total	0.05 ug/g dry	<0.05	<0.05	<0.05	-
4-Bromofluorobenzene	Surrogate	96.8%	97.8%	101%	-
Dibromofluoromethane	Surrogate	77.6%	76.5%	79.1%	-
Toluene-d8	Surrogate	113%	113%	115%	-
Benzene	0.02 ug/g dry	-	-	-	<0.02
Ethylbenzene	0.05 ug/g dry	-	-	-	<0.05
Toluene	0.05 ug/g dry	-	-	-	<0.05

Certificate of Analysis

Report Date: 24-Jun-2022

Client: Paterson Group Consulting Engineers

Order Date: 17-Jun-2022

Client PO: 55010

Project Description: PE4767

	Client ID:	BH1-22-SS2	BH1-22-SS7	BH2-22-SS5	BH3-22-SS7
	Sample Date:	16-Jun-22 09:00	16-Jun-22 09:00	16-Jun-22 09:00	16-Jun-22 09:00
	Sample ID:	2225660-01	2225660-02	2225660-03	2225660-04
	MDL/Units	Soil	Soil	Soil	Soil
m,p-Xylenes	0.05 ug/g dry	-	-	-	<0.05
o-Xylene	0.05 ug/g dry	-	-	-	<0.05
Xylenes, total	0.05 ug/g dry	-	-	-	<0.05
Toluene-d8	Surrogate	-	-	-	103%
Hydrocarbons					
F1 PHCs (C6-C10)	7 ug/g dry	<7	<7	<7	<7
F2 PHCs (C10-C16)	4 ug/g dry	<4	<4	<4	<4
F3 PHCs (C16-C34)	8 ug/g dry	<8	<8	<8	<8
F4 PHCs (C34-C50)	6 ug/g dry	<6	<6	<6	<6

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 55010

Report Date: 24-Jun-2022

Order Date: 17-Jun-2022

Project Description: PE4767

	Client ID:	BH3-102	BH4-22-SS5	BH5-22-SS2	BH5-22-SS6
	Sample Date:	16-Jun-22 09:00	16-Jun-22 09:00	16-Jun-22 09:00	16-Jun-22 09:00
	Sample ID:	2225660-05	2225660-06	2225660-07	2225660-08
	MDL/Units	Soil	Soil	Soil	Soil
Physical Characteristics					
% Solids	0.1 % by Wt.	92.0	96.3	90.6	80.2
Metals					
Antimony	1.0 ug/g dry	-	<1.0	<1.0	<1.0
Arsenic	1.0 ug/g dry	-	1.3	2.0	2.0
Barium	1.0 ug/g dry	-	14.9	16.9	93.3
Beryllium	0.5 ug/g dry	-	<0.5	<0.5	<0.5
Boron	5.0 ug/g dry	-	<5.0	<5.0	<5.0
Cadmium	0.5 ug/g dry	-	<0.5	<0.5	<0.5
Chromium	5.0 ug/g dry	-	6.1	7.6	19.0
Cobalt	1.0 ug/g dry	-	3.6	4.3	5.4
Copper	5.0 ug/g dry	-	9.2	5.7	13.7
Lead	1.0 ug/g dry	-	3.5	6.8	3.3
Molybdenum	1.0 ug/g dry	-	<1.0	<1.0	<1.0
Nickel	5.0 ug/g dry	-	5.4	6.3	11.8
Selenium	1.0 ug/g dry	-	<1.0	<1.0	<1.0
Silver	0.3 ug/g dry	-	<0.3	<0.3	<0.3
Thallium	1.0 ug/g dry	-	<1.0	<1.0	<1.0
Uranium	1.0 ug/g dry	-	<1.0	<1.0	<1.0
Vanadium	10.0 ug/g dry	-	15.6	15.6	32.2
Zinc	20.0 ug/g dry	-	<20.0	<20.0	27.2
Volatiles					
Acetone	0.50 ug/g dry	<0.50	-	<0.50	<0.50
Benzene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
Bromodichloromethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Bromoform	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Bromomethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Carbon Tetrachloride	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Chlorobenzene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Chloroform	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Dibromochloromethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Dichlorodifluoromethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,2-Dichlorobenzene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,3-Dichlorobenzene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,4-Dichlorobenzene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,1-Dichloroethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05

Certificate of Analysis

Report Date: 24-Jun-2022

Client: Paterson Group Consulting Engineers

Order Date: 17-Jun-2022

Client PO: 55010

Project Description: PE4767

	Client ID:	BH3-102	BH4-22-SS5	BH5-22-SS2	BH5-22-SS6
	Sample Date:	16-Jun-22 09:00	16-Jun-22 09:00	16-Jun-22 09:00	16-Jun-22 09:00
	Sample ID:	2225660-05	2225660-06	2225660-07	2225660-08
	MDL/Units	Soil	Soil	Soil	Soil
1,2-Dichloroethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,1-Dichloroethylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
cis-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
trans-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,2-Dichloropropane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
cis-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
trans-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,3-Dichloropropene, total	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Ethylbenzene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Ethylene dibromide (dibromoethane, 1	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Hexane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g dry	<0.50	-	<0.50	<0.50
Methyl Isobutyl Ketone	0.50 ug/g dry	<0.50	-	<0.50	<0.50
Methyl tert-butyl ether	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Methylene Chloride	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Styrene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,1,1,2-Tetrachloroethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,1,2,2-Tetrachloroethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Tetrachloroethylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Toluene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,1,1-Trichloroethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,1,2-Trichloroethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Trichloroethylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Trichlorofluoromethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Vinyl chloride	0.02 ug/g dry	<0.02	-	<0.02	<0.02
m,p-Xylenes	0.05 ug/g dry	<0.05	-	<0.05	<0.05
o-Xylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Xylenes, total	0.05 ug/g dry	<0.05	-	<0.05	<0.05
4-Bromofluorobenzene	Surrogate	104%	-	99.1%	106%
Dibromofluoromethane	Surrogate	59.2%	-	81.1%	83.0%
Toluene-d8	Surrogate	91.4%	-	117%	123%
Benzene	0.02 ug/g dry	-	<0.02	-	-
Ethylbenzene	0.05 ug/g dry	-	<0.05	-	-
Toluene	0.05 ug/g dry	-	<0.05	-	-
m,p-Xylenes	0.05 ug/g dry	-	<0.05	-	-

Certificate of Analysis

Report Date: 24-Jun-2022

Client: Paterson Group Consulting Engineers

Order Date: 17-Jun-2022

Client PO: 55010

Project Description: PE4767

	Client ID:	BH3-102	BH4-22-SS5	BH5-22-SS2	BH5-22-SS6
	Sample Date:	16-Jun-22 09:00	16-Jun-22 09:00	16-Jun-22 09:00	16-Jun-22 09:00
	Sample ID:	2225660-05	2225660-06	2225660-07	2225660-08
	MDL/Units	Soil	Soil	Soil	Soil
o-Xylene	0.05 ug/g dry	-	<0.05	-	-
Xylenes, total	0.05 ug/g dry	-	<0.05	-	-
Toluene-d8	Surrogate	-	89.9%	-	-
Hydrocarbons					
F1 PHCs (C6-C10)	7 ug/g dry	-	<7	<7	<7
F2 PHCs (C10-C16)	4 ug/g dry	-	<4	<4	<4
F3 PHCs (C16-C34)	8 ug/g dry	-	<8	<8	<8
F4 PHCs (C34-C50)	6 ug/g dry	-	<6	<6	<6

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	ND	7	ug/g						
F2 PHCs (C10-C16)	ND	4	ug/g						
F3 PHCs (C16-C34)	ND	8	ug/g						
F4 PHCs (C34-C50)	ND	6	ug/g						
Metals									
Antimony	ND	1.0	ug/g						
Arsenic	ND	1.0	ug/g						
Barium	ND	1.0	ug/g						
Beryllium	ND	0.5	ug/g						
Boron	ND	5.0	ug/g						
Cadmium	ND	0.5	ug/g						
Chromium	ND	5.0	ug/g						
Cobalt	ND	1.0	ug/g						
Copper	ND	5.0	ug/g						
Lead	ND	1.0	ug/g						
Molybdenum	ND	1.0	ug/g						
Nickel	ND	5.0	ug/g						
Selenium	ND	1.0	ug/g						
Silver	ND	0.3	ug/g						
Thallium	ND	1.0	ug/g						
Uranium	ND	1.0	ug/g						
Vanadium	ND	10.0	ug/g						
Zinc	ND	20.0	ug/g						
Volatiles									
Acetone	ND	0.50	ug/g						
Benzene	ND	0.02	ug/g						
Bromodichloromethane	ND	0.05	ug/g						
Bromoform	ND	0.05	ug/g						
Bromomethane	ND	0.05	ug/g						
Carbon Tetrachloride	ND	0.05	ug/g						
Chlorobenzene	ND	0.05	ug/g						
Chloroform	ND	0.05	ug/g						
Dibromochloromethane	ND	0.05	ug/g						
Dichlorodifluoromethane	ND	0.05	ug/g						
1,2-Dichlorobenzene	ND	0.05	ug/g						
1,3-Dichlorobenzene	ND	0.05	ug/g						
1,4-Dichlorobenzene	ND	0.05	ug/g						
1,1-Dichloroethane	ND	0.05	ug/g						
1,2-Dichloroethane	ND	0.05	ug/g						
1,1-Dichloroethylene	ND	0.05	ug/g						
cis-1,2-Dichloroethylene	ND	0.05	ug/g						
trans-1,2-Dichloroethylene	ND	0.05	ug/g						
1,2-Dichloropropane	ND	0.05	ug/g						
cis-1,3-Dichloropropylene	ND	0.05	ug/g						
trans-1,3-Dichloropropylene	ND	0.05	ug/g						
1,3-Dichloropropene, total	ND	0.05	ug/g						
Ethylbenzene	ND	0.05	ug/g						
Ethylene dibromide (dibromoethane, 1,2	ND	0.05	ug/g						
Hexane	ND	0.05	ug/g						
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g						
Methyl Isobutyl Ketone	ND	0.50	ug/g						
Methyl tert-butyl ether	ND	0.05	ug/g						
Methylene Chloride	ND	0.05	ug/g						
Styrene	ND	0.05	ug/g						
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g						
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g						
Tetrachloroethylene	ND	0.05	ug/g						
Toluene	ND	0.05	ug/g						
1,1,1-Trichloroethane	ND	0.05	ug/g						

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,1,2-Trichloroethane	ND	0.05	ug/g						
Trichloroethylene	ND	0.05	ug/g						
Trichlorofluoromethane	ND	0.05	ug/g						
Vinyl chloride	ND	0.02	ug/g						
m,p-Xylenes	ND	0.05	ug/g						
o-Xylene	ND	0.05	ug/g						
Xylenes, total	ND	0.05	ug/g						
Surrogate: 4-Bromofluorobenzene	*7.67*		*ug/g*		*95.9*	*50-140*			
Surrogate: Dibromofluoromethane	*4.69*		*ug/g*		*58.6*	*50-140*			
Surrogate: Toluene-d8	*9.02*		*ug/g*		*113*	*50-140*			
Benzene	ND	0.02	ug/g						
Ethylbenzene	ND	0.05	ug/g						
Toluene	ND	0.05	ug/g						
m,p-Xylenes	ND	0.05	ug/g						
o-Xylene	ND	0.05	ug/g						
Xylenes, total	ND	0.05	ug/g						
Surrogate: Toluene-d8	*2.83*		*ug/g*		*88.5*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
pH	7.41	0.05	pH Units	7.45			0.5	2.3	
Hydrocarbons									
F1 PHCs (C6-C10)	ND	7	ug/g	ND			NC	40	
F2 PHCs (C10-C16)	ND	4	ug/g	ND			NC	30	
F3 PHCs (C16-C34)	11	8	ug/g	ND			NC	30	
F4 PHCs (C34-C50)	11	6	ug/g	10			4.6	30	
Metals									
Antimony	ND	1.0	ug/g	ND			NC	30	
Arsenic	2.9	1.0	ug/g	2.6			9.6	30	
Barium	54.9	1.0	ug/g	51.6			6.1	30	
Beryllium	ND	0.5	ug/g	ND			NC	30	
Boron	15.4	5.0	ug/g	13.3			14.8	30	
Cadmium	ND	0.5	ug/g	ND			NC	30	
Chromium	22.1	5.0	ug/g	17.9			20.9	30	
Cobalt	5.7	1.0	ug/g	5.2			8.6	30	
Copper	19.8	5.0	ug/g	17.3			13.7	30	
Lead	81.5	1.0	ug/g	67.2			19.2	30	
Molybdenum	ND	1.0	ug/g	ND			NC	30	
Nickel	12.6	5.0	ug/g	11.0			13.5	30	
Selenium	ND	1.0	ug/g	ND			NC	30	
Silver	ND	0.3	ug/g	ND			NC	30	
Thallium	ND	1.0	ug/g	ND			NC	30	
Uranium	ND	1.0	ug/g	ND			NC	30	
Vanadium	22.2	10.0	ug/g	19.0			15.4	30	
Zinc	67.3	20.0	ug/g	60.7			10.2	30	
Physical Characteristics									
% Solids	78.7	0.1	% by Wt.	79.3			0.7	25	
Volatiles									
Acetone	ND	0.50	ug/g	ND			NC	50	
Benzene	ND	0.02	ug/g	ND			NC	50	
Bromodichloromethane	ND	0.05	ug/g	ND			NC	50	
Bromoform	ND	0.05	ug/g	ND			NC	50	
Bromomethane	ND	0.05	ug/g	ND			NC	50	
Carbon Tetrachloride	ND	0.05	ug/g	ND			NC	50	
Chlorobenzene	ND	0.05	ug/g	ND			NC	50	
Chloroform	ND	0.05	ug/g	ND			NC	50	
Dibromochloromethane	ND	0.05	ug/g	ND			NC	50	
Dichlorodifluoromethane	ND	0.05	ug/g	ND			NC	50	
1,2-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,3-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,4-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,1-Dichloroethane	ND	0.05	ug/g	ND			NC	50	
1,2-Dichloroethane	ND	0.05	ug/g	ND			NC	50	
1,1-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
cis-1,2-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
trans-1,2-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
1,2-Dichloropropane	ND	0.05	ug/g	ND			NC	50	
cis-1,3-Dichloropropylene	ND	0.05	ug/g	ND			NC	50	
trans-1,3-Dichloropropylene	ND	0.05	ug/g	ND			NC	50	
Ethylbenzene	ND	0.05	ug/g	ND			NC	50	
Ethylene dibromide (dibromoethane, 1,2	ND	0.05	ug/g	ND			NC	50	
Hexane	ND	0.05	ug/g	ND			NC	50	
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g	ND			NC	50	
Methyl Isobutyl Ketone	ND	0.50	ug/g	ND			NC	50	
Methyl tert-butyl ether	ND	0.05	ug/g	ND			NC	50	
Methylene Chloride	ND	0.05	ug/g	ND			NC	50	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Styrene	ND	0.05	ug/g	ND			NC	50	
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g	ND			NC	50	
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g	ND			NC	50	
Tetrachloroethylene	ND	0.05	ug/g	ND			NC	50	
Toluene	ND	0.05	ug/g	ND			NC	50	
1,1,1-Trichloroethane	ND	0.05	ug/g	ND			NC	50	
1,1,2-Trichloroethane	ND	0.05	ug/g	ND			NC	50	
Trichloroethylene	ND	0.05	ug/g	ND			NC	50	
Trichlorofluoromethane	ND	0.05	ug/g	ND			NC	50	
Vinyl chloride	ND	0.02	ug/g	ND			NC	50	
m,p-Xylenes	ND	0.05	ug/g	ND			NC	50	
o-Xylene	ND	0.05	ug/g	ND			NC	50	
Surrogate: 4-Bromofluorobenzene	*8.12*		*ug/g*		*96.8*	*50-140*			
Surrogate: Dibromofluoromethane	*5.09*		*ug/g*		*60.7*	*50-140*			
Surrogate: Toluene-d8	*9.47*		*ug/g*		*113*	*50-140*			
Benzene	ND	0.02	ug/g	ND			NC	50	
Ethylbenzene	ND	0.05	ug/g	ND			NC	50	
Toluene	ND	0.05	ug/g	ND			NC	50	
m,p-Xylenes	ND	0.05	ug/g	ND			NC	50	
o-Xylene	ND	0.05	ug/g	ND			NC	50	
Surrogate: Toluene-d8	*3.58*		*ug/g*		*94.7*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	165	7	ug/g	ND	82.5	80-120			
F2 PHCs (C10-C16)	108	4	ug/g	ND	111	60-140			
F3 PHCs (C16-C34)	317	8	ug/g	ND	134	60-140			
F4 PHCs (C34-C50)	212	6	ug/g	10	134	60-140			
Metals									
Antimony	46.3	1.0	ug/g	ND	92.0	70-130			
Arsenic	55.7	1.0	ug/g	1.0	109	70-130			
Barium	82.9	1.0	ug/g	20.6	125	70-130			
Beryllium	57.9	0.5	ug/g	ND	115	70-130			
Boron	58.7	5.0	ug/g	5.3	107	70-130			
Cadmium	50.8	0.5	ug/g	ND	102	70-130			
Chromium	69.9	5.0	ug/g	7.2	126	70-130			
Cobalt	60.3	1.0	ug/g	2.1	116	70-130			
Copper	62.8	5.0	ug/g	6.9	112	70-130			
Lead	81.3	1.0	ug/g	26.9	109	70-130			
Molybdenum	53.8	1.0	ug/g	ND	107	70-130			
Nickel	62.4	5.0	ug/g	ND	116	70-130			
Selenium	49.7	1.0	ug/g	ND	99.1	70-130			
Silver	41.3	0.3	ug/g	ND	82.5	70-130			
Thallium	52.0	1.0	ug/g	ND	104	70-130			
Uranium	45.5	1.0	ug/g	ND	90.8	70-130			
Vanadium	71.7	10.0	ug/g	ND	128	70-130			
Zinc	80.7	20.0	ug/g	24.3	113	70-130			
Volatiles									
Acetone	7.63	0.50	ug/g	ND	76.3	50-140			
Benzene	3.16	0.02	ug/g	ND	79.1	60-130			
Bromodichloromethane	3.73	0.05	ug/g	ND	93.2	60-130			
Bromoform	2.76	0.05	ug/g	ND	68.9	60-130			
Bromomethane	3.99	0.05	ug/g	ND	99.7	50-140			
Carbon Tetrachloride	3.47	0.05	ug/g	ND	86.9	60-130			
Chlorobenzene	3.53	0.05	ug/g	ND	88.3	60-130			
Chloroform	3.26	0.05	ug/g	ND	81.6	60-130			
Dibromochloromethane	2.65	0.05	ug/g	ND	66.3	60-130			
Dichlorodifluoromethane	4.35	0.05	ug/g	ND	109	50-140			
1,2-Dichlorobenzene	3.22	0.05	ug/g	ND	80.5	60-130			
1,3-Dichlorobenzene	3.00	0.05	ug/g	ND	75.1	60-130			
1,4-Dichlorobenzene	3.33	0.05	ug/g	ND	83.3	60-130			
1,1-Dichloroethane	2.72	0.05	ug/g	ND	67.9	60-130			
1,2-Dichloroethane	3.04	0.05	ug/g	ND	76.0	60-130			
1,1-Dichloroethylene	2.87	0.05	ug/g	ND	71.8	60-130			
cis-1,2-Dichloroethylene	2.80	0.05	ug/g	ND	69.9	60-130			
trans-1,2-Dichloroethylene	2.65	0.05	ug/g	ND	66.4	60-130			
1,2-Dichloropropane	2.80	0.05	ug/g	ND	70.0	60-130			
cis-1,3-Dichloropropylene	3.02	0.05	ug/g	ND	75.5	60-130			
trans-1,3-Dichloropropylene	3.04	0.05	ug/g	ND	75.9	60-130			
Ethylbenzene	3.52	0.05	ug/g	ND	88.0	60-130			
Ethylene dibromide (dibromoethane, 1,2	4.02	0.05	ug/g	ND	100	60-130			
Hexane	4.40	0.05	ug/g	ND	110	60-130			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Methyl Ethyl Ketone (2-Butanone)	6.22	0.50	ug/g	ND	62.2	50-140			
Methyl Isobutyl Ketone	7.03	0.50	ug/g	ND	70.3	50-140			
Methyl tert-butyl ether	8.57	0.05	ug/g	ND	85.7	50-140			
Methylene Chloride	2.87	0.05	ug/g	ND	71.6	60-130			
Styrene	3.16	0.05	ug/g	ND	78.9	60-130			
1,1,1,2-Tetrachloroethane	2.62	0.05	ug/g	ND	65.4	60-130			
1,1,2,2-Tetrachloroethane	2.89	0.05	ug/g	ND	72.3	60-130			
Tetrachloroethylene	3.32	0.05	ug/g	ND	83.0	60-130			
Toluene	3.61	0.05	ug/g	ND	90.2	60-130			
1,1,1-Trichloroethane	2.86	0.05	ug/g	ND	71.4	60-130			
1,1,2-Trichloroethane	2.62	0.05	ug/g	ND	65.5	60-130			
Trichloroethylene	2.93	0.05	ug/g	ND	73.3	60-130			
Trichlorofluoromethane	3.38	0.05	ug/g	ND	84.6	50-140			
Vinyl chloride	4.94	0.02	ug/g	ND	123	50-140			
m,p-Xylenes	6.99	0.05	ug/g	ND	87.4	60-130			
o-Xylene	3.50	0.05	ug/g	ND	87.6	60-130			
Surrogate: 4-Bromofluorobenzene	*7.60*		*ug/g*		*95.0*	*50-140*			
Surrogate: Dibromofluoromethane	*6.48*		*ug/g*		*81.0*	*50-140*			
Surrogate: Toluene-d8	*8.46*		*ug/g*		*106*	*50-140*			
Benzene	3.66	0.02	ug/g	ND	91.5	60-130			
Ethylbenzene	3.56	0.05	ug/g	ND	89.0	60-130			
Toluene	3.78	0.05	ug/g	ND	94.6	60-130			
m,p-Xylenes	7.61	0.05	ug/g	ND	95.1	60-130			
o-Xylene	3.95	0.05	ug/g	ND	98.8	60-130			
Surrogate: Toluene-d8	*2.92*		*ug/g*		*91.2*	*50-140*			

Qualifier Notes:

Login Qualifiers :

Container and COC sample IDs don't match - Vial- ID reads BH4-22-SS4 and coc reads BH4-22-SS5

Applies to samples: BH4-22-SS5

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.
NC: Not Calculated

Soil results are reported on a dry weight basis when the units are denoted with 'dry'.
Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

CCME PHC additional information:

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.
- When reported, data for F4G has been processed using a silica gel cleanup.

PARACEL LABORATORIES LTD.

Paracel ID: 2225660

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2225660	№ 136668

Client Name: Paterson | Project Ref: PE4767 | Page 1 of 1

Contact Name: Michael Beaudoin | Quote #:

Address: 9 Auriga Drive | PO #: 55010

Telephone: 613-226-7881 | E-mail: mbeaudoin@patersongroup.ca

Turnaround Time: ☐ 1 day ☐ 3 day ☐ 2 day ☒ Regular | Date Required:

☒ REG 153/04 ☐ REG 406/19

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

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

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

	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)	pH
1	BH1-22-SS2	S		2	June 16/2022		X	X		X				X
2	BH1-22-SS7	↓		2	↓		X	X		X				
3	BH2-22-SS5			2			X	X		X				X
4	BH3-22-SS7			1			X			X				
5	BH3-102			1				X						
6	BH4-22-SS5			1			X			X				
7	BH5-22-SS2			2			X	X		X				
8	BH5-22-SS6	↓		2	↓		X	X		X				
9														
10														

Comments:

Method of Delivery: PARACEL COURIER

Relinquished By (Sign)	Received By Driver/Depot	Received at Lab	Verified By
Relinquished By (Print): Nurein Seif	Date/Time: 17/06/22 1:42	Date/Time: June 17,22 17:21	Date/Time: June 18,22 15:45
Date/Time: June 17/2022	Temperature: °C	Temperature: 20.7 °C	pH Verified: ☐ By:

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e: paracel@paracellabs.com

www.paracellabs.com

Certificate of Analysis

Paterson Group Consulting Engineers
28 Concourse Gate, Unit 1
Nepean, ON K2E 7T7
Attn: Mark D'Arcy

Phone: (613) 226-7381
Fax: (613) 226-6344

Client PO: 11990
Project: PE2459
Custody: 85905

Report Date: 21-Nov-2011
Order Date: 15-Nov-2011
Order #: 1147072

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

Paracel ID	Client ID
1147072-01	BH2-GW1
1147072-02	BH4-GW1

Approved By:

Mark Foto, M.Sc. For Dale Robertson, BSc
Laboratory Director

Any use of these results implies your agreement that our total liabilty 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

Report Date: 21-Nov-2011

Client: **Paterson Group Consulting Engineers**

Order Date:15-Nov-2011

Client PO: 11990 Project Description: PE2459

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
CCME PHC F1	CWS Tier 1 - P&T GC-FID	18-Nov-11	18-Nov-11
CCME PHC F2 - F4	CWS Tier 1 - GC-FID, extraction	16-Nov-11	17-Nov-11
VOCs	EPA 624 - P&T GC-MS	18-Nov-11	18-Nov-11

Certificate of Analysis

Report Date: 21-Nov-2011

Client: **Paterson Group Consulting Engineers**

Order Date:15-Nov-2011

Client PO: 11990

Project Description: PE2459

	Client ID:	BH2-GW1	BH4-GW1	-	-
	Sample Date:	14-Nov-11	14-Nov-11	-	-
	Sample ID:	1147072-01	1147072-02	-	-
	MDL/Units	Water	Water	-	-
Volatiles					
Acetone	5.0 ug/L	<5.0	<5.0	-	-
Benzene	0.5 ug/L	<0.5	<0.5	-	-
Bromodichloromethane	0.5 ug/L	<0.5	<0.5	-	-
Bromoform	0.5 ug/L	<0.5	<0.5	-	-
Bromomethane	0.5 ug/L	<0.5	<0.5	-	-
Carbon Tetrachloride	0.2 ug/L	<0.2	<0.2	-	-
Chlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
Chloroethane	1.0 ug/L	<1.0	<1.0	-	-
Chloroform	0.5 ug/L	<0.5	<0.5	-	-
Chloromethane	3.0 ug/L	<3.0	<3.0	-	-
Dibromochloromethane	0.5 ug/L	<0.5	<0.5	-	-
Dichlorodifluoromethane	1.0 ug/L	<1.0	<1.0	-	-
1,2-Dibromoethane	0.2 ug/L	<0.2	<0.2	-	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
1,3-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
1,1-Dichloroethane	0.5 ug/L	<0.5	<0.5	-	-
1,2-Dichloroethane	0.5 ug/L	<0.5	<0.5	-	-
1,1-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	-
cis-1,2-Dichloroethylene	0.5 ug/L	5.5	<0.5	-	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	-
1,2-Dichloroethylene, total	0.5 ug/L	5.5	<0.5	-	-
1,2-Dichloropropane	0.5 ug/L	<0.5	<0.5	-	-
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	-	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	-	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	<0.5	-	-
Ethylbenzene	0.5 ug/L	<0.5	<0.5	-	-
Hexane	1.0 ug/L	<1.0	<1.0	-	-
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	<5.0	-	-
Methyl Butyl Ketone (2-Hexanone)	10.0 ug/L	<10.0	<10.0	-	-
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	<5.0	-	-
Methyl tert-butyl ether	2.0 ug/L	<2.0	<2.0	-	-
Methylene Chloride	5.0 ug/L	<5.0	<5.0	-	-

Certificate of Analysis

Report Date: 21-Nov-2011

Client: **Paterson Group Consulting Engineers**

Order Date:15-Nov-2011

Client PO: 11990

Project Description: PE2459

	Client ID:	BH2-GW1	BH4-GW1	-	-
	Sample Date:	14-Nov-11	14-Nov-11	-	-
	Sample ID:	1147072-01	1147072-02	-	-
	MDL/Units	Water	Water	-	-
Styrene	0.5 ug/L	<0.5	<0.5	-	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	-	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	-	-
Tetrachloroethylene	0.5 ug/L	226	8.3	-	-
Toluene	0.5 ug/L	<0.5	<0.5	-	-
1,2,4-Trichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
1,1,1-Trichloroethane	0.5 ug/L	<0.5	<0.5	-	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	<0.5	-	-
Trichloroethylene	0.5 ug/L	1.6	<0.5	-	-
Trichlorofluoromethane	1.0 ug/L	<1.0	<1.0	-	-
1,3,5-Trimethylbenzene	0.5 ug/L	<0.5	<0.5	-	-
Vinyl chloride	0.5 ug/L	<0.5	<0.5	-	-
m,p-Xylenes	0.5 ug/L	<0.5	<0.5	-	-
o-Xylene	0.5 ug/L	<0.5	<0.5	-	-
Xylenes, total	0.5 ug/L	<0.5	<0.5	-	-
4-Bromofluorobenzene	Surrogate	116%	108%	-	-
Dibromofluoromethane	Surrogate	106%	106%	-	-
Toluene-d8	Surrogate	92.3%	97.1%	-	-
Hydrocarbons					
F1 PHCs (C6-C10)	25 ug/L	<25	<25	-	-
F2 PHCs (C10-C16)	100 ug/L	<100	<100	-	-
F3 PHCs (C16-C34)	100 ug/L	<100	<100	-	-
F4 PHCs (C34-C50)	100 ug/L	<100	<100	-	-
F1 + F2 PHCs	125 ug/L	<125	<125	-	-
F3 + F4 PHCs	200 ug/L	<200	<200	-	-

Certificate of Analysis

Report Date: 21-Nov-2011

Client: **Paterson Group Consulting Engineers**

Order Date:15-Nov-2011

Client PO: 11990 Project Description: PE2459

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	ND	25	ug/L						
F2 PHCs (C10-C16)	ND	100	ug/L						
F3 PHCs (C16-C34)	ND	100	ug/L						
F4 PHCs (C34-C50)	ND	100	ug/L						
Volatiles									
Acetone	ND	5.0	ug/L						
Benzene	ND	0.5	ug/L						
Bromodichloromethane	ND	0.5	ug/L						
Bromoform	ND	0.5	ug/L						
Bromomethane	ND	0.5	ug/L						
Carbon Tetrachloride	ND	0.2	ug/L						
Chlorobenzene	ND	0.5	ug/L						
Chloroethane	ND	1.0	ug/L						
Chloroform	ND	0.5	ug/L						
Chloromethane	ND	3.0	ug/L						
Dibromochloromethane	ND	0.5	ug/L						
Dichlorodifluoromethane	ND	1.0	ug/L						
1,2-Dibromoethane	ND	0.2	ug/L						
1,2-Dichlorobenzene	ND	0.5	ug/L						
1,3-Dichlorobenzene	ND	0.5	ug/L						
1,4-Dichlorobenzene	ND	0.5	ug/L						
1,1-Dichloroethane	ND	0.5	ug/L						
1,2-Dichloroethane	ND	0.5	ug/L						
1,1-Dichloroethylene	ND	0.5	ug/L						
cis-1,2-Dichloroethylene	ND	0.5	ug/L						
trans-1,2-Dichloroethylene	ND	0.5	ug/L						
1,2-Dichloroethylene, total	ND	0.5	ug/L						
1,2-Dichloropropane	ND	0.5	ug/L						
cis-1,3-Dichloropropylene	ND	0.5	ug/L						
trans-1,3-Dichloropropylene	ND	0.5	ug/L						
1,3-Dichloropropene, total	ND	0.5	ug/L						
Ethylbenzene	ND	0.5	ug/L						
Hexane	ND	1.0	ug/L						
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L						
Methyl Butyl Ketone (2-Hexanone)	ND	10.0	ug/L						
Methyl Isobutyl Ketone	ND	5.0	ug/L						
Methyl tert-butyl ether	ND	2.0	ug/L						
Methylene Chloride	ND	5.0	ug/L						
Styrene	ND	0.5	ug/L						
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L						
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L						
Tetrachloroethylene	ND	0.5	ug/L						
Toluene	ND	0.5	ug/L						
1,2,4-Trichlorobenzene	ND	0.5	ug/L						
1,1,1-Trichloroethane	ND	0.5	ug/L						
1,1,2-Trichloroethane	ND	0.5	ug/L						
Trichloroethylene	ND	0.5	ug/L						
Trichlorofluoromethane	ND	1.0	ug/L						
1,3,5-Trimethylbenzene	ND	0.5	ug/L						
Vinyl chloride	ND	0.5	ug/L						
m,p-Xylenes	ND	0.5	ug/L						
o-Xylene	ND	0.5	ug/L						
Xylenes, total	ND	0.5	ug/L						
Surrogate: 4-Bromofluorobenzene	*38.7*		*ug/L*		*121*	*50-140*			
Surrogate: Dibromofluoromethane	*34.9*		*ug/L*		*109*	*50-140*			
Surrogate: Toluene-d8	*31.5*		*ug/L*		*98.4*	*50-140*			

Certificate of Analysis

Client: **Paterson Group Consulting Engineers**

Client PO: 11990

Project Description: PE2459

Report Date: 21-Nov-2011

Order Date:15-Nov-2011

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	ND	25	ug/L	ND				30	
F2 PHCs (C10-C16)	ND	100	ug/L	ND				30	
F3 PHCs (C16-C34)	ND	100	ug/L	ND				30	
F4 PHCs (C34-C50)	ND	100	ug/L	ND				30	
Volatiles									
Acetone	ND	5.0	ug/L	ND				30	
Benzene	ND	0.5	ug/L	ND				30	
Bromodichloromethane	ND	0.5	ug/L	ND				30	
Bromoform	ND	0.5	ug/L	ND				30	
Bromomethane	ND	0.5	ug/L	ND				30	
Carbon Tetrachloride	ND	0.2	ug/L	ND				30	
Chlorobenzene	ND	0.5	ug/L	ND				30	
Chloroethane	ND	1.0	ug/L	ND				30	
Chloroform	ND	0.5	ug/L	ND				30	
Chloromethane	ND	3.0	ug/L	ND				30	
Dibromochloromethane	ND	0.5	ug/L	ND				30	
Dichlorodifluoromethane	ND	1.0	ug/L	ND				30	
1,2-Dibromoethane	ND	0.2	ug/L	ND				30	
1,2-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,3-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,4-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,1-Dichloroethane	ND	0.5	ug/L	ND				30	
1,2-Dichloroethane	ND	0.5	ug/L	ND				30	
1,1-Dichloroethylene	ND	0.5	ug/L	ND				30	
cis-1,2-Dichloroethylene	3.40	0.5	ug/L	3.36			1.2	30	
trans-1,2-Dichloroethylene	ND	0.5	ug/L	ND				30	
1,2-Dichloropropane	ND	0.5	ug/L	ND				30	
cis-1,3-Dichloropropylene	ND	0.5	ug/L	ND				30	
trans-1,3-Dichloropropylene	ND	0.5	ug/L	ND				30	
Ethylbenzene	ND	0.5	ug/L	ND				30	
Hexane	ND	1.0	ug/L	ND				30	
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L	ND				30	
Methyl Butyl Ketone (2-Hexanone)	ND	10.0	ug/L	ND				30	
Methyl Isobutyl Ketone	ND	5.0	ug/L	ND				30	
Methyl tert-butyl ether	ND	2.0	ug/L	ND				30	
Methylene Chloride	ND	5.0	ug/L	ND				30	
Styrene	ND	0.5	ug/L	ND				30	
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	ND				30	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	ND				30	
Tetrachloroethylene	ND	0.5	ug/L	ND				30	
Toluene	ND	0.5	ug/L	ND				30	
1,2,4-Trichlorobenzene	ND	0.5	ug/L	ND				30	
1,1,1-Trichloroethane	ND	0.5	ug/L	ND				30	
1,1,2-Trichloroethane	ND	0.5	ug/L	ND				30	
Trichloroethylene	ND	0.5	ug/L	ND				30	
Trichlorofluoromethane	ND	1.0	ug/L	ND				30	
1,3,5-Trimethylbenzene	ND	0.5	ug/L	ND				30	
Vinyl chloride	ND	0.5	ug/L	ND				30	
m,p-Xylenes	ND	0.5	ug/L	ND				30	
o-Xylene	ND	0.5	ug/L	ND				30	
Surrogate: 4-Bromofluorobenzene	*36.4*		*ug/L*	*ND*	*114*	*50-140*			
Surrogate: Dibromofluoromethane	*28.1*		*ug/L*	*ND*	*87.7*	*50-140*			
Surrogate: Toluene-d8	*32.1*		*ug/L*	*ND*	*100*	*50-140*			

Certificate of Analysis

Report Date: 21-Nov-2011

Client: **Paterson Group Consulting Engineers**

Order Date:15-Nov-2011

Client PO: 11990 Project Description: PE2459

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	1570	25	ug/L	ND	78.3	68-117			
F2 PHCs (C10-C16)	1530	100	ug/L	ND	95.8	60-140			
F3 PHCs (C16-C34)	3650	100	ug/L	ND	91.2	60-140			
F4 PHCs (C34-C50)	2320	100	ug/L	ND	96.7	60-140			
Volatiles									
Acetone	104	5.0	ug/L	ND	104	50-140			
Benzene	37.9	0.5	ug/L	ND	94.7	60-130			
Bromodichloromethane	37.1	0.5	ug/L	ND	92.6	60-130			
Bromoform	46.2	0.5	ug/L	ND	116	60-130			
Bromomethane	50.7	0.5	ug/L	ND	127	50-140			
Carbon Tetrachloride	49.8	0.2	ug/L	ND	125	60-130			
Chlorobenzene	34.4	0.5	ug/L	ND	86.0	60-130			
Chloroethane	35.2	1.0	ug/L	ND	88.0	50-140			
Chloroform	36.2	0.5	ug/L	ND	90.4	60-130			
Chloromethane	28.6	3.0	ug/L	ND	71.5	50-140			
Dibromochloromethane	49.8	0.5	ug/L	ND	125	60-130			
Dichlorodifluoromethane	40.3	1.0	ug/L	ND	101	50-140			
1,2-Dibromoethane	46.9	0.2	ug/L	ND	117	60-130			
1,2-Dichlorobenzene	31.9	0.5	ug/L	ND	79.7	60-130			
1,3-Dichlorobenzene	30.0	0.5	ug/L	ND	74.9	60-130			
1,4-Dichlorobenzene	39.4	0.5	ug/L	ND	98.5	60-130			
1,1-Dichloroethane	29.6	0.5	ug/L	ND	74.1	60-130			
1,2-Dichloroethane	33.4	0.5	ug/L	ND	83.6	60-130			
1,1-Dichloroethylene	34.9	0.5	ug/L	ND	87.2	60-130			
cis-1,2-Dichloroethylene	36.0	0.5	ug/L	ND	90.1	60-130			
trans-1,2-Dichloroethylene	38.8	0.5	ug/L	ND	97.0	60-130			
1,2-Dichloropropane	35.4	0.5	ug/L	ND	88.6	60-130			
cis-1,3-Dichloropropylene	34.5	0.5	ug/L	ND	86.3	60-130			
trans-1,3-Dichloropropylene	29.9	0.5	ug/L	ND	74.8	60-130			
Ethylbenzene	36.0	0.5	ug/L	ND	90.0	60-130			
Hexane	38.4	1.0	ug/L	ND	96.1	60-130			
Methyl Ethyl Ketone (2-Butanone)	99.5	5.0	ug/L	ND	99.5	50-140			
Methyl Butyl Ketone (2-Hexanone)	91.0	10.0	ug/L	ND	91.0	50-140			
Methyl Isobutyl Ketone	96.5	5.0	ug/L	ND	96.5	50-140			
Methyl tert-butyl ether	140	2.0	ug/L	ND	140	50-140			
Methylene Chloride	33.3	5.0	ug/L	ND	83.2	60-130			
Styrene	39.3	0.5	ug/L	ND	98.2	60-130			
1,1,1,2-Tetrachloroethane	31.4	0.5	ug/L	ND	78.5	60-130			
1,1,2,2-Tetrachloroethane	41.9	0.5	ug/L	ND	105	60-130			
Tetrachloroethylene	33.4	0.5	ug/L	ND	83.6	60-130			
Toluene	36.1	0.5	ug/L	ND	90.2	60-130			
1,2,4-Trichlorobenzene	31.6	0.5	ug/L	ND	79.0	60-130			
1,1,1-Trichloroethane	33.3	0.5	ug/L	ND	83.2	60-130			
1,1,2-Trichloroethane	33.7	0.5	ug/L	ND	84.2	60-130			
Trichloroethylene	34.6	0.5	ug/L	ND	86.4	60-130			
Trichlorofluoromethane	31.9	1.0	ug/L	ND	79.8	60-130			
1,3,5-Trimethylbenzene	45.9	0.5	ug/L	ND	115	60-130			
Vinyl chloride	33.6	0.5	ug/L	ND	83.9	50-140			
m,p-Xylenes	74.1	0.5	ug/L	ND	92.6	60-130			

Certificate of Analysis

Report Date: 21-Nov-2011

Client: **Paterson Group Consulting Engineers**

Order Date:15-Nov-2011

Client PO: 11990 Project Description: PE2459

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
o-Xylene	33.8	0.5	ug/L	ND	84.6	60-130			
Surrogate: 4-Bromofluorobenzene	*26.1*		*ug/L*		*81.5*	*50-140*			

Certificate of Analysis

Report Date: 21-Nov-2011

Client: **Paterson Group Consulting Engineers**

Order Date:15-Nov-2011

Client PO: 11990 Project Description: PE2459

Sample and QC Qualifiers Notes

None

Sample Data Revisions

None

Work Order Revisions/Comments:

None

Other Report Notes:

n/a: not applicable

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

CCME PHC additional information:

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.

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Chain of Custody
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Nº 85905

Page ___ of ___

Client Name: PATERSON GROUP	Project Reference: PE 2459	TAT: X Regular
Contact Name: Mark D'Arcy	Quote #	[ ] 2 Day
Address: 28 Concourse Gate Unit 1	PO # 11990	[ ] 1 Day
	Email Address:	[ ] Same Day
Telephone: 613-226-7381	mdarcy@patersongroup.ca	Date Required:

Samples Submitted Under: [ ] O. Reg. 153/04 Table ___ [X] O. Reg 511/09 Table 3 [ ] PWQO [ ] CCME [ ] Sewer Use (Storm) [ ] Sewer Use (Sanitary) [ ] 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: 1147072

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken Date	Sample Taken Time	PHC F1-F4	VOC								
1	BH2-GW1	GW		3	Nov 14/11	3pm	X	X								/
2	BH4-GW1	GW		3	Nov 14/11	3:30pm	X	X								/
3																
4																
5																
6																
7																
8																
9																
10																

Comments: 15 ND

Method of Delivery: Paracel

Relinquished By (Print & Sign):	Received by Driver/Depot:	Received at Lab:	Verified By:
Mark D'Arcy Nov. 15 2011	M. Dcouse	SUNET PORN	MC
Date/Time: 10am Nov. 15/2011	Date/Time: 15/11/11 10:02 am	Date/Time: NOV 15/11 10:46	Date/Time: Nov 15/11 10:51
	Temperature: ___ °C	Temperature: 11.4 °C	pH Verified [ ] By: N/A

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Certificate of Analysis

Paterson Group Consulting Engineers

154 Colonnade Rd South
Nepean, ON K2E 7J5
Attn: Mark St. Pierre

Client PO: 30538
Project: PE4767
Custody: 128606

Report Date: 11-Aug-2020
Order Date: 7-Aug-2020

Order #: 2032461

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

Paracel ID	Client ID
2032461-01	BH1-20-GW1
2032461-02	BH2-20-GW1
2032461-03	BH3-20-GW1
2032461-04	BH2-19-GW2

Approved By:

Dale Robertson, BSc
Laboratory Director

Any use of these results implies your agreement that our total liabilty 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 any circumstances be liable to you in connection with this work.

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 30538

Report Date: 11-Aug-2020

Order Date: 7-Aug-2020

Project Description: PE4767

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Chromium, hexavalent - water	MOE E3056 - colourimetric	8-Aug-20	8-Aug-20
Mercury by CVAA	EPA 245.2 - Cold Vapour AA	7-Aug-20	10-Aug-20
Metals, ICP-MS	EPA 200.8 - ICP-MS	10-Aug-20	10-Aug-20
REG 153: VOCs by P&T GC/MS	EPA 624 - P&T GC-MS	7-Aug-20	8-Aug-20

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 30538

Report Date: 11-Aug-2020

Order Date: 7-Aug-2020

Project Description: PE4767

	Client ID:	BH1-20-GW1	BH2-20-GW1	BH3-20-GW1	BH2-19-GW2
	Sample Date:	06-Aug-20 09:00	06-Aug-20 09:00	06-Aug-20 09:00	06-Aug-20 09:00
	Sample ID:	2032461-01	2032461-02	2032461-03	2032461-04
	MDL/Units	Water	Water	Water	Water
Metals					
Mercury	0.1 ug/L	-	-	-	<0.1
Antimony	0.5 ug/L	-	-	-	<0.5
Arsenic	1 ug/L	-	-	-	<1
Barium	1 ug/L	-	-	-	114
Beryllium	0.5 ug/L	-	-	-	<0.5
Boron	10 ug/L	-	-	-	101
Cadmium	0.1 ug/L	-	-	-	<0.1
Chromium	1 ug/L	-	-	-	<1
Chromium (VI)	10 ug/L	-	-	-	<10
Cobalt	0.5 ug/L	-	-	-	<0.5
Copper	0.5 ug/L	-	-	-	<0.5
Lead	0.1 ug/L	-	-	-	<0.1
Molybdenum	0.5 ug/L	-	-	-	1.5
Nickel	1 ug/L	-	-	-	<1
Selenium	1 ug/L	-	-	-	<1
Silver	0.1 ug/L	-	-	-	<0.1
Sodium	200 ug/L	-	-	-	94500
Thallium	0.1 ug/L	-	-	-	<0.1
Uranium	0.1 ug/L	-	-	-	3.4
Vanadium	0.5 ug/L	-	-	-	<0.5
Zinc	5 ug/L	-	-	-	6
Volatiles					
Acetone	5.0 ug/L	<5.0	<5.0	<5.0	-
Benzene	0.5 ug/L	<0.5	<0.5	<0.5	-
Bromodichloromethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Bromoform	0.5 ug/L	<0.5	<0.5	<0.5	-
Bromomethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Carbon Tetrachloride	0.2 ug/L	<0.2	<0.2	<0.2	-
Chlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	-
Chloroform	0.5 ug/L	<0.5	<0.5	<0.5	-
Dibromochloromethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Dichlorodifluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,3-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	-

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 30538

Report Date: 11-Aug-2020

Order Date: 7-Aug-2020

Project Description: PE4767

	Client ID:	BH1-20-GW1	BH2-20-GW1	BH3-20-GW1	BH2-19-GW2
	Sample Date:	06-Aug-20 09:00	06-Aug-20 09:00	06-Aug-20 09:00	06-Aug-20 09:00
	Sample ID:	2032461-01	2032461-02	2032461-03	2032461-04
	MDL/Units	Water	Water	Water	Water
1,1-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
1,2-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	-
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,2-Dichloropropane	0.5 ug/L	<0.5	<0.5	<0.5	-
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	<0.5	<0.5	-
Ethylbenzene	0.5 ug/L	<0.5	<0.5	<0.5	-
Ethylene dibromide (dibromoethane, 1,2-)	0.2 ug/L	<0.2	<0.2	<0.2	-
Hexane	1.0 ug/L	<1.0	<1.0	<1.0	-
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	<5.0	<5.0	-
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	<5.0	<5.0	-
Methyl tert-butyl ether	2.0 ug/L	<2.0	<2.0	<2.0	-
Methylene Chloride	5.0 ug/L	<5.0	<5.0	<5.0	-
Styrene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Tetrachloroethylene	0.5 ug/L	40.3	1.7	3.5	-
Toluene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1,1-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Trichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	-
Trichlorofluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	-
Vinyl chloride	0.5 ug/L	<0.5	<0.5	<0.5	-
m,p-Xylenes	0.5 ug/L	<0.5	<0.5	<0.5	-
o-Xylene	0.5 ug/L	<0.5	<0.5	<0.5	-
Xylenes, total	0.5 ug/L	<0.5	<0.5	<0.5	-
4-Bromofluorobenzene	Surrogate	108%	112%	112%	-
Dibromofluoromethane	Surrogate	96.0%	94.4%	94.8%	-
Toluene-d8	Surrogate	102%	102%	102%	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Metals									
Mercury	ND	0.1	ug/L						
Antimony	ND	0.5	ug/L						
Arsenic	ND	1	ug/L						
Barium	ND	1	ug/L						
Beryllium	ND	0.5	ug/L						
Boron	ND	10	ug/L						
Cadmium	ND	0.1	ug/L						
Chromium (VI)	ND	10	ug/L						
Chromium	ND	1	ug/L						
Cobalt	ND	0.5	ug/L						
Copper	ND	0.5	ug/L						
Lead	ND	0.1	ug/L						
Molybdenum	ND	0.5	ug/L						
Nickel	ND	1	ug/L						
Selenium	ND	1	ug/L						
Silver	ND	0.1	ug/L						
Sodium	ND	200	ug/L						
Thallium	ND	0.1	ug/L						
Uranium	ND	0.1	ug/L						
Vanadium	ND	0.5	ug/L						
Zinc	ND	5	ug/L						
Volatiles									
Acetone	ND	5.0	ug/L						
Benzene	ND	0.5	ug/L						
Bromodichloromethane	ND	0.5	ug/L						
Bromoform	ND	0.5	ug/L						
Bromomethane	ND	0.5	ug/L						
Carbon Tetrachloride	ND	0.2	ug/L						
Chlorobenzene	ND	0.5	ug/L						
Chloroform	ND	0.5	ug/L						
Dibromochloromethane	ND	0.5	ug/L						
Dichlorodifluoromethane	ND	1.0	ug/L						
1,2-Dichlorobenzene	ND	0.5	ug/L						
1,3-Dichlorobenzene	ND	0.5	ug/L						
1,4-Dichlorobenzene	ND	0.5	ug/L						
1,1-Dichloroethane	ND	0.5	ug/L						
1,2-Dichloroethane	ND	0.5	ug/L						
1,1-Dichloroethylene	ND	0.5	ug/L						
cis-1,2-Dichloroethylene	ND	0.5	ug/L						
trans-1,2-Dichloroethylene	ND	0.5	ug/L						
1,2-Dichloropropane	ND	0.5	ug/L						
cis-1,3-Dichloropropylene	ND	0.5	ug/L						
trans-1,3-Dichloropropylene	ND	0.5	ug/L						
1,3-Dichloropropene, total	ND	0.5	ug/L						
Ethylbenzene	ND	0.5	ug/L						
Ethylene dibromide (dibromoethane, 1,2	ND	0.2	ug/L						
Hexane	ND	1.0	ug/L						
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L						
Methyl Isobutyl Ketone	ND	5.0	ug/L						
Methyl tert-butyl ether	ND	2.0	ug/L						
Methylene Chloride	ND	5.0	ug/L						
Styrene	ND	0.5	ug/L						
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L						
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L						
Tetrachloroethylene	ND	0.5	ug/L						
Toluene	ND	0.5	ug/L						
1,1,1-Trichloroethane	ND	0.5	ug/L						
1,1,2-Trichloroethane	ND	0.5	ug/L						
Trichloroethylene	ND	0.5	ug/L						

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Trichlorofluoromethane	ND	1.0	ug/L						
Vinyl chloride	ND	0.5	ug/L						
m,p-Xylenes	ND	0.5	ug/L						
o-Xylene	ND	0.5	ug/L						
Xylenes, total	ND	0.5	ug/L						
Surrogate: 4-Bromofluorobenzene	*86.2*		*ug/L*		*108*	*50-140*			
Surrogate: Dibromofluoromethane	*76.3*		*ug/L*		*95.4*	*50-140*			
Surrogate: Toluene-d8	*82.4*		*ug/L*		*103*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Metals									
Mercury	ND	0.1	ug/L	ND			NC	20	
Antimony	ND	0.5	ug/L	ND			NC	20	
Arsenic	ND	1	ug/L	ND			NC	20	
Barium	ND	1	ug/L	ND			NC	20	
Beryllium	ND	0.5	ug/L	ND			NC	20	
Boron	ND	10	ug/L	ND			NC	20	
Cadmium	ND	0.1	ug/L	ND			NC	20	
Chromium (VI)	ND	10	ug/L	ND			NC	20	
Chromium	ND	1	ug/L	ND			NC	20	
Cobalt	ND	0.5	ug/L	ND			NC	20	
Copper	ND	0.5	ug/L	ND			NC	20	
Lead	ND	0.1	ug/L	ND			NC	20	
Molybdenum	ND	0.5	ug/L	ND			NC	20	
Nickel	ND	1	ug/L	ND			NC	20	
Selenium	ND	1	ug/L	ND			NC	20	
Silver	ND	0.1	ug/L	ND			NC	20	
Sodium	481	200	ug/L	343			NC	20	
Thallium	ND	0.1	ug/L	ND			NC	20	
Uranium	ND	0.1	ug/L	ND			NC	20	
Vanadium	ND	0.5	ug/L	ND			NC	20	
Zinc	ND	5	ug/L	ND			NC	20	
Volatiles									
Acetone	ND	5.0	ug/L	ND			NC	30	
Benzene	ND	0.5	ug/L	ND			NC	30	
Bromodichloromethane	ND	0.5	ug/L	ND			NC	30	
Bromoform	ND	0.5	ug/L	ND			NC	30	
Bromomethane	ND	0.5	ug/L	ND			NC	30	
Carbon Tetrachloride	ND	0.2	ug/L	ND			NC	30	
Chlorobenzene	ND	0.5	ug/L	ND			NC	30	
Chloroform	ND	0.5	ug/L	ND			NC	30	
Dibromochloromethane	ND	0.5	ug/L	ND			NC	30	
Dichlorodifluoromethane	ND	1.0	ug/L	ND			NC	30	
1,2-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,3-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,4-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,1-Dichloroethane	ND	0.5	ug/L	ND			NC	30	
1,2-Dichloroethane	ND	0.5	ug/L	ND			NC	30	
1,1-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
cis-1,2-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
trans-1,2-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
1,2-Dichloropropane	ND	0.5	ug/L	ND			NC	30	
cis-1,3-Dichloropropylene	ND	0.5	ug/L	ND			NC	30	
trans-1,3-Dichloropropylene	ND	0.5	ug/L	ND			NC	30	
Ethylbenzene	ND	0.5	ug/L	ND			NC	30	
Ethylene dibromide (dibromoethane, 1,2-	ND	0.2	ug/L	ND			NC	30	
Hexane	ND	1.0	ug/L	ND			NC	30	
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L	ND			NC	30	
Methyl Isobutyl Ketone	ND	5.0	ug/L	ND			NC	30	
Methyl tert-butyl ether	ND	2.0	ug/L	ND			NC	30	
Methylene Chloride	ND	5.0	ug/L	ND			NC	30	
Styrene	ND	0.5	ug/L	ND			NC	30	
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	ND			NC	30	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	ND			NC	30	
Tetrachloroethylene	ND	0.5	ug/L	ND			NC	30	
Toluene	ND	0.5	ug/L	ND			NC	30	
1,1,1-Trichloroethane	ND	0.5	ug/L	ND			NC	30	
1,1,2-Trichloroethane	ND	0.5	ug/L	ND			NC	30	
Trichloroethylene	ND	0.5	ug/L	ND			NC	30	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Trichlorofluoromethane	ND	1.0	ug/L	ND			NC	30	
Vinyl chloride	ND	0.5	ug/L	ND			NC	30	
m,p-Xylenes	ND	0.5	ug/L	ND			NC	30	
o-Xylene	ND	0.5	ug/L	ND			NC	30	
Surrogate: 4-Bromofluorobenzene	*83.8*		*ug/L*		*105*	*50-140*			
Surrogate: Dibromofluoromethane	*76.1*		*ug/L*		*95.1*	*50-140*			
Surrogate: Toluene-d8	*82.3*		*ug/L*		*103*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Metals									
Mercury	3.55	0.1	ug/L	ND	118	70-130			
Antimony	42.1	0.5	ug/L	ND	84.1	80-120			
Arsenic	51.9	1	ug/L	ND	104	80-120			
Barium	50.8	1	ug/L	ND	101	80-120			
Beryllium	52.0	0.5	ug/L	ND	104	80-120			
Boron	48	10	ug/L	ND	93.6	80-120			
Cadmium	51.1	0.1	ug/L	ND	102	80-120			
Chromium (VI)	188	10	ug/L	ND	94.0	70-130			
Chromium	54.8	1	ug/L	ND	109	80-120			
Cobalt	53.1	0.5	ug/L	ND	106	80-120			
Copper	51.8	0.5	ug/L	ND	103	80-120			
Lead	50.3	0.1	ug/L	ND	101	80-120			
Molybdenum	41.1	0.5	ug/L	ND	82.2	80-120			
Nickel	52.8	1	ug/L	ND	105	80-120			
Selenium	53.7	1	ug/L	ND	107	80-120			
Silver	48.1	0.1	ug/L	ND	96.3	80-120			
Sodium	10200	200	ug/L	343	98.2	80-120			
Thallium	46.6	0.1	ug/L	ND	93.2	80-120			
Uranium	45.9	0.1	ug/L	ND	91.8	80-120			
Vanadium	50.9	0.5	ug/L	ND	102	80-120			
Zinc	56	5	ug/L	ND	112	80-120			
Volatiles									
Acetone	79.5	5.0	ug/L	ND	79.5	50-140			
Benzene	38.7	0.5	ug/L	ND	96.6	60-130			
Bromodichloromethane	32.3	0.5	ug/L	ND	80.8	60-130			
Bromoform	49.6	0.5	ug/L	ND	124	60-130			
Bromomethane	33.7	0.5	ug/L	ND	84.4	50-140			
Carbon Tetrachloride	27.0	0.2	ug/L	ND	67.6	60-130			
Chlorobenzene	38.5	0.5	ug/L	ND	96.3	60-130			
Chloroform	34.4	0.5	ug/L	ND	86.0	60-130			
Dibromochloromethane	37.2	0.5	ug/L	ND	92.9	60-130			
Dichlorodifluoromethane	38.6	1.0	ug/L	ND	96.4	50-140			
1,2-Dichlorobenzene	43.8	0.5	ug/L	ND	110	60-130			
1,3-Dichlorobenzene	42.1	0.5	ug/L	ND	105	60-130			
1,4-Dichlorobenzene	43.1	0.5	ug/L	ND	108	60-130			
1,1-Dichloroethane	32.3	0.5	ug/L	ND	80.7	60-130			
1,2-Dichloroethane	43.2	0.5	ug/L	ND	108	60-130			
1,1-Dichloroethylene	30.2	0.5	ug/L	ND	75.4	60-130			
cis-1,2-Dichloroethylene	36.3	0.5	ug/L	ND	90.8	60-130			
trans-1,2-Dichloroethylene	33.3	0.5	ug/L	ND	83.2	60-130			
1,2-Dichloropropane	39.1	0.5	ug/L	ND	97.8	60-130			
cis-1,3-Dichloropropylene	42.5	0.5	ug/L	ND	106	60-130			
trans-1,3-Dichloropropylene	42.6	0.5	ug/L	ND	107	60-130			
Ethylbenzene	37.8	0.5	ug/L	ND	94.6	60-130			
Ethylene dibromide (dibromoethane, 1,2-	35.3	0.2	ug/L	ND	88.4	60-130			
Hexane	30.2	1.0	ug/L	ND	75.4	60-130			
Methyl Ethyl Ketone (2-Butanone)	99.0	5.0	ug/L	ND	99.0	50-140			
Methyl Isobutyl Ketone	107	5.0	ug/L	ND	107	50-140			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Methyl tert-butyl ether	88.2	2.0	ug/L	ND	88.2	50-140			
Methylene Chloride	32.2	5.0	ug/L	ND	80.4	60-130			
Styrene	39.2	0.5	ug/L	ND	97.9	60-130			
1,1,1,2-Tetrachloroethane	37.8	0.5	ug/L	ND	94.4	60-130			
1,1,2,2-Tetrachloroethane	30.7	0.5	ug/L	ND	76.8	60-130			
Tetrachloroethylene	38.3	0.5	ug/L	ND	95.8	60-130			
Toluene	39.4	0.5	ug/L	ND	98.5	60-130			
1,1,1-Trichloroethane	30.3	0.5	ug/L	ND	75.8	60-130			
1,1,2-Trichloroethane	38.2	0.5	ug/L	ND	95.4	60-130			
Trichloroethylene	43.5	0.5	ug/L	ND	109	60-130			
Trichlorofluoromethane	33.4	1.0	ug/L	ND	83.5	60-130			
Vinyl chloride	40.8	0.5	ug/L	ND	102	50-140			
m,p-Xylenes	78.8	0.5	ug/L	ND	98.5	60-130			
o-Xylene	39.9	0.5	ug/L	ND	99.8	60-130			
Surrogate: 4-Bromofluorobenzene	*89.1*		*ug/L*		*111*	*50-140*			
Surrogate: Dibromofluoromethane	*79.4*		*ug/L*		*99.2*	*50-140*			
Surrogate: Toluene-d8	*79.7*		*ug/L*		*99.6*	*50-140*			

Qualifier Notes:

Login Qualifiers :

Container(s) - Labeled improperly/insufficient information - Date reads Aug 6th

Applies to samples: BH1-20-GW1, BH2-20-GW1, BH3-20-GW1, BH2-19-GW2

QC Qualifiers :

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.
NC: Not Calculated

PARACEL LABORATORIES LTD.

Paracel ID: 2032461

Paracel Order Number (Lab Use Only): 2032461

Chain Of Custody (Lab Use Only) № 128606

Client Name: Paterson Group	Project Ref: PE4767	Page __ of __	
Contact Name: Mark St Pierre	Quote #:	**Turnaround Time**	
Address: 154 Colonnade Road South	PO #: 30538	☐ 1 day	☐ 3 day
	E-mail:	☐ 2 day	☒ Regular
Telephone: 613-226-7381	mstpierre@patersongroup.ca	Date Required:	

Regulation 153/04: ☐ 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	Time	PHCs F1-F4+BTEX	VOCs	PAHs	Metals by ICP	Hg	CrVI	B (HWS)						
1	BH1-20-GW1	GW		2	Aug.7.2020			x											/
2	BH2-20-GW1	↓		2	↓			x											/
3	BH3-20-GW1	↓		2	↓			x											/
4	BH2-19-GW2	↓		3	↓					x	x	x							/
5																			
6																			
7																			
8																			
9																			
10																			

Comments:

Method of Delivery: Paracel Courier

Relinquished By (Sign): [signature]	Received By Driver/Depot: M. Treuse	Received at Lab: Sumeeporn Dolmai	Verified By: [signature]
Relinquished By (Print): Mark St Pierre	Date/Time: 07/08/20 10.16	Date/Time: AUG 07, 2020 11.58	Date/Time: Aug 07, 2020 12:42
Date/Time: Aug. 7. 2020	Temperature: °C AM	Temperature: 5.4 °C	pH Verified: ☐ By: BS

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Certificate of Analysis

Paterson Group Consulting Engineers

9 Auriga Drive
Ottawa, ON K2E 7T9
Attn: Mark D'Arcy

Client PO: 57659
Project: PE4767
Custody: 140727

Report Date: 7-Jun-2023
Order Date: 5-Jun-2023

Order #: 2323106

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

Paracel ID	Client ID
2323106-01	BH2-20-GW
2323106-02	BH1-22-GW
2323106-03	BH3-22-GW
2323106-04	DUP

Approved By:

Mark Foto

Mark Foto, M.Sc.
Lab Supervisor

Any use of these results implies your agreement that our total liabilty 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 any circumstances be liable to you in connection with this work.

Certificate of Analysis

Report Date: 07-Jun-2023

Client: Paterson Group Consulting Engineers

Order Date: 5-Jun-2023

Client PO: 57659

Project Description: PE4767

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
REG 153: VOCs by P&T GC/MS	EPA 624 - P&T GC-MS	6-Jun-23	6-Jun-23

Certificate of Analysis

Report Date: 07-Jun-2023

Client: Paterson Group Consulting Engineers

Order Date: 5-Jun-2023

Client PO: 57659

Project Description: PE4767

	Client ID:	BH2-20-GW	BH1-22-GW	BH3-22-GW	DUP
	Sample Date:	05-Jun-23 00:00	05-Jun-23 00:00	05-Jun-23 00:00	05-Jun-23 00:00
	Sample ID:	2323106-01	2323106-02	2323106-03	2323106-04
	MDL/Units	Ground Water	Ground Water	Ground Water	Ground Water
Volatiles					
Acetone	5.0 ug/L	<5.0	<5.0	<5.0	<5.0
Benzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Bromoform	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Bromomethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	0.2 ug/L	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Chloroform	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,3-Dichloropropene, total	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Ethylene dibromide (dibromoethane, 1,2-)	0.2 ug/L	<0.2	<0.2	<0.2	<0.2
Hexane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	<5.0	<5.0	<5.0
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether	2.0 ug/L	<2.0	<2.0	<2.0	<2.0
Methylene Chloride	5.0 ug/L	<5.0	<5.0	<5.0	<5.0
Styrene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Tetrachloroethylene	0.5 ug/L	<0.5	4.2	<0.5	4.1
Toluene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5

Certificate of Analysis

Report Date: 07-Jun-2023

Client: **Paterson Group Consulting Engineers**

Order Date: 5-Jun-2023

Client PO: **57659**

Project Description: PE4767

	Client ID:	BH2-20-GW	BH1-22-GW	BH3-22-GW	DUP
	Sample Date:	05-Jun-23 00:00	05-Jun-23 00:00	05-Jun-23 00:00	05-Jun-23 00:00
	Sample ID:	2323106-01	2323106-02	2323106-03	2323106-04
	MDL/Units	Ground Water	Ground Water	Ground Water	Ground Water
1,1,2-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Trichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0
Vinyl chloride	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
m,p-Xylenes	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
o-Xylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Xylenes, total	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
4-Bromofluorobenzene	Surrogate	97.5%	101%	97.0%	99.0%
Dibromofluoromethane	Surrogate	102%	101%	99.2%	102%
Toluene-d8	Surrogate	113%	111%	112%	110%

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	ND	5.0	ug/L						
Benzene	ND	0.5	ug/L						
Bromodichloromethane	ND	0.5	ug/L						
Bromoform	ND	0.5	ug/L						
Bromomethane	ND	0.5	ug/L						
Carbon Tetrachloride	ND	0.2	ug/L						
Chlorobenzene	ND	0.5	ug/L						
Chloroform	ND	0.5	ug/L						
Dibromochloromethane	ND	0.5	ug/L						
Dichlorodifluoromethane	ND	1.0	ug/L						
1,2-Dichlorobenzene	ND	0.5	ug/L						
1,3-Dichlorobenzene	ND	0.5	ug/L						
1,4-Dichlorobenzene	ND	0.5	ug/L						
1,1-Dichloroethane	ND	0.5	ug/L						
1,2-Dichloroethane	ND	0.5	ug/L						
1,1-Dichloroethylene	ND	0.5	ug/L						
cis-1,2-Dichloroethylene	ND	0.5	ug/L						
trans-1,2-Dichloroethylene	ND	0.5	ug/L						
1,2-Dichloropropane	ND	0.5	ug/L						
cis-1,3-Dichloropropylene	ND	0.5	ug/L						
trans-1,3-Dichloropropylene	ND	0.5	ug/L						
1,3-Dichloropropene, total	ND	0.5	ug/L						
Ethylbenzene	ND	0.5	ug/L						
Ethylene dibromide (dibromoethane, 1,2	ND	0.2	ug/L						
Hexane	ND	1.0	ug/L						
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L						
Methyl Isobutyl Ketone	ND	5.0	ug/L						
Methyl tert-butyl ether	ND	2.0	ug/L						
Methylene Chloride	ND	5.0	ug/L						
Styrene	ND	0.5	ug/L						
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L						
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L						
Tetrachloroethylene	ND	0.5	ug/L						
Toluene	ND	0.5	ug/L						
1,1,1-Trichloroethane	ND	0.5	ug/L						
1,1,2-Trichloroethane	ND	0.5	ug/L						
Trichloroethylene	ND	0.5	ug/L						
Trichlorofluoromethane	ND	1.0	ug/L						
Vinyl chloride	ND	0.5	ug/L						
m,p-Xylenes	ND	0.5	ug/L						
o-Xylene	ND	0.5	ug/L						
Xylenes, total	ND	0.5	ug/L						
Surrogate: 4-Bromofluorobenzene	*80.4*		*ug/L*		*100*	*50-140*			
Surrogate: Dibromofluoromethane	*81.4*		*ug/L*		*102*	*50-140*			
Surrogate: Toluene-d8	*91.7*		*ug/L*		*115*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	ND	5.0	ug/L	ND			NC	30	
Benzene	ND	0.5	ug/L	ND			NC	30	
Bromodichloromethane	ND	0.5	ug/L	ND			NC	30	
Bromoform	ND	0.5	ug/L	ND			NC	30	
Bromomethane	ND	0.5	ug/L	ND			NC	30	
Carbon Tetrachloride	ND	0.2	ug/L	ND			NC	30	
Chlorobenzene	ND	0.5	ug/L	ND			NC	30	
Chloroform	ND	0.5	ug/L	ND			NC	30	
Dibromochloromethane	ND	0.5	ug/L	ND			NC	30	
Dichlorodifluoromethane	ND	1.0	ug/L	ND			NC	30	
1,2-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,3-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,4-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,1-Dichloroethane	ND	0.5	ug/L	ND			NC	30	
1,2-Dichloroethane	ND	0.5	ug/L	ND			NC	30	
1,1-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
cis-1,2-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
trans-1,2-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
1,2-Dichloropropane	ND	0.5	ug/L	ND			NC	30	
cis-1,3-Dichloropropylene	ND	0.5	ug/L	ND			NC	30	
trans-1,3-Dichloropropylene	ND	0.5	ug/L	ND			NC	30	
Ethylbenzene	ND	0.5	ug/L	ND			NC	30	
Ethylene dibromide (dibromoethane, 1,2	ND	0.2	ug/L	ND			NC	30	
Hexane	ND	1.0	ug/L	ND			NC	30	
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L	ND			NC	30	
Methyl Isobutyl Ketone	ND	5.0	ug/L	ND			NC	30	
Methyl tert-butyl ether	ND	2.0	ug/L	ND			NC	30	
Methylene Chloride	ND	5.0	ug/L	ND			NC	30	
Styrene	ND	0.5	ug/L	ND			NC	30	
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	ND			NC	30	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	ND			NC	30	
Tetrachloroethylene	ND	0.5	ug/L	ND			NC	30	
Toluene	ND	0.5	ug/L	ND			NC	30	
1,1,1-Trichloroethane	ND	0.5	ug/L	ND			NC	30	
1,1,2-Trichloroethane	ND	0.5	ug/L	ND			NC	30	
Trichloroethylene	ND	0.5	ug/L	ND			NC	30	
Trichlorofluoromethane	ND	1.0	ug/L	ND			NC	30	
Vinyl chloride	ND	0.5	ug/L	ND			NC	30	
m,p-Xylenes	ND	0.5	ug/L	ND			NC	30	
o-Xylene	ND	0.5	ug/L	ND			NC	30	
Surrogate: 4-Bromofluorobenzene	*79.8*		*ug/L*		*99.7*	*50-140*			
Surrogate: Dibromofluoromethane	*78.0*		*ug/L*		*97.6*	*50-140*			
Surrogate: Toluene-d8	*89.5*		*ug/L*		*112*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	77.9	5.0	ug/L	ND	77.9	50-140			
Benzene	43.9	0.5	ug/L	ND	110	60-130			
Bromodichloromethane	41.5	0.5	ug/L	ND	104	60-130			
Bromoform	44.1	0.5	ug/L	ND	110	60-130			
Bromomethane	48.5	0.5	ug/L	ND	121	50-140			
Carbon Tetrachloride	45.4	0.2	ug/L	ND	113	60-130			
Chlorobenzene	49.0	0.5	ug/L	ND	123	60-130			
Chloroform	39.6	0.5	ug/L	ND	98.9	60-130			
Dibromochloromethane	48.6	0.5	ug/L	ND	122	60-130			
Dichlorodifluoromethane	48.7	1.0	ug/L	ND	122	50-140			
1,2-Dichlorobenzene	48.4	0.5	ug/L	ND	121	60-130			
1,3-Dichlorobenzene	44.5	0.5	ug/L	ND	111	60-130			
1,4-Dichlorobenzene	43.9	0.5	ug/L	ND	110	60-130			
1,1-Dichloroethane	47.7	0.5	ug/L	ND	119	60-130			
1,2-Dichloroethane	41.0	0.5	ug/L	ND	102	60-130			
1,1-Dichloroethylene	45.0	0.5	ug/L	ND	113	60-130			
cis-1,2-Dichloroethylene	42.4	0.5	ug/L	ND	106	60-130			
trans-1,2-Dichloroethylene	47.8	0.5	ug/L	ND	120	60-130			
1,2-Dichloropropane	43.0	0.5	ug/L	ND	108	60-130			
cis-1,3-Dichloropropylene	47.6	0.5	ug/L	ND	119	60-130			
trans-1,3-Dichloropropylene	48.0	0.5	ug/L	ND	120	60-130			
Ethylbenzene	41.9	0.5	ug/L	ND	105	60-130			
Ethylene dibromide (dibromoethane, 1,2	46.1	0.2	ug/L	ND	115	60-130			
Hexane	45.8	1.0	ug/L	ND	114	60-130			
Methyl Ethyl Ketone (2-Butanone)	125	5.0	ug/L	ND	125	50-140			
Methyl Isobutyl Ketone	98.4	5.0	ug/L	ND	98.4	50-140			
Methyl tert-butyl ether	109	2.0	ug/L	ND	109	50-140			
Methylene Chloride	46.7	5.0	ug/L	ND	117	60-130			
Styrene	47.5	0.5	ug/L	ND	119	60-130			
1,1,1,2-Tetrachloroethane	42.2	0.5	ug/L	ND	105	60-130			
1,1,2,2-Tetrachloroethane	48.3	0.5	ug/L	ND	121	60-130			
Tetrachloroethylene	46.4	0.5	ug/L	ND	116	60-130			
Toluene	46.6	0.5	ug/L	ND	116	60-130			
1,1,1-Trichloroethane	45.8	0.5	ug/L	ND	114	60-130			
1,1,2-Trichloroethane	40.3	0.5	ug/L	ND	101	60-130			
Trichloroethylene	44.3	0.5	ug/L	ND	111	60-130			
Trichlorofluoromethane	38.1	1.0	ug/L	ND	95.2	60-130			
Vinyl chloride	36.6	0.5	ug/L	ND	91.5	50-140			
m,p-Xylenes	94.3	0.5	ug/L	ND	118	60-130			
o-Xylene	40.1	0.5	ug/L	ND	100	60-130			
Surrogate: 4-Bromofluorobenzene	*74.1*		*ug/L*		*92.7*	*50-140*			
Surrogate: Dibromofluoromethane	*77.5*		*ug/L*		*96.9*	*50-140*			
Surrogate: Toluene-d8	*75.2*		*ug/L*		*94.1*	*50-140*			

Qualifier Notes:

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.
NC: Not Calculated

PARACEL LABORATORIES LTD.

Paracel ID: 2323106

Paracel Order Number (Lab Use Only): 2323106

Chain Of Custody (Lab Use Only)

№ 140727

Client Name: Paterson

Project Ref: PE4767

Page _ of _

Contact Name: Mark D'arcy

Quote #:

Address: 9 Auriga

PO #: 57659

E-mail: Mdarcy@patersongroup.ca GPaterson@patersongroup.ca

Telephone: 613 226 7381

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	Date	Time	PHCs F1-F4+BTEX	VOCs	PAHs	Metals by ICP	Hg	CrVI	B (HWS)					
1	BH2-20-GW	GW		2	JUNE 5 2023			X										
2	BH1-22-GW	↓		↓	↓			X										
3	BH3-22-GW	↓		↓	↓			X										
4	DUP	↓		↓	↓			X										
5																		
6																		
7																		
8																		
9																		
10																		

Comments:

Method of Delivery: Paracel Courier

Relinquished By (Sign): GPat

Received By Driver/Depot:

Received at Lab: Jvneepown Dhmai

Verified By: [signature]

Relinquished By (Print): Grant Paterson

Date/Time:

Date/Time: JUN 05, 2023 03.10

Date/Time: June 5/23 15:57

Date/Time: JUNE 5 2023

Temperature: °C

Temperature: 7.4 °C

pH Verified: ☐ By:

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Certificate of Analysis

Paterson Group Consulting Engineers

154 Colonnade Road South
Nepean, ON K2E 7J5
Attn: Eric Leveque

Client PO: 26895
Project: PE4629
Custody: 122388

Report Date: 17-Jun-2019
Order Date: 11-Jun-2019

Order #: 1924255

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

Paracel ID	Client ID
1924255-01	BH1-GW1
1924255-02	BH2-GW1
1924255-03	BH3-GW1

Approved By:

Dale Robertson, BSc
Laboratory Director

Any use of these results implies your agreement that our total liabilty 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 any circumstances be liable to you in connection with this work.

Certificate of Analysis
Client: Paterson Group Consulting Engineers
Client PO: 26895

Report Date: 17-Jun-2019
Order Date: 11-Jun-2019
Project Description: PE4629

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
REG 153: VOCs by P&T GC/MS	EPA 624 - P&T GC-MS	14-Jun-19	17-Jun-19

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 26895

Report Date: 17-Jun-2019

Order Date: 11-Jun-2019

Project Description: PE4629

	Client ID:	BH1-GW1	BH2-GW1	BH3-GW1	-
	Sample Date:	11-Jun-19 11:30	11-Jun-19 11:00	11-Jun-19 10:30	-
	Sample ID:	1924255-01	1924255-02	1924255-03	-
	MDL/Units	Water	Water	Water	-
Volatiles					
Acetone	5.0 ug/L	<5.0	<5.0	<5.0	-
Benzene	0.5 ug/L	<0.5	<0.5	<0.5	-
Bromodichloromethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Bromoform	0.5 ug/L	<0.5	<0.5	<0.5	-
Bromomethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Carbon Tetrachloride	0.2 ug/L	<0.2	<0.2	<0.2	-
Chlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	-
Chloroform	0.5 ug/L	<0.5	<0.5	<0.5	-
Dibromochloromethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Dichlorodifluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,3-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
1,2-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	-
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,2-Dichloropropane	0.5 ug/L	<0.5	<0.5	<0.5	-
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	<0.5	<0.5	-
Ethylbenzene	0.5 ug/L	<0.5	<0.5	<0.5	-
Ethylene dibromide (dibromoethan	0.2 ug/L	<0.2	<0.2	<0.2	-
Hexane	1.0 ug/L	<1.0	<1.0	<1.0	-
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	<5.0	<5.0	-
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	<5.0	<5.0	-
Methyl tert-butyl ether	2.0 ug/L	<2.0	<2.0	<2.0	-
Methylene Chloride	5.0 ug/L	<5.0	<5.0	<5.0	-
Styrene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Tetrachloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	-
Toluene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1,1-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 26895

Report Date: 17-Jun-2019

Order Date: 11-Jun-2019

Project Description: PE4629

	Client ID:	BH1-GW1	BH2-GW1	BH3-GW1	-
	Sample Date:	11-Jun-19 11:30	11-Jun-19 11:00	11-Jun-19 10:30	-
	Sample ID:	1924255-01	1924255-02	1924255-03	-
	MDL/Units	Water	Water	Water	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Trichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	-
Trichlorofluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	-
Vinyl chloride	0.5 ug/L	<0.5	<0.5	<0.5	-
m,p-Xylenes	0.5 ug/L	<0.5	<0.5	<0.5	-
o-Xylene	0.5 ug/L	<0.5	<0.5	<0.5	-
Xylenes, total	0.5 ug/L	<0.5	<0.5	<0.5	-
4-Bromofluorobenzene	Surrogate	113%	108%	112%	-
Dibromofluoromethane	Surrogate	99.0%	97.8%	97.7%	-
Toluene-d8	Surrogate	104%	106%	103%	-

Certificate of Analysis
Client: Paterson Group Consulting Engineers
Client PO: 26895

Report Date: 17-Jun-2019
Order Date: 11-Jun-2019
Project Description: PE4629

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	ND	5.0	ug/L						
Benzene	ND	0.5	ug/L						
Bromodichloromethane	ND	0.5	ug/L						
Bromoform	ND	0.5	ug/L						
Bromomethane	ND	0.5	ug/L						
Carbon Tetrachloride	ND	0.2	ug/L						
Chlorobenzene	ND	0.5	ug/L						
Chloroform	ND	0.5	ug/L						
Dibromochloromethane	ND	0.5	ug/L						
Dichlorodifluoromethane	ND	1.0	ug/L						
1,2-Dichlorobenzene	ND	0.5	ug/L						
1,3-Dichlorobenzene	ND	0.5	ug/L						
1,4-Dichlorobenzene	ND	0.5	ug/L						
1,1-Dichloroethane	ND	0.5	ug/L						
1,2-Dichloroethane	ND	0.5	ug/L						
1,1-Dichloroethylene	ND	0.5	ug/L						
cis-1,2-Dichloroethylene	ND	0.5	ug/L						
trans-1,2-Dichloroethylene	ND	0.5	ug/L						
1,2-Dichloropropane	ND	0.5	ug/L						
cis-1,3-Dichloropropylene	ND	0.5	ug/L						
trans-1,3-Dichloropropylene	ND	0.5	ug/L						
1,3-Dichloropropene, total	ND	0.5	ug/L						
Ethylbenzene	ND	0.5	ug/L						
Ethylene dibromide (dibromoethane	ND	0.2	ug/L						
Hexane	ND	1.0	ug/L						
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L						
Methyl Isobutyl Ketone	ND	5.0	ug/L						
Methyl tert-butyl ether	ND	2.0	ug/L						
Methylene Chloride	ND	5.0	ug/L						
Styrene	ND	0.5	ug/L						
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L						
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L						
Tetrachloroethylene	ND	0.5	ug/L						
Toluene	ND	0.5	ug/L						
1,1,1-Trichloroethane	ND	0.5	ug/L						
1,1,2-Trichloroethane	ND	0.5	ug/L						
Trichloroethylene	ND	0.5	ug/L						
Trichlorofluoromethane	ND	1.0	ug/L						
Vinyl chloride	ND	0.5	ug/L						
m,p-Xylenes	ND	0.5	ug/L						
o-Xylene	ND	0.5	ug/L						
Xylenes, total	ND	0.5	ug/L						
Surrogate: 4-Bromofluorobenzene	*87.8*		*ug/L*		*110*	*50-140*			
Surrogate: Dibromofluoromethane	*73.3*		*ug/L*		*91.6*	*50-140*			
Surrogate: Toluene-d8	*84.1*		*ug/L*		*105*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	ND	5.0	ug/L	ND				30	
Benzene	12.2	0.5	ug/L	12.5			1.9	30	
Bromodichloromethane	ND	0.5	ug/L	ND				30	
Bromoform	ND	0.5	ug/L	ND				30	
Bromomethane	ND	0.5	ug/L	ND				30	
Carbon Tetrachloride	ND	0.2	ug/L	ND				30	
Chlorobenzene	ND	0.5	ug/L	ND				30	
Chloroform	ND	0.5	ug/L	ND				30	
Dibromochloromethane	ND	0.5	ug/L	ND				30	
Dichlorodifluoromethane	ND	1.0	ug/L	ND				30	
1,2-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,3-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,4-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,1-Dichloroethane	ND	0.5	ug/L	ND				30	
1,2-Dichloroethane	ND	0.5	ug/L	ND				30	
1,1-Dichloroethylene	ND	0.5	ug/L	ND				30	
cis-1,2-Dichloroethylene	ND	0.5	ug/L	ND				30	
trans-1,2-Dichloroethylene	ND	0.5	ug/L	ND				30	
1,2-Dichloropropane	ND	0.5	ug/L	ND				30	
cis-1,3-Dichloropropylene	ND	0.5	ug/L	ND				30	
trans-1,3-Dichloropropylene	ND	0.5	ug/L	ND				30	
Ethylbenzene	50.9	0.5	ug/L	50.2			1.4	30	
Ethylene dibromide (dibromoethane	ND	0.2	ug/L	ND				30	
Hexane	ND	1.0	ug/L	ND				30	
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L	ND				30	
Methyl Isobutyl Ketone	ND	5.0	ug/L	ND				30	
Methyl tert-butyl ether	174	2.0	ug/L	183			4.7	30	
Methylene Chloride	ND	5.0	ug/L	ND				30	
Styrene	ND	0.5	ug/L	ND				30	
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	ND				30	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	ND				30	
Tetrachloroethylene	ND	0.5	ug/L	ND				30	
Toluene	190	0.5	ug/L	192			1.3	30	
1,1,1-Trichloroethane	ND	0.5	ug/L	ND				30	
1,1,2-Trichloroethane	ND	0.5	ug/L	ND				30	
Trichloroethylene	ND	0.5	ug/L	ND				30	
Trichlorofluoromethane	ND	1.0	ug/L	ND				30	
Vinyl chloride	ND	0.5	ug/L	ND				30	
m,p-Xylenes	360	0.5	ug/L	374			3.7	30	
o-Xylene	225	0.5	ug/L	228			1.3	30	
Surrogate: 4-Bromofluorobenzene	*78.0*		*ug/L*		*97.5*	*50-140*			
Surrogate: Dibromofluoromethane	*59.7*		*ug/L*		*74.7*	*50-140*			
Surrogate: Toluene-d8	*84.3*		*ug/L*		*105*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	118	5.0	ug/L		118	50-140			
Benzene	24.0	0.5	ug/L		60.1	60-130			
Bromodichloromethane	24.0	0.5	ug/L		60.0	60-130			
Bromoform	31.1	0.5	ug/L		77.7	60-130			
Bromomethane	22.8	0.5	ug/L		57.0	50-140			
Carbon Tetrachloride	25.2	0.2	ug/L		63.0	60-130			
Chlorobenzene	30.3	0.5	ug/L		75.6	60-130			
Chloroform	39.0	0.5	ug/L		97.4	60-130			
Dibromochloromethane	29.3	0.5	ug/L		73.4	60-130			
Dichlorodifluoromethane	22.0	1.0	ug/L		54.9	50-140			
1,2-Dichlorobenzene	36.6	0.5	ug/L		91.5	60-130			
1,3-Dichlorobenzene	35.9	0.5	ug/L		89.6	60-130			
1,4-Dichlorobenzene	34.9	0.5	ug/L		87.2	60-130			
1,1-Dichloroethane	28.4	0.5	ug/L		71.1	60-130			
1,2-Dichloroethane	24.0	0.5	ug/L		60.0	60-130			
1,1-Dichloroethylene	25.2	0.5	ug/L		63.0	60-130			
cis-1,2-Dichloroethylene	24.1	0.5	ug/L		60.2	60-130			
trans-1,2-Dichloroethylene	24.0	0.5	ug/L		60.0	60-130			
1,2-Dichloropropane	24.0	0.5	ug/L		60.0	60-130			
cis-1,3-Dichloropropylene	30.3	0.5	ug/L		75.7	60-130			
trans-1,3-Dichloropropylene	24.0	0.5	ug/L		60.0	60-130			
Ethylbenzene	30.0	0.5	ug/L		75.0	60-130			
Ethylene dibromide (dibromoethane	29.7	0.2	ug/L		74.4	60-130			
Hexane	44.9	1.0	ug/L		112	60-130			
Methyl Ethyl Ketone (2-Butanone)	99.4	5.0	ug/L		99.4	50-140			
Methyl Isobutyl Ketone	69.4	5.0	ug/L		69.4	50-140			
Methyl tert-butyl ether	60.4	2.0	ug/L		60.4	50-140			
Methylene Chloride	25.6	5.0	ug/L		64.1	60-130			
Styrene	29.3	0.5	ug/L		73.3	60-130			
1,1,1,2-Tetrachloroethane	39.3	0.5	ug/L		98.2	60-130			
1,1,2,2-Tetrachloroethane	29.2	0.5	ug/L		73.1	60-130			
Tetrachloroethylene	29.8	0.5	ug/L		74.6	60-130			
Toluene	29.4	0.5	ug/L		73.5	60-130			
1,1,1-Trichloroethane	24.0	0.5	ug/L		60.0	60-130			
1,1,2-Trichloroethane	24.0	0.5	ug/L		60.0	60-130			
Trichloroethylene	36.4	0.5	ug/L		91.0	60-130			
Trichlorofluoromethane	24.0	1.0	ug/L		60.0	60-130			
Vinyl chloride	36.3	0.5	ug/L		90.7	50-140			
m,p-Xylenes	64.5	0.5	ug/L		80.6	60-130			
o-Xylene	33.7	0.5	ug/L		84.2	60-130			
Surrogate: 4-Bromofluorobenzene	*69.3*		*ug/L*		*86.6*	*50-140*			

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.

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TRUS
RESP
RELIA

PARACEL WO: 1924255

Head Office
300-2319 St. Laurent Blvd.
Ottawa, Ontario K1G 4J8
p: 1-800-749-1947
e: paracel@paracellabs.com

Chain of Custody
(Lab Use Only)
№ 122388

Page __ of __

Client Name: Paterson Group	Project Reference: PE4629
Contact Name: Eric Leveque	Quote #
Address: 154 Colonnade Rd. S.	PO # 26895
Telephone: 613-226-7381	Email Address: eleveque@patersongroup.ca

Turnaround Time:
☐ 1 Day ☐ 3 Day
☐ 2 Day ☒ Regular
Date Required:

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: 1924255

	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)							
1	BH1-GW1	GW		2	Jun 11/19	11:30 am		X												
2	BH2-GW1	↓		2	↓	11:00am		X												
3	BH3-GW1	↓		2	↓	10:30 am		X												
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Comments:

Method of Delivery: Paracel

Relinquished By (Sign): N. Sullivan	Received by Driver/Depot: [signature]	Received at Lab: Suneeporn Polmai	Verified By: [signature]
Relinquished By (Print): Nick Sullivan	Date/Time: 11/06/19 3:20 PM	Date/Time: JUN 11, 2019 04.30	Date/Time: 06-11-19 17:24
Date/Time: June 11/2019	Temperature: °C	Temperature: 11.8 °C	pH Verified [ ] By:

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Certificate of Analysis

Paterson Group Consulting Engineers

154 Colonnade Road South
Nepean, ON K2E 7J5
Attn: Eric Leveque

Client PO: 26954
Project: PE4629
Custody: 122407

Report Date: 24-Jun-2019
Order Date: 20-Jun-2019

Order #: 1925510

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

Paracel ID	Client ID
1925510-01	BH1-GW2
1925510-02	BH2-GW2
1925510-03	BH3-GW2

Approved By:

Dale Robertson, BSc
Laboratory Director

Any use of these results implies your agreement that our total liabilty 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 any circumstances be liable to you in connection with this work.

Certificate of Analysis
Client: Paterson Group Consulting Engineers
Client PO: 26954

Report Date: 24-Jun-2019
Order Date: 20-Jun-2019
Project Description: PE4629

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
REG 153: VOCs by P&T GC/MS	EPA 624 - P&T GC-MS	21-Jun-19	24-Jun-19

PARACEL LABORATORIES LTD.

Order #: 1925510

Certificate of Analysis

Report Date: 24-Jun-2019

Client: Paterson Group Consulting Engineers

Order Date: 20-Jun-2019

Client PO: 26954

Project Description: PE4629

	Client ID:	BH1-GW2	BH2-GW2	BH3-GW2	-
	Sample Date:	20-Jun-19 09:00	20-Jun-19 09:00	20-Jun-19 09:00	-
	Sample ID:	1925510-01	1925510-02	1925510-03	-
	MDL/Units	Water	Water	Water	-
Volatiles					
Acetone	5.0 ug/L	<5.0	<5.0	<5.0	-
Benzene	0.5 ug/L	<0.5	<0.5	<0.5	-
Bromodichloromethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Bromoform	0.5 ug/L	<0.5	<0.5	<0.5	-
Bromomethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Carbon Tetrachloride	0.2 ug/L	<0.2	<0.2	<0.2	-
Chlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	-
Chloroform	0.5 ug/L	<0.5	<0.5	<0.5	-
Dibromochloromethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Dichlorodifluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,3-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
1,2-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	-
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,2-Dichloropropane	0.5 ug/L	<0.5	<0.5	<0.5	-
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	<0.5	<0.5	-
Ethylbenzene	0.5 ug/L	<0.5	<0.5	<0.5	-
Ethylene dibromide (dibromoethan	0.2 ug/L	<0.2	<0.2	<0.2	-
Hexane	1.0 ug/L	<1.0	<1.0	<1.0	-
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	<5.0	<5.0	-
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	<5.0	<5.0	-
Methyl tert-butyl ether	2.0 ug/L	<2.0	<2.0	<2.0	-
Methylene Chloride	5.0 ug/L	<5.0	<5.0	<5.0	-
Styrene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Tetrachloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	-
Toluene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1,1-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 26954

Report Date: 24-Jun-2019

Order Date: 20-Jun-2019

Project Description: PE4629

	Client ID:	BH1-GW2	BH2-GW2	BH3-GW2	-
	Sample Date:	20-Jun-19 09:00	20-Jun-19 09:00	20-Jun-19 09:00	-
	Sample ID:	1925510-01	1925510-02	1925510-03	-
	MDL/Units	Water	Water	Water	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Trichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	-
Trichlorofluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	-
Vinyl chloride	0.5 ug/L	<0.5	<0.5	<0.5	-
m,p-Xylenes	0.5 ug/L	<0.5	<0.5	<0.5	-
o-Xylene	0.5 ug/L	<0.5	<0.5	<0.5	-
Xylenes, total	0.5 ug/L	<0.5	<0.5	<0.5	-
4-Bromofluorobenzene	Surrogate	105%	107%	109%	-
Dibromofluoromethane	Surrogate	84.0%	84.2%	87.1%	-
Toluene-d8	Surrogate	101%	102%	102%	-

Certificate of Analysis
Client: Paterson Group Consulting Engineers
Client PO: 26954

Report Date: 24-Jun-2019
Order Date: 20-Jun-2019
Project Description: PE4629

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	ND	5.0	ug/L						
Benzene	ND	0.5	ug/L						
Bromodichloromethane	ND	0.5	ug/L						
Bromoform	ND	0.5	ug/L						
Bromomethane	ND	0.5	ug/L						
Carbon Tetrachloride	ND	0.2	ug/L						
Chlorobenzene	ND	0.5	ug/L						
Chloroform	ND	0.5	ug/L						
Dibromochloromethane	ND	0.5	ug/L						
Dichlorodifluoromethane	ND	1.0	ug/L						
1,2-Dichlorobenzene	ND	0.5	ug/L						
1,3-Dichlorobenzene	ND	0.5	ug/L						
1,4-Dichlorobenzene	ND	0.5	ug/L						
1,1-Dichloroethane	ND	0.5	ug/L						
1,2-Dichloroethane	ND	0.5	ug/L						
1,1-Dichloroethylene	ND	0.5	ug/L						
cis-1,2-Dichloroethylene	ND	0.5	ug/L						
trans-1,2-Dichloroethylene	ND	0.5	ug/L						
1,2-Dichloropropane	ND	0.5	ug/L						
cis-1,3-Dichloropropylene	ND	0.5	ug/L						
trans-1,3-Dichloropropylene	ND	0.5	ug/L						
1,3-Dichloropropene, total	ND	0.5	ug/L						
Ethylbenzene	ND	0.5	ug/L						
Ethylene dibromide (dibromoethane	ND	0.2	ug/L						
Hexane	ND	1.0	ug/L						
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L						
Methyl Isobutyl Ketone	ND	5.0	ug/L						
Methyl tert-butyl ether	ND	2.0	ug/L						
Methylene Chloride	ND	5.0	ug/L						
Styrene	ND	0.5	ug/L						
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L						
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L						
Tetrachloroethylene	ND	0.5	ug/L						
Toluene	ND	0.5	ug/L						
1,1,1-Trichloroethane	ND	0.5	ug/L						
1,1,2-Trichloroethane	ND	0.5	ug/L						
Trichloroethylene	ND	0.5	ug/L						
Trichlorofluoromethane	ND	1.0	ug/L						
Vinyl chloride	ND	0.5	ug/L						
m,p-Xylenes	ND	0.5	ug/L						
o-Xylene	ND	0.5	ug/L						
Xylenes, total	ND	0.5	ug/L						
Surrogate: 4-Bromofluorobenzene	*88.2*		*ug/L*		*110*	*50-140*			
Surrogate: Dibromofluoromethane	*86.3*		*ug/L*		*108*	*50-140*			
Surrogate: Toluene-d8	*66.0*		*ug/L*		*82.5*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	ND	5.0	ug/L	ND				30	
Benzene	ND	0.5	ug/L	ND				30	
Bromodichloromethane	ND	0.5	ug/L	ND				30	
Bromoform	ND	0.5	ug/L	ND				30	
Bromomethane	ND	0.5	ug/L	ND				30	
Carbon Tetrachloride	ND	0.2	ug/L	ND				30	
Chlorobenzene	ND	0.5	ug/L	ND				30	
Chloroform	ND	0.5	ug/L	ND			0.0	30	
Dibromochloromethane	ND	0.5	ug/L	ND				30	
Dichlorodifluoromethane	ND	1.0	ug/L	ND			0.0	30	
1,2-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,3-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,4-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,1-Dichloroethane	ND	0.5	ug/L	ND				30	
1,2-Dichloroethane	ND	0.5	ug/L	ND			0.0	30	
1,1-Dichloroethylene	ND	0.5	ug/L	ND				30	
cis-1,2-Dichloroethylene	ND	0.5	ug/L	ND				30	
trans-1,2-Dichloroethylene	ND	0.5	ug/L	ND				30	
1,2-Dichloropropane	ND	0.5	ug/L	ND				30	
cis-1,3-Dichloropropylene	ND	0.5	ug/L	ND				30	
trans-1,3-Dichloropropylene	ND	0.5	ug/L	ND				30	
Ethylbenzene	ND	0.5	ug/L	ND			0.0	30	
Ethylene dibromide (dibromoethane	ND	0.2	ug/L	ND				30	
Hexane	ND	1.0	ug/L	ND				30	
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L	ND				30	
Methyl Isobutyl Ketone	ND	5.0	ug/L	ND				30	
Methyl tert-butyl ether	ND	2.0	ug/L	ND				30	
Methylene Chloride	ND	5.0	ug/L	ND				30	
Styrene	ND	0.5	ug/L	ND				30	
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	ND				30	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	ND			0.0	30	
Tetrachloroethylene	ND	0.5	ug/L	ND				30	
Toluene	ND	0.5	ug/L	ND			0.0	30	
1,1,1-Trichloroethane	ND	0.5	ug/L	ND				30	
1,1,2-Trichloroethane	ND	0.5	ug/L	ND			0.0	30	
Trichloroethylene	ND	0.5	ug/L	ND				30	
Trichlorofluoromethane	ND	1.0	ug/L	ND				30	
Vinyl chloride	ND	0.5	ug/L	ND				30	
m,p-Xylenes	ND	0.5	ug/L	ND				30	
o-Xylene	ND	0.5	ug/L	ND			0.0	30	
Surrogate: 4-Bromofluorobenzene	*89.8*		*ug/L*		*112*	*50-140*			
Surrogate: Dibromofluoromethane	*60.3*		*ug/L*		*75.4*	*50-140*			
Surrogate: Toluene-d8	*68.4*		*ug/L*		*85.4*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	69.3	5.0	ug/L		69.3	50-140			
Benzene	31.7	0.5	ug/L		79.2	60-130			
Bromodichloromethane	33.6	0.5	ug/L		84.1	60-130			
Bromoform	42.4	0.5	ug/L		106	60-130			
Bromomethane	26.6	0.5	ug/L		66.6	50-140			
Carbon Tetrachloride	44.2	0.2	ug/L		110	60-130			
Chlorobenzene	34.5	0.5	ug/L		86.3	60-130			
Chloroform	31.3	0.5	ug/L		78.3	60-130			
Dibromochloromethane	29.9	0.5	ug/L		74.7	60-130			
Dichlorodifluoromethane	37.6	1.0	ug/L		93.9	50-140			
1,2-Dichlorobenzene	34.3	0.5	ug/L		85.7	60-130			
1,3-Dichlorobenzene	31.4	0.5	ug/L		78.4	60-130			
1,4-Dichlorobenzene	32.0	0.5	ug/L		80.0	60-130			
1,1-Dichloroethane	26.5	0.5	ug/L		66.2	60-130			
1,2-Dichloroethane	29.8	0.5	ug/L		74.5	60-130			
1,1-Dichloroethylene	27.4	0.5	ug/L		68.5	60-130			
cis-1,2-Dichloroethylene	30.8	0.5	ug/L		77.1	60-130			
trans-1,2-Dichloroethylene	29.2	0.5	ug/L		73.0	60-130			
1,2-Dichloropropane	27.4	0.5	ug/L		68.4	60-130			
cis-1,3-Dichloropropylene	28.4	0.5	ug/L		71.0	60-130			
trans-1,3-Dichloropropylene	37.1	0.5	ug/L		92.8	60-130			
Ethylbenzene	34.3	0.5	ug/L		85.7	60-130			
Ethylene dibromide (dibromoethane	26.3	0.2	ug/L		65.8	60-130			
Hexane	25.3	1.0	ug/L		63.4	60-130			
Methyl Ethyl Ketone (2-Butanone)	82.0	5.0	ug/L		82.0	50-140			
Methyl Isobutyl Ketone	65.5	5.0	ug/L		65.5	50-140			
Methyl tert-butyl ether	78.6	2.0	ug/L		78.6	50-140			
Methylene Chloride	30.5	5.0	ug/L		76.2	60-130			
Styrene	41.4	0.5	ug/L		103	60-130			
1,1,1,2-Tetrachloroethane	37.0	0.5	ug/L		92.6	60-130			
1,1,2,2-Tetrachloroethane	37.3	0.5	ug/L		93.3	60-130			
Tetrachloroethylene	40.5	0.5	ug/L		101	60-130			
Toluene	26.3	0.5	ug/L		65.8	60-130			
1,1,1-Trichloroethane	35.3	0.5	ug/L		88.4	60-130			
1,1,2-Trichloroethane	29.4	0.5	ug/L		73.5	60-130			
Trichloroethylene	30.7	0.5	ug/L		76.7	60-130			
Trichlorofluoromethane	31.1	1.0	ug/L		77.8	60-130			
Vinyl chloride	36.8	0.5	ug/L		92.0	50-140			
m,p-Xylenes	79.1	0.5	ug/L		98.8	60-130			
o-Xylene	37.4	0.5	ug/L		93.6	60-130			
Surrogate: 4-Bromofluorobenzene	*75.5*		*ug/L*		*94.4*	*50-140*			

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.

PARACEL LABORATORIES LTD.

PARACEL WO: 1925510

Head Office
300-2319 St. Laurent Blvd.
Ottawa, Ontario K1G 4J8
p: 1-800-749-1947
e: paracel@paracellabs.com

Chain of Custody (Lab Use Only)
№ 122407

Page __ of __

Client Name: Paterson Group	Project Reference: PE4629
Contact Name: Eric Leveque	Quote #
Address: 154 Colonnade Rd. S	PO # 26954
Telephone: (613) 226-7381	Email Address: eleveque@patersongroup.ca

Turnaround Time: ☐ 1 Day ☐ 3 Day ☐ 2 Day ☑ Regular
Date Required:

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)

Paracel Order Number: 1925510

Required Analyses

	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)
1	BH1-GW2	GW		2	Jun20/19	AM		✓					
2	BH2-GW2	GW		2	Jun20/19	AM		✓					
3	BH3-GW2	GW		2	Jun20/19	AM		✓					
4													
5													
6													
7													
8													
9													
10													

Comments:

Method of Delivery: Paracel

Relinquished By (Sign): [signature]	Received by Driver/Depot: M. Trouie	Received at Lab: Suneeporn Dohmai	Verified By: D. Gaya
Relinquished By (Print): Mark St Pierre	Date/Time: 20/06/19 3:10 PM	Date/Time: JUN 20, 2019 05:28	Date/Time: 21 Jun 19 1005
Date/Time:	Temperature: °C	Temperature: 20.8 °C	pH Verified [ ] By:

Certificate of Analysis

Environment Testing

Client: Paterson Group
154 Colonnade Rd South
Nepean, ON
K2E 7T7
Attention: Mr. Eric Leveque
Invoice to: Paterson Group Inc.
PO#: 26955

Report Number:	1910230
Date Submitted:	2019-06-20
Date Reported:	2019-06-26
Project:	PE4629
COC #:	199011
Temperature (C):	14
Custody Seal:	

Dear Eric Leveque:

Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).

Report Comments:

Long Qu, Organics Supervisor

All analysis is completed at Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) unless otherwise stated
.
Eurofins Environment Testing Canada Inc. is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on the scope of accrteditation. The scope is available at http://www.cala.ca/scopes/2602.pdf

Please note: Field data, where presented on the report, has been provided by the client and is presented for informational purposes only. Guideline or regulatory limits listed on this report are provided for ease of use (informational purposes) only. Eurofins recommends consulting the official guideline or regulation as required. Unless otherwise stated, measurement uncertainty is not taken into account when determining guideline or regulatory exceedances.

Client: Paterson Group
154 Colonnade Rd South
Nepean, ON
K2E 7T7
Attention: Mr. Eric Leveque
PO#: 26955
Invoice to: Paterson Group Inc.

Report Number: 1910230
Date Submitted: 2019-06-20
Date Reported: 2019-06-26
Project: PE4629
COC #: 199011

Volatiles

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1434567 Sample Matrix GW153 Sample Type Sample Date 2019-06-20 Sampling Time Sample I.D. BH1-GW3
1,3,5-trimethylbenzene	368043	0.3	ug/L		<0.3
Acetone	368045	30	ug/L		<30
Benzene	368043	0.5	ug/L		<0.5
Bromodichloromethane	368043	0.3	ug/L		<0.3
Bromoform	368043	0.4	ug/L		<0.4
Bromomethane	368043	0.5	ug/L		<0.5
Carbon Tetrachloride	368043	0.2	ug/L		<0.2
Chlorobenzene	368043	0.5	ug/L		<0.5
Chloroethane	368043	0.2	ug/L		<0.2
Chloroform	368043	0.5	ug/L		<0.5
Dibromochloromethane	368043	0.3	ug/L		<0.3
Dichlorobenzene, 1,2-	368043	0.4	ug/L		<0.4
Dichlorobenzene, 1,3-	368043	0.4	ug/L		<0.4
Dichlorobenzene, 1,4-	368043	0.4	ug/L		<0.4
Dichlorodifluoromethane	368043	0.5	ug/L		<0.5
Dichloroethane, 1,1-	368043	0.4	ug/L		<0.4
Dichloroethane, 1,2-	368043	0.2	ug/L		<0.2
Dichloroethylene, 1,1-	368043	0.5	ug/L		<0.5
Dichloroethylene, 1,2-cis-	368043	0.4	ug/L		<0.4
Dichloroethylene, 1,2-trans-	368043	0.4	ug/L		<0.4
Dichloropropane, 1,2-	368043	0.5	ug/L		<0.5
Dichloropropene,1,3-	368043	0.3	ug/L		<0.3
Dichloropropene,1,3-cis-	368043	0.2	ug/L		<0.2

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Client: Paterson Group
154 Colonnade Rd South
Nepean, ON
K2E 7T7
Attention: Mr. Eric Leveque
PO#: 26955
Invoice to: Paterson Group Inc.

Report Number: 1910230
Date Submitted: 2019-06-20
Date Reported: 2019-06-26
Project: PE4629
COC #: 199011

Volatiles

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1434567 Sample Matrix GW153 Sample Type Sample Date 2019-06-20 Sampling Time Sample I.D. BH1-GW3
Dichloropropene,1,3-trans-	368043	0.2	ug/L		<0.2
Ethylbenzene	368043	0.5	ug/L		<0.5
Ethylene dibromide	368043	0.2	ug/L		<0.2
Hexane (n)	368043	5	ug/L		<5
Methyl Ethyl Ketone	368045	10	ug/L		<10
Methyl Isobutyl Ketone	368045	10	ug/L		<10
Methyl tert-Butyl Ether (MTBE)	368045	2	ug/L		<2
Methylene Chloride	368043	4.0	ug/L		<4.0
Styrene	368043	0.5	ug/L		<0.5
Tetrachloroethane, 1,1,1,2-	368043	0.5	ug/L		<0.5
Tetrachloroethane, 1,1,2,2-	368043	0.5	ug/L		<0.5
Tetrachloroethylene	368043	0.3	ug/L		<0.3
Toluene	368043	0.5	ug/L		<0.5
Trichloroethane, 1,1,1-	368043	0.4	ug/L		<0.4
Trichloroethane, 1,1,2-	368043	0.4	ug/L		<0.4
Trichloroethylene	368043	0.3	ug/L		<0.3
Trichlorofluoromethane	368043	0.5	ug/L		<0.5
Vinyl Chloride	368043	0.2	ug/L		<0.2
Xylene Mixture	368044	0.5	ug/L		<0.5
Xylene, m/p-	368043	0.4	ug/L		<0.4
Xylene, o-	368043	0.4	ug/L		<0.4

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Certificate of Analysis

Client: Paterson Group
154 Colonnade Rd South
Nepean, ON
K2E 7T7
Attention: Mr. Eric Leveque
PO#: 26955
Invoice to: Paterson Group Inc.

Report Number: 1910230
Date Submitted: 2019-06-20
Date Reported: 2019-06-26
Project: PE4629
COC #: 199011

VOCs Surrogates

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1434567 Sample Matrix GW153 Sample Type Sample Date 2019-06-20 Sampling Time Sample I.D. BH1-GW3
1,2-dichloroethane-d4	368043	0	%		95
4-bromofluorobenzene	368043	0	%		123
Toluene-d8	368043	0	%		96

Results relate only to the parameters tested on the samples submitted.
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Report Number: 1910230
Date Submitted: 2019-06-20
Date Reported: 2019-06-26
Project: PE4629
COC #: 199011

Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
368043	Tetrachloroethane, 1,1,1,2-	<0.5 ug/L	115	60-130	112	50-140	0	0-30
368043	Trichloroethane, 1,1,1-	<0.4 ug/L	98	60-130	93	50-140	0	0-30
368043	Tetrachloroethane, 1,1,2,2-	<0.5 ug/L	114	60-130	119	50-140	0	0-30
368043	Trichloroethane, 1,1,2-	<0.4 ug/L	112	60-130	117	50-140	0	0-30
368043	Dichloroethane, 1,1-	<0.4 ug/L	98	60-130	102	50-140	0	0-30
368043	Dichloroethylene, 1,1-	<0.5 ug/L	97	60-130	92	50-140	0	0-30
368043	Dichlorobenzene, 1,2-	<0.4 ug/L	97	60-130	105	50-140	0	0-30
368043	Dichloroethane, 1,2-	<0.2 ug/L	91	60-130	88	50-140	0	0-30
368043	Dichloropropane, 1,2-	<0.5 ug/L	98	60-130	79	50-140	0	0-30
368043	1,3,5-trimethylbenzene	<0.3 ug/L	90	60-130	102	50-140	0	0-30
368043	Dichlorobenzene, 1,3-	<0.4 ug/L	97	60-130	102	50-140	0	0-30
368043	Dichloropropene,1,3-							
368043	Dichlorobenzene, 1,4-	<0.4 ug/L	86	60-130	94	50-140	0	0-30
368043	Benzene	<0.5 ug/L	84	60-130	82	50-140	0	0-30
368043	Bromodichloromethane	<0.3 ug/L	93	60-130	95	50-140	0	0-30
368043	Bromoform	<0.4 ug/L	100	60-130	106	50-140	0	0-30
368043	Bromomethane	<0.5 ug/L	118	60-130	117	50-140	0	0-30
368043	Dichloroethylene, 1,2-cis-	<0.4 ug/L	88	60-130	86	50-140	0	0-30
368043	Dichloropropene,1,3-cis-	<0.2 ug/L	108	60-130	108	50-140	0	0-30
368043	Carbon Tetrachloride	<0.2 ug/L	106	60-130	100	50-140	0	0-30
368043	Chloroethane	<0.2 ug/L	116	60-130	120	50-140	0	0-30
368043	Chloroform	<0.5 ug/L	95	60-130	98	50-140	0	0-30
368043	Dibromochloromethane	<0.3 ug/L	98	60-130	91	50-140	0	0-30
368043	Dichlorodifluoromethane	<0.5 ug/L	88	60-130	75	50-140	0	0-30
368043	Methylene Chloride	<4.0 ug/L	82	60-130	86	50-140	0	0-30
368043	Ethylbenzene	<0.5 ug/L	94	60-130	88	50-140	0	0-30
368043	Ethylene dibromide	<0.2 ug/L	108	60-130		50-140		0-30
368043	Hexane (n)	<5 ug/L	110	60-130	101	50-140	0	0-30
368043	Xylene, m/p-	<0.4 ug/L	98	60-130	107	50-140	0	0-30
368043	Chlorobenzene	<0.5 ug/L	89	60-130	87	50-140	0	0-30
368043	Xylene, o-	<0.4 ug/L	100	60-130	111	50-140	0	0-30
368043	Styrene	<0.5 ug/L	90	60-130	108	50-140	0	0-30
368043	Dichloroethylene, 1,2-trans-	<0.4 ug/L	97	60-130	92	50-140	0	0-30

Results relate only to the parameters tested on the samples submitted.
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MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Client: Paterson Group
154 Colonnade Rd South
Nepean, ON
K2E 7T7
Attention: Mr. Eric Leveque
PO#: 26955
Invoice to: Paterson Group Inc.

Report Number: 1910230
Date Submitted: 2019-06-20
Date Reported: 2019-06-26
Project: PE4629
COC #: 199011

Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
368043	Dichloropropene,1,3-trans-	<0.2 ug/L	84	60-130	77	50-140	0	0-30
368043	Tetrachloroethylene	<0.3 ug/L	117	60-130	117	50-140	0	0-30
368043	Toluene	<0.5 ug/L	91	60-130	91	50-140	0	0-30
368043	Trichloroethylene	<0.3 ug/L	102	60-130	97	50-140	0	0-30
368043	Trichlorofluoromethane	<0.5 ug/L	107	60-130	96	50-140	0	0-30
368043	Vinyl Chloride	<0.2 ug/L	116	60-130	105	50-140	0	0-30
368044	Xylene Mixture							
368045	Acetone	<30 ug/L		60-130	75	50-140	0	0-30
368045	Methyl Ethyl Ketone	<10 ug/L		60-130	73	50-140	0	0-30
368045	Methyl Isobutyl Ketone	<10 ug/L		60-130	88	50-140	0	0-30
368045	Methyl tert-Butyl Ether (MTBE)	<2 ug/L	90	60-130	89	50-140	0	0-30

Results relate only to the parameters tested on the samples submitted.
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MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Client: Paterson Group
154 Colonnade Rd South
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Attention: Mr. Eric Leveque
PO#: 26955
Invoice to: Paterson Group Inc.

Report Number: 1910230
Date Submitted: 2019-06-20
Date Reported: 2019-06-26
Project: PE4629
COC #: 199011

Test Summary

Batch No	Analyte	Instrument	Prep aration Date	Analysis Date	Analyst	Method
368043	Tetrachloroethane, 1,1,1,2-	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Trichloroethane, 1,1,1-	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Tetrachloroethane, 1,1,2,2-	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Trichloroethane, 1,1,2-	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Dichloroethane, 1,1-	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Dichloroethylene, 1,1-	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Dichlorobenzene, 1,2-	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Dichloroethane, 1,2-	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Dichloropropane, 1,2-	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	1,3,5-trimethylbenzene	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Dichlorobenzene, 1,3-	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Dichloropropene,1,3-	GC-MS	2019-06-26	2019-06-26	TJB	EPA 8260
368043	Dichlorobenzene, 1,4-	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Benzene	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Bromodichloromethane	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Bromoform	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Bromomethane	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Dichloroethylene, 1,2-cis-	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Dichloropropene,1,3-cis-	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Carbon Tetrachloride	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Chloroethane	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Chloroform	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Dibromochloromethane	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Dichlorodifluoromethane	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Methylene Chloride	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Ethylbenzene	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Ethylene dibromide	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Hexane (n)	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Xylene, m/p-	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Chlorobenzene	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Xylene, o-	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Styrene	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Dichloroethylene, 1,2-trans-	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260

Results relate only to the parameters tested on the samples submitted.
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Certificate of Analysis

Client: Paterson Group
154 Colonnade Rd South
Nepean, ON
K2E 7T7
Attention: Mr. Eric Leveque
PO#: 26955
Invoice to: Paterson Group Inc.

Report Number: 1910230
Date Submitted: 2019-06-20
Date Reported: 2019-06-26
Project: PE4629
COC #: 199011

Test Summary

Batch No	Analyte	Instrument	Prep aration Date	Analysis Date	Analyst	Method
368043	Dichloropropene,1,3-trans-	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Tetrachloroethylene	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Toluene	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Trichloroethylene	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Trichlorofluoromethane	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368043	Vinyl Chloride	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368044	Xylene Mixture	GC-MS	2019-06-26	2019-06-26	TJB	EPA 8260
368045	Acetone	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368045	Methyl Ethyl Ketone	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368045	Methyl Isobutyl Ketone	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260
368045	Methyl tert-Butyl Ether (MTBE)	GC-MS	2019-06-21	2019-06-25	TJB	EPA 8260

Results relate only to the parameters tested on the samples submitted.
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Certificate of Analysis

Paterson Group Consulting Engineers

154 Colonnade Road South
Nepean, ON K2E 7J5
Attn: Eric Leveque

Client PO: 27506
Project: PE4767
Custody: 51071

Report Date: 21-Oct-2019
Order Date: 15-Oct-2019

Order #: 1942075

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

Paracel ID	Client ID
1942075-01	BH2-GW1

Approved By: Mark Foto

Mark Foto, M.Sc.
Lab Supervisor

Any use of these results implies your agreement that our total liabilty 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 any circumstances be liable to you in connection with this work.

Certificate of Analysis
Client: Paterson Group Consulting Engineers
Client PO: 27506

Report Date: 21-Oct-2019
Order Date: 15-Oct-2019
Project Description: PE4767

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
VOCs by P&T GC-MS	EPA 624 - P&T GC-MS	19-Oct-19	19-Oct-19

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 27506

Report Date: 21-Oct-2019

Order Date: 15-Oct-2019

Project Description: PE4767

	Client ID:	BH2-GW1	-	-	-
	Sample Date:	11-Oct-19 11:00	-	-	-
	Sample ID:	1942075-01	-	-	-
	MDL/Units	Water	-	-	-
Volatiles					
Acetone	5.0 ug/L	<5.0	-	-	-
Benzene	0.5 ug/L	<0.5	-	-	-
Bromodichloromethane	0.5 ug/L	<0.5	-	-	-
Bromoform	0.5 ug/L	<0.5	-	-	-
Bromomethane	0.5 ug/L	<0.5	-	-	-
Carbon Tetrachloride	0.2 ug/L	<0.2	-	-	-
Chlorobenzene	0.5 ug/L	<0.5	-	-	-
Chloroethane	1.0 ug/L	<1.0	-	-	-
Chloroform	0.5 ug/L	<0.5	-	-	-
Chloromethane	3.0 ug/L	<3.0	-	-	-
Dibromochloromethane	0.5 ug/L	<0.5	-	-	-
Dichlorodifluoromethane	1.0 ug/L	<1.0	-	-	-
1,2-Dibromoethane	0.2 ug/L	<0.2	-	-	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-
1,3-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-
1,1-Dichloroethane	0.5 ug/L	<0.5	-	-	-
1,2-Dichloroethane	0.5 ug/L	<0.5	-	-	-
1,1-Dichloroethylene	0.5 ug/L	<0.5	-	-	-
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	-	-	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	-	-	-
1,2-Dichloroethylene, total	0.5 ug/L	<0.5	-	-	-
1,2-Dichloropropane	0.5 ug/L	<0.5	-	-	-
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	-	-	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	-	-	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	-	-	-
Ethylbenzene	0.5 ug/L	<0.5	-	-	-
Hexane	1.0 ug/L	<1.0	-	-	-
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	-	-	-
Methyl Butyl Ketone (2-Hexanone)	10.0 ug/L	<10.0	-	-	-
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	-	-	-
Methyl tert-butyl ether	2.0 ug/L	<2.0	-	-	-
Methylene Chloride	5.0 ug/L	<5.0	-	-	-
Styrene	0.5 ug/L	<0.5	-	-	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	-	-	-

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 27506

Report Date: 21-Oct-2019

Order Date: 15-Oct-2019

Project Description: PE4767

	Client ID:	BH2-GW1	-	-	-
	Sample Date:	11-Oct-19 11:00	-	-	-
	Sample ID:	1942075-01	-	-	-
	MDL/Units	Water	-	-	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	-	-	-
Tetrachloroethylene	0.5 ug/L	<0.5	-	-	-
Toluene	0.5 ug/L	<0.5	-	-	-
1,1,1-Trichloroethane	0.5 ug/L	<0.5	-	-	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	-	-	-
Trichloroethylene	0.5 ug/L	<0.5	-	-	-
Trichlorofluoromethane	1.0 ug/L	<1.0	-	-	-
1,3,5-Trimethylbenzene	0.5 ug/L	<0.5	-	-	-
Vinyl chloride	0.5 ug/L	<0.5	-	-	-
m,p-Xylenes	0.5 ug/L	<0.5	-	-	-
o-Xylene	0.5 ug/L	<0.5	-	-	-
Xylenes, total	0.5 ug/L	<0.5	-	-	-
4-Bromofluorobenzene	Surrogate	108%	-	-	-
Dibromofluoromethane	Surrogate	85.6%	-	-	-
Toluene-d8	Surrogate	90.8%	-	-	-

Certificate of Analysis
Client: Paterson Group Consulting Engineers
Client PO: 27506

Report Date: 21-Oct-2019
Order Date: 15-Oct-2019
Project Description: PE4767

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	ND	5.0	ug/L						
Benzene	ND	0.5	ug/L						
Bromodichloromethane	ND	0.5	ug/L						
Bromoform	ND	0.5	ug/L						
Bromomethane	ND	0.5	ug/L						
Carbon Tetrachloride	ND	0.2	ug/L						
Chlorobenzene	ND	0.5	ug/L						
Chloroethane	ND	1.0	ug/L						
Chloroform	ND	0.5	ug/L						
Chloromethane	ND	3.0	ug/L						
Dibromochloromethane	ND	0.5	ug/L						
Dichlorodifluoromethane	ND	1.0	ug/L						
1,2-Dibromoethane	ND	0.2	ug/L						
1,2-Dichlorobenzene	ND	0.5	ug/L						
1,3-Dichlorobenzene	ND	0.5	ug/L						
1,4-Dichlorobenzene	ND	0.5	ug/L						
1,1-Dichloroethane	ND	0.5	ug/L						
1,2-Dichloroethane	ND	0.5	ug/L						
1,1-Dichloroethylene	ND	0.5	ug/L						
cis-1,2-Dichloroethylene	ND	0.5	ug/L						
trans-1,2-Dichloroethylene	ND	0.5	ug/L						
1,2-Dichloroethylene, total	ND	0.5	ug/L						
1,2-Dichloropropane	ND	0.5	ug/L						
cis-1,3-Dichloropropylene	ND	0.5	ug/L						
trans-1,3-Dichloropropylene	ND	0.5	ug/L						
1,3-Dichloropropene, total	ND	0.5	ug/L						
Ethylbenzene	ND	0.5	ug/L						
Hexane	ND	1.0	ug/L						
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L						
Methyl Butyl Ketone (2-Hexanone)	ND	10.0	ug/L						
Methyl Isobutyl Ketone	ND	5.0	ug/L						
Methyl tert-butyl ether	ND	2.0	ug/L						
Methylene Chloride	ND	5.0	ug/L						
Styrene	ND	0.5	ug/L						
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L						
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L						
Tetrachloroethylene	ND	0.5	ug/L						
Toluene	ND	0.5	ug/L						
1,1,1-Trichloroethane	ND	0.5	ug/L						
1,1,2-Trichloroethane	ND	0.5	ug/L						
Trichloroethylene	ND	0.5	ug/L						
Trichlorofluoromethane	ND	1.0	ug/L						
1,3,5-Trimethylbenzene	ND	0.5	ug/L						
Vinyl chloride	ND	0.5	ug/L						
m,p-Xylenes	ND	0.5	ug/L						
o-Xylene	ND	0.5	ug/L						
Xylenes, total	ND	0.5	ug/L						
Surrogate: 4-Bromofluorobenzene	*94.4*		*ug/L*		*118*	*50-140*			
Surrogate: Dibromofluoromethane	*69.1*		*ug/L*		*86.4*	*50-140*			
Surrogate: Toluene-d8	*76.5*		*ug/L*		*95.6*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	ND	5.0	ug/L	ND				30	
Benzene	ND	0.5	ug/L	ND				30	
Bromodichloromethane	1.26	0.5	ug/L	ND			0.0	30	
Bromoform	ND	0.5	ug/L	ND				30	
Bromomethane	ND	0.5	ug/L	ND				30	
Carbon Tetrachloride	ND	0.2	ug/L	ND				30	
Chlorobenzene	ND	0.5	ug/L	ND				30	
Chloroethane	ND	1.0	ug/L	ND				30	
Chloroform	3.25	0.5	ug/L	4.79			38.3	30	
Chloromethane	ND	3.0	ug/L	ND				30	
Dibromochloromethane	ND	0.5	ug/L	ND				30	
Dichlorodifluoromethane	ND	1.0	ug/L	ND				30	
1,2-Dibromoethane	ND	0.2	ug/L	ND				30	
1,2-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,3-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,4-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,1-Dichloroethane	ND	0.5	ug/L	ND				30	
1,2-Dichloroethane	ND	0.5	ug/L	ND				30	
1,1-Dichloroethylene	ND	0.5	ug/L	ND				30	
cis-1,2-Dichloroethylene	ND	0.5	ug/L	ND				30	
trans-1,2-Dichloroethylene	ND	0.5	ug/L	ND				30	
1,2-Dichloropropane	ND	0.5	ug/L	ND				30	
cis-1,3-Dichloropropylene	ND	0.5	ug/L	ND				30	
trans-1,3-Dichloropropylene	ND	0.5	ug/L	ND				30	
Ethylbenzene	ND	0.5	ug/L	ND				30	
Hexane	ND	1.0	ug/L	ND				30	
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L	ND				30	
Methyl Butyl Ketone (2-Hexanone)	ND	10.0	ug/L	ND				30	
Methyl Isobutyl Ketone	ND	5.0	ug/L	ND				30	
Methyl tert-butyl ether	ND	2.0	ug/L	ND				30	
Methylene Chloride	ND	5.0	ug/L	ND				30	
Styrene	ND	0.5	ug/L	ND				30	
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	ND				30	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	ND				30	
Tetrachloroethylene	ND	0.5	ug/L	ND				30	
Toluene	ND	0.5	ug/L	ND				30	
1,1,1-Trichloroethane	ND	0.5	ug/L	ND				30	
1,1,2-Trichloroethane	ND	0.5	ug/L	ND				30	
Trichloroethylene	ND	0.5	ug/L	ND				30	
Trichlorofluoromethane	ND	1.0	ug/L	ND				30	
1,3,5-Trimethylbenzene	ND	0.5	ug/L	ND				30	
Vinyl chloride	ND	0.5	ug/L	ND				30	
m,p-Xylenes	ND	0.5	ug/L	ND				30	
o-Xylene	ND	0.5	ug/L	ND				30	
Surrogate: 4-Bromofluorobenzene	*87.3*		*ug/L*		*109*	*50-140*			
Surrogate: Dibromofluoromethane	*73.0*		*ug/L*		*91.2*	*50-140*			
Surrogate: Toluene-d8	*72.5*		*ug/L*		*90.6*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	53.7	5.0	ug/L		53.7	50-140			
Benzene	39.4	0.5	ug/L		98.6	60-130			
Bromodichloromethane	30.4	0.5	ug/L		76.1	60-130			
Bromoform	27.4	0.5	ug/L		68.4	60-130			
Bromomethane	38.8	0.5	ug/L		96.9	50-140			
Carbon Tetrachloride	29.1	0.2	ug/L		72.8	60-130			
Chlorobenzene	34.1	0.5	ug/L		85.3	60-130			
Chloroethane	36.8	1.0	ug/L		92.0	50-140			
Chloroform	34.7	0.5	ug/L		86.7	60-130			
Chloromethane	27.6	3.0	ug/L		68.9	50-140			
Dibromochloromethane	26.7	0.5	ug/L		66.8	60-130			
Dichlorodifluoromethane	34.7	1.0	ug/L		86.7	50-140			
1,2-Dibromoethane	29.7	0.2	ug/L		74.2	60-130			
1,2-Dichlorobenzene	30.9	0.5	ug/L		77.3	60-130			
1,3-Dichlorobenzene	30.9	0.5	ug/L		77.4	60-130			
1,4-Dichlorobenzene	32.2	0.5	ug/L		80.6	60-130			
1,1-Dichloroethane	37.6	0.5	ug/L		93.9	60-130			
1,2-Dichloroethane	27.3	0.5	ug/L		68.2	60-130			
1,1-Dichloroethylene	39.7	0.5	ug/L		99.3	60-130			
cis-1,2-Dichloroethylene	39.2	0.5	ug/L		97.9	60-130			
trans-1,2-Dichloroethylene	39.1	0.5	ug/L		97.7	60-130			
1,2-Dichloropropane	38.5	0.5	ug/L		96.2	60-130			
cis-1,3-Dichloropropylene	32.1	0.5	ug/L		80.2	60-130			
trans-1,3-Dichloropropylene	32.1	0.5	ug/L		80.2	60-130			
Ethylbenzene	31.5	0.5	ug/L		78.7	60-130			
Hexane	47.4	1.0	ug/L		119	60-130			
Methyl Ethyl Ketone (2-Butanone)	93.1	5.0	ug/L		93.1	50-140			
Methyl Butyl Ketone (2-Hexanone)	61.2	10.0	ug/L		61.2	50-140			
Methyl Isobutyl Ketone	82.0	5.0	ug/L		82.0	50-140			
Methyl tert-butyl ether	76.4	2.0	ug/L		76.4	50-140			
Methylene Chloride	41.5	5.0	ug/L		104	60-130			
Styrene	31.2	0.5	ug/L		78.0	60-130			
1,1,1,2-Tetrachloroethane	29.5	0.5	ug/L		73.8	60-130			
1,1,2,2-Tetrachloroethane	42.3	0.5	ug/L		106	60-130			
Tetrachloroethylene	31.5	0.5	ug/L		78.7	60-130			
Toluene	33.4	0.5	ug/L		83.5	60-130			
1,1,1-Trichloroethane	29.5	0.5	ug/L		73.8	60-130			
1,1,2-Trichloroethane	39.3	0.5	ug/L		98.2	60-130			
Trichloroethylene	30.1	0.5	ug/L		75.2	60-130			
Trichlorofluoromethane	27.2	1.0	ug/L		68.0	60-130			
1,3,5-Trimethylbenzene	30.3	0.5	ug/L		75.8	60-130			
Vinyl chloride	27.3	0.5	ug/L		68.2	50-140			
m,p-Xylenes	70.8	0.5	ug/L		88.5	60-130			
o-Xylene	31.6	0.5	ug/L		79.0	60-130			
Surrogate: 4-Bromofluorobenzene	*81.8*		*ug/L*		*102*	*50-140*			

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.

Paracel ID: 1942075

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Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
1942075	№ 51071

Client Name: Paterson Group	Project Ref: PE 4767	Page 1 of 1
Contact Name: Eric Leveque	Quote #:	**Turnaround Time**
Address: 154 Colonnade Road, Nepean, On	PO #: 27506	☐ 1 day ☐ 3 day
	E-mail: eleveque@patersongroup.ca	☐ 2 day ☑ Regular
Telephone: 613-226-7381		Date Required:

Regulation 153/04	Other Regulation	Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)	Required Analysis
☐ Table 1 ☐ Res/Park ☐ Med/Fine	☑ REG 558 ☐ PWQO		
☐ Table 2 ☐ Ind/Comm ☐ Coarse	☐ CCME ☐ MISA		
☑ Table 3 ☐ Agri/Other	☐ SU - Sani ☐ SU - Storm		
☐ Table ___	Mun:		
For RSC: ☐ Yes ☐ No	☐ Other:		

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken Date	Sample Taken Time	VOCs											
1	BH2 - GW1	GW		2	Oct 11/2019	11.00AM	✓											
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Comments:

Method of Delivery: Paracel

Relinquished By (Sign): [signature]	Received By Driver/Depot: T. Rouse	Received at Lab: Sumeeporn Dokmai	Verified By: [signature]
Relinquished By (Print): Nicholas Doucette	Date/Time: 11/10/19 4:20	Date/Time: OCT 15, 2019 12:28	Date/Time: 15 Oct 19 13:15
Date/Time:	Temperature: °C PH	Temperature: 11.0 °C	pH Verified: ☐ By: NA

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Certificate of Analysis

Paterson Group Consulting Engineers

154 Colonnade Rd South
Nepean, ON K2E 7J5
Attn: Mark St. Pierre

Client PO: 30445
Project: PE4767
Custody: 128524

Report Date: 27-Jul-2020
Order Date: 22-Jul-2020

Order #: 2030320

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

Paracel ID	Client ID
2030320-01	BH2-G1

Approved By:

Dale Robertson, BSc
Laboratory Director

Any use of these results implies your agreement that our total liabilty 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 any circumstances be liable to you in connection with this work.

Certificate of Analysis

Report Date: 27-Jul-2020

Client: Paterson Group Consulting Engineers

Order Date: 22-Jul-2020

Client PO: 30445

Project Description: PE4767

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
REG 153: VOCs by P&T GC/MS	EPA 624 - P&T GC-MS	24-Jul-20	25-Jul-20

Certificate of Analysis

Report Date: 27-Jul-2020

Client: **Paterson Group Consulting Engineers**

Order Date: 22-Jul-2020

Client PO: **30445**

Project Description: PE4767

	Client ID:	BH2-G1	-	-	-
	Sample Date:	22-Jul-20 09:00	-	-	-
	Sample ID:	2030320-01	-	-	-
	MDL/Units	Water	-	-	-
Volatiles					
Acetone	5.0 ug/L	<5.0	-	-	-
Benzene	0.5 ug/L	<0.5	-	-	-
Bromodichloromethane	0.5 ug/L	<0.5	-	-	-
Bromoform	0.5 ug/L	<0.5	-	-	-
Bromomethane	0.5 ug/L	<0.5	-	-	-
Carbon Tetrachloride	0.2 ug/L	<0.2	-	-	-
Chlorobenzene	0.5 ug/L	<0.5	-	-	-
Chloroform	0.5 ug/L	17.5	-	-	-
Dibromochloromethane	0.5 ug/L	<0.5	-	-	-
Dichlorodifluoromethane	1.0 ug/L	<1.0	-	-	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-
1,3-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-
1,1-Dichloroethane	0.5 ug/L	<0.5	-	-	-
1,2-Dichloroethane	0.5 ug/L	<0.5	-	-	-
1,1-Dichloroethylene	0.5 ug/L	<0.5	-	-	-
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	-	-	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	-	-	-
1,2-Dichloropropane	0.5 ug/L	<0.5	-	-	-
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	-	-	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	-	-	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	-	-	-
Ethylbenzene	0.5 ug/L	<0.5	-	-	-
Ethylene dibromide (dibromoethane, 1,2-)	0.2 ug/L	<0.2	-	-	-
Hexane	1.0 ug/L	<1.0	-	-	-
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	-	-	-
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	-	-	-
Methyl tert-butyl ether	2.0 ug/L	<2.0	-	-	-
Methylene Chloride	5.0 ug/L	<5.0	-	-	-
Styrene	0.5 ug/L	<0.5	-	-	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	-	-	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	-	-	-
Tetrachloroethylene	0.5 ug/L	3.7	-	-	-
Toluene	0.5 ug/L	<0.5	-	-	-
1,1,1-Trichloroethane	0.5 ug/L	<0.5	-	-	-

Certificate of Analysis

Report Date: 27-Jul-2020

Client: Paterson Group Consulting Engineers

Order Date: 22-Jul-2020

Client PO: 30445

Project Description: PE4767

	Client ID:	BH2-G1	-	-	-
	Sample Date:	22-Jul-20 09:00	-	-	-
	Sample ID:	2030320-01	-	-	-
	MDL/Units	Water	-	-	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	-	-	-
Trichloroethylene	0.5 ug/L	<0.5	-	-	-
Trichlorofluoromethane	1.0 ug/L	<1.0	-	-	-
Vinyl chloride	0.5 ug/L	<0.5	-	-	-
m,p-Xylenes	0.5 ug/L	<0.5	-	-	-
o-Xylene	0.5 ug/L	<0.5	-	-	-
Xylenes, total	0.5 ug/L	<0.5	-	-	-
4-Bromofluorobenzene	Surrogate	103%	-	-	-
Dibromofluoromethane	Surrogate	114%	-	-	-
Toluene-d8	Surrogate	93.8%	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	ND	5.0	ug/L						
Benzene	ND	0.5	ug/L						
Bromodichloromethane	ND	0.5	ug/L						
Bromoform	ND	0.5	ug/L						
Bromomethane	ND	0.5	ug/L						
Carbon Tetrachloride	ND	0.2	ug/L						
Chlorobenzene	ND	0.5	ug/L						
Chloroform	ND	0.5	ug/L						
Dibromochloromethane	ND	0.5	ug/L						
Dichlorodifluoromethane	ND	1.0	ug/L						
1,2-Dichlorobenzene	ND	0.5	ug/L						
1,3-Dichlorobenzene	ND	0.5	ug/L						
1,4-Dichlorobenzene	ND	0.5	ug/L						
1,1-Dichloroethane	ND	0.5	ug/L						
1,2-Dichloroethane	ND	0.5	ug/L						
1,1-Dichloroethylene	ND	0.5	ug/L						
cis-1,2-Dichloroethylene	ND	0.5	ug/L						
trans-1,2-Dichloroethylene	ND	0.5	ug/L						
1,2-Dichloropropane	ND	0.5	ug/L						
cis-1,3-Dichloropropylene	ND	0.5	ug/L						
trans-1,3-Dichloropropylene	ND	0.5	ug/L						
1,3-Dichloropropene, total	ND	0.5	ug/L						
Ethylbenzene	ND	0.5	ug/L						
Ethylene dibromide (dibromoethane, 1,2	ND	0.2	ug/L						
Hexane	ND	1.0	ug/L						
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L						
Methyl Isobutyl Ketone	ND	5.0	ug/L						
Methyl tert-butyl ether	ND	2.0	ug/L						
Methylene Chloride	ND	5.0	ug/L						
Styrene	ND	0.5	ug/L						
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L						
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L						
Tetrachloroethylene	ND	0.5	ug/L						
Toluene	ND	0.5	ug/L						
1,1,1-Trichloroethane	ND	0.5	ug/L						
1,1,2-Trichloroethane	ND	0.5	ug/L						
Trichloroethylene	ND	0.5	ug/L						
Trichlorofluoromethane	ND	1.0	ug/L						
Vinyl chloride	ND	0.5	ug/L						
m,p-Xylenes	ND	0.5	ug/L						
o-Xylene	ND	0.5	ug/L						
Xylenes, total	ND	0.5	ug/L						
Surrogate: 4-Bromofluorobenzene	*84.9*		*ug/L*		*106*	*50-140*			
Surrogate: Dibromofluoromethane	*89.5*		*ug/L*		*112*	*50-140*			
Surrogate: Toluene-d8	*76.3*		*ug/L*		*95.4*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	ND	5.0	ug/L	ND			NC	30	
Benzene	ND	0.5	ug/L	ND			NC	30	
Bromodichloromethane	ND	0.5	ug/L	ND			NC	30	
Bromoform	ND	0.5	ug/L	ND			NC	30	
Bromomethane	ND	0.5	ug/L	ND			NC	30	
Carbon Tetrachloride	ND	0.2	ug/L	ND			NC	30	
Chlorobenzene	ND	0.5	ug/L	ND			NC	30	
Chloroform	5.45	0.5	ug/L	6.09			11.1	30	
Dibromochloromethane	ND	0.5	ug/L	ND			NC	30	
Dichlorodifluoromethane	ND	1.0	ug/L	ND			NC	30	
1,2-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,3-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,4-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,1-Dichloroethane	ND	0.5	ug/L	ND			NC	30	
1,2-Dichloroethane	ND	0.5	ug/L	ND			NC	30	
1,1-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
cis-1,2-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
trans-1,2-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
1,2-Dichloropropane	ND	0.5	ug/L	ND			NC	30	
cis-1,3-Dichloropropylene	ND	0.5	ug/L	ND			NC	30	
trans-1,3-Dichloropropylene	ND	0.5	ug/L	ND			NC	30	
Ethylbenzene	ND	0.5	ug/L	ND			NC	30	
Ethylene dibromide (dibromoethane, 1,2	ND	0.2	ug/L	ND			NC	30	
Hexane	ND	1.0	ug/L	ND			NC	30	
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L	ND			NC	30	
Methyl Isobutyl Ketone	ND	5.0	ug/L	ND			NC	30	
Methyl tert-butyl ether	ND	2.0	ug/L	ND			NC	30	
Methylene Chloride	ND	5.0	ug/L	ND			NC	30	
Styrene	ND	0.5	ug/L	ND			NC	30	
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	ND			NC	30	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	ND			NC	30	
Tetrachloroethylene	ND	0.5	ug/L	ND			NC	30	
Toluene	ND	0.5	ug/L	ND			NC	30	
1,1,1-Trichloroethane	ND	0.5	ug/L	ND			NC	30	
1,1,2-Trichloroethane	ND	0.5	ug/L	ND			NC	30	
Trichloroethylene	ND	0.5	ug/L	ND			NC	30	
Trichlorofluoromethane	ND	1.0	ug/L	ND			NC	30	
Vinyl chloride	ND	0.5	ug/L	ND			NC	30	
m,p-Xylenes	ND	0.5	ug/L	ND			NC	30	
o-Xylene	ND	0.5	ug/L	ND			NC	30	
Surrogate: 4-Bromofluorobenzene	*83.6*		*ug/L*		*104*	*50-140*			
Surrogate: Dibromofluoromethane	*95.1*		*ug/L*		*119*	*50-140*			
Surrogate: Toluene-d8	*75.9*		*ug/L*		*94.9*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	85.0	5.0	ug/L	ND	85.0	50-140			
Benzene	39.8	0.5	ug/L	ND	99.5	60-130			
Bromodichloromethane	31.5	0.5	ug/L	ND	78.6	60-130			
Bromoform	36.2	0.5	ug/L	ND	90.5	60-130			
Bromomethane	33.7	0.5	ug/L	ND	84.3	50-140			
Carbon Tetrachloride	26.2	0.2	ug/L	ND	65.4	60-130			
Chlorobenzene	32.8	0.5	ug/L	ND	81.9	60-130			
Chloroform	35.0	0.5	ug/L	ND	87.4	60-130			
Dibromochloromethane	26.6	0.5	ug/L	ND	66.4	60-130			
Dichlorodifluoromethane	43.5	1.0	ug/L	ND	109	50-140			
1,2-Dichlorobenzene	28.0	0.5	ug/L	ND	70.0	60-130			
1,3-Dichlorobenzene	27.0	0.5	ug/L	ND	67.6	60-130			
1,4-Dichlorobenzene	27.7	0.5	ug/L	ND	69.2	60-130			
1,1-Dichloroethane	33.0	0.5	ug/L	ND	82.4	60-130			
1,2-Dichloroethane	45.1	0.5	ug/L	ND	113	60-130			
1,1-Dichloroethylene	32.1	0.5	ug/L	ND	80.2	60-130			
cis-1,2-Dichloroethylene	38.4	0.5	ug/L	ND	96.0	60-130			
trans-1,2-Dichloroethylene	34.8	0.5	ug/L	ND	87.1	60-130			
1,2-Dichloropropane	39.8	0.5	ug/L	ND	99.5	60-130			
cis-1,3-Dichloropropylene	40.1	0.5	ug/L	ND	100	60-130			
trans-1,3-Dichloropropylene	35.1	0.5	ug/L	ND	87.8	60-130			
Ethylbenzene	32.8	0.5	ug/L	ND	82.0	60-130			
Ethylene dibromide (dibromoethane, 1,2-	29.5	0.2	ug/L	ND	73.8	60-130			
Hexane	37.6	1.0	ug/L	ND	94.0	60-130			
Methyl Ethyl Ketone (2-Butanone)	108	5.0	ug/L	ND	108	50-140			
Methyl Isobutyl Ketone	109	5.0	ug/L	ND	109	50-140			
Methyl tert-butyl ether	90.0	2.0	ug/L	ND	90.0	50-140			
Methylene Chloride	32.9	5.0	ug/L	ND	82.4	60-130			
Styrene	33.8	0.5	ug/L	ND	84.6	60-130			
1,1,1,2-Tetrachloroethane	32.2	0.5	ug/L	ND	80.4	60-130			
1,1,2,2-Tetrachloroethane	33.0	0.5	ug/L	ND	82.6	60-130			
Tetrachloroethylene	32.3	0.5	ug/L	ND	80.7	60-130			
Toluene	33.2	0.5	ug/L	ND	83.1	60-130			
1,1,1-Trichloroethane	31.0	0.5	ug/L	ND	77.5	60-130			
1,1,2-Trichloroethane	38.9	0.5	ug/L	ND	97.3	60-130			
Trichloroethylene	38.4	0.5	ug/L	ND	96.1	60-130			
Trichlorofluoromethane	35.5	1.0	ug/L	ND	88.8	60-130			
Vinyl chloride	45.1	0.5	ug/L	ND	113	50-140			
m,p-Xylenes	69.3	0.5	ug/L	ND	86.7	60-130			
o-Xylene	34.4	0.5	ug/L	ND	85.9	60-130			
Surrogate: 4-Bromofluorobenzene	*81.1*		*ug/L*		*101*	*50-140*			
Surrogate: Dibromofluoromethane	*93.9*		*ug/L*		*117*	*50-140*			
Surrogate: Toluene-d8	*74.8*		*ug/L*		*93.5*	*50-140*			

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.
NC: Not Calculated

PARACEL LABORATORIES LTD.

Paracel ID: 2030320

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2030320	№ 128524

Client Name: Paterson	Project Ref: PE 4767	Page 1 of 1
Contact Name: Mark St Pierre	Quote #:	**Turnaround Time**
Address: 154 Colonnade Road South	PO #: 30445	☐ 1 day ☐ 3 day
	E-mail: mstpierre@patersongroup.ca	☐ 2 day ☑ Regular
Telephone: 613-226-7381		Date Required:

Regulation 153/04			Other Regulation	
☐ Table 1	☑ Res/Park	☐ Med/Fine	☐ REG 558	☐ PWQO
☐ Table 2	☐ Ind/Comm	☑ Coarse	☐ CCME	☐ MISA
☑ Table 3	☐ Agri/Other		☐ SU - Sani	☐ SU - Storm
☐ Table ___			Mun:	
For RSC: ☐ Yes ☐ No			☐ 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)						
1	BH2-[illegible] G1	GW		2	July.22.2020			X											
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Comments:

Method of Delivery: Paracel

Relinquished By (Sign): [signature]	Received By Driver/Depot: [signature]	Received at Lab: [illegible]	Verified By: [signature]
Relinquished By (Print): Mark St Pierre	Date/Time: 22/07/20 4:00	Date/Time: Jul 22, 2020 04.40	Date/Time: July 2020, 22 17:26
Date/Time: July 22. 2020	Temperature: °C PH	Temperature: 17.4 °C	pH Verified: ☐ By:

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Certificate of Analysis

Paterson Group Consulting Engineers

154 Colonnade Road South
Nepean, ON K2E 7J5
Attn: Eric Leveque

Client PO: 27512
Project: PE4767
Custody: 50461

Report Date: 31-Oct-2019
Order Date: 25-Oct-2019

Revised Report

Order #: 1943726

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

Paracel ID	Client ID
1943726-01	MW1-GW1

Approved By: Mark Foto

Mark Foto, M.Sc.
Lab Supervisor

Any use of these results implies your agreement that our total liabilty 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 any circumstances be liable to you in connection with this work.

Certificate of Analysis

Report Date: 31-Oct-2019

Client: Paterson Group Consulting Engineers

Order Date: 25-Oct-2019

Client PO: 27512

Project Description: PE4767

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
REG 153: VOCs by P&T GC/MS	EPA 624 - P&T GC-MS	29-Oct-19	30-Oct-19

Certificate of Analysis

Report Date: 31-Oct-2019

Client: **Paterson Group Consulting Engineers**

Order Date: 25-Oct-2019

Client PO: **27512**

Project Description: PE4767

	Client ID:	MW1-GW1	-	-	-
	Sample Date:	25-Oct-19 09:00	-	-	-
	Sample ID:	1943726-01	-	-	-
	MDL/Units	Water	-	-	-
Volatiles					
Acetone	5.0 ug/L	<5.0	-	-	-
Benzene	0.5 ug/L	<0.5	-	-	-
Bromodichloromethane	0.5 ug/L	3.0	-	-	-
Bromoform	0.5 ug/L	<0.5	-	-	-
Bromomethane	0.5 ug/L	<0.5	-	-	-
Carbon Tetrachloride	0.2 ug/L	<0.2	-	-	-
Chlorobenzene	0.5 ug/L	<0.5	-	-	-
Chloroform	0.5 ug/L	28.1	-	-	-
Dibromochloromethane	0.5 ug/L	<0.5	-	-	-
Dichlorodifluoromethane	1.0 ug/L	<1.0	-	-	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-
1,3-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-
1,1-Dichloroethane	0.5 ug/L	<0.5	-	-	-
1,2-Dichloroethane	0.5 ug/L	<0.5	-	-	-
1,1-Dichloroethylene	0.5 ug/L	<0.5	-	-	-
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	-	-	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	-	-	-
1,2-Dichloropropane	0.5 ug/L	<0.5	-	-	-
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	-	-	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	-	-	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	-	-	-
Ethylbenzene	0.5 ug/L	<0.5	-	-	-
Ethylene dibromide (dibromoethane, 1	0.2 ug/L	<0.2	-	-	-
Hexane	1.0 ug/L	<1.0	-	-	-
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	-	-	-
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	-	-	-
Methyl tert-butyl ether	2.0 ug/L	<2.0	-	-	-
Methylene Chloride	5.0 ug/L	<5.0	-	-	-
Styrene	0.5 ug/L	<0.5	-	-	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	-	-	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	-	-	-
Tetrachloroethylene	0.5 ug/L	9.6	-	-	-
Toluene	0.5 ug/L	<0.5	-	-	-
1,1,1-Trichloroethane	0.5 ug/L	<0.5	-	-	-

Certificate of Analysis

Report Date: 31-Oct-2019

Client: Paterson Group Consulting Engineers

Order Date: 25-Oct-2019

Client PO: 27512

Project Description: PE4767

	Client ID:	MW1-GW1	-	-	-
	Sample Date:	25-Oct-19 09:00	-	-	-
	Sample ID:	1943726-01	-	-	-
	MDL/Units	Water	-	-	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	-	-	-
Trichloroethylene	0.5 ug/L	<0.5	-	-	-
Trichlorofluoromethane	1.0 ug/L	<1.0	-	-	-
Vinyl chloride	0.5 ug/L	<0.5	-	-	-
m,p-Xylenes	0.5 ug/L	<0.5	-	-	-
o-Xylene	0.5 ug/L	<0.5	-	-	-
Xylenes, total	0.5 ug/L	<0.5	-	-	-
4-Bromofluorobenzene	Surrogate	111%	-	-	-
Dibromofluoromethane	Surrogate	87.3%	-	-	-
Toluene-d8	Surrogate	97.8%	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	ND	5.0	ug/L						
Benzene	ND	0.5	ug/L						
Bromodichloromethane	ND	0.5	ug/L						
Bromoform	ND	0.5	ug/L						
Bromomethane	ND	0.5	ug/L						
Carbon Tetrachloride	ND	0.2	ug/L						
Chlorobenzene	ND	0.5	ug/L						
Chloroform	ND	0.5	ug/L						
Dibromochloromethane	ND	0.5	ug/L						
Dichlorodifluoromethane	ND	1.0	ug/L						
1,2-Dichlorobenzene	ND	0.5	ug/L						
1,3-Dichlorobenzene	ND	0.5	ug/L						
1,4-Dichlorobenzene	ND	0.5	ug/L						
1,1-Dichloroethane	ND	0.5	ug/L						
1,2-Dichloroethane	ND	0.5	ug/L						
1,1-Dichloroethylene	ND	0.5	ug/L						
cis-1,2-Dichloroethylene	ND	0.5	ug/L						
trans-1,2-Dichloroethylene	ND	0.5	ug/L						
1,2-Dichloropropane	ND	0.5	ug/L						
cis-1,3-Dichloropropylene	ND	0.5	ug/L						
trans-1,3-Dichloropropylene	ND	0.5	ug/L						
1,3-Dichloropropene, total	ND	0.5	ug/L						
Ethylbenzene	ND	0.5	ug/L						
Ethylene dibromide (dibromoethane, 1,2	ND	0.2	ug/L						
Hexane	ND	1.0	ug/L						
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L						
Methyl Isobutyl Ketone	ND	5.0	ug/L						
Methyl tert-butyl ether	ND	2.0	ug/L						
Methylene Chloride	ND	5.0	ug/L						
Styrene	ND	0.5	ug/L						
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L						
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L						
Tetrachloroethylene	ND	0.5	ug/L						
Toluene	ND	0.5	ug/L						
1,1,1-Trichloroethane	ND	0.5	ug/L						
1,1,2-Trichloroethane	ND	0.5	ug/L						
Trichloroethylene	ND	0.5	ug/L						
Trichlorofluoromethane	ND	1.0	ug/L						
Vinyl chloride	ND	0.5	ug/L						
m,p-Xylenes	ND	0.5	ug/L						
o-Xylene	ND	0.5	ug/L						
Xylenes, total	ND	0.5	ug/L						
Surrogate: 4-Bromofluorobenzene	*93.2*		*ug/L*		*116*	*50-140*			
Surrogate: Dibromofluoromethane	*60.4*		*ug/L*		*75.5*	*50-140*			
Surrogate: Toluene-d8	*79.8*		*ug/L*		*99.8*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	ND	5.0	ug/L	ND				30	
Benzene	ND	0.5	ug/L	ND				30	
Bromodichloromethane	ND	0.5	ug/L	ND				30	
Bromoform	ND	0.5	ug/L	ND				30	
Bromomethane	ND	0.5	ug/L	ND				30	
Carbon Tetrachloride	ND	0.2	ug/L	ND				30	
Chlorobenzene	ND	0.5	ug/L	ND				30	
Chloroform	ND	0.5	ug/L	ND				30	
Dibromochloromethane	ND	0.5	ug/L	ND				30	
Dichlorodifluoromethane	ND	1.0	ug/L	ND				30	
1,2-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,3-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,4-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,1-Dichloroethane	ND	0.5	ug/L	ND				30	
1,2-Dichloroethane	ND	0.5	ug/L	ND				30	
1,1-Dichloroethylene	ND	0.5	ug/L	ND				30	
cis-1,2-Dichloroethylene	ND	0.5	ug/L	ND				30	
trans-1,2-Dichloroethylene	ND	0.5	ug/L	ND				30	
1,2-Dichloropropane	ND	0.5	ug/L	ND				30	
cis-1,3-Dichloropropylene	ND	0.5	ug/L	ND				30	
trans-1,3-Dichloropropylene	ND	0.5	ug/L	ND				30	
Ethylbenzene	ND	0.5	ug/L	ND				30	
Ethylene dibromide (dibromoethane, 1,2	ND	0.2	ug/L	ND				30	
Hexane	ND	1.0	ug/L	ND				30	
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L	ND				30	
Methyl Isobutyl Ketone	ND	5.0	ug/L	ND				30	
Methyl tert-butyl ether	ND	2.0	ug/L	ND				30	
Methylene Chloride	ND	5.0	ug/L	ND				30	
Styrene	ND	0.5	ug/L	ND				30	
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	ND				30	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	ND				30	
Tetrachloroethylene	ND	0.5	ug/L	ND				30	
Toluene	ND	0.5	ug/L	ND				30	
1,1,1-Trichloroethane	ND	0.5	ug/L	ND				30	
1,1,2-Trichloroethane	ND	0.5	ug/L	ND				30	
Trichloroethylene	ND	0.5	ug/L	ND				30	
Trichlorofluoromethane	ND	1.0	ug/L	ND				30	
Vinyl chloride	ND	0.5	ug/L	ND				30	
m,p-Xylenes	ND	0.5	ug/L	ND				30	
o-Xylene	ND	0.5	ug/L	ND				30	
Surrogate: 4-Bromofluorobenzene	*93.1*		*ug/L*		*116*	*50-140*			
Surrogate: Dibromofluoromethane	*61.8*		*ug/L*		*77.2*	*50-140*			
Surrogate: Toluene-d8	*81.4*		*ug/L*		*102*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	55.4	5.0	ug/L		55.4	50-140			
Benzene	39.8	0.5	ug/L		99.5	60-130			
Bromodichloromethane	29.8	0.5	ug/L		74.6	60-130			
Bromoform	31.9	0.5	ug/L		79.8	60-130			
Bromomethane	37.6	0.5	ug/L		94.0	50-140			
Carbon Tetrachloride	28.7	0.2	ug/L		71.6	60-130			
Chlorobenzene	37.4	0.5	ug/L		93.6	60-130			
Chloroform	31.6	0.5	ug/L		78.9	60-130			
Dibromochloromethane	31.8	0.5	ug/L		79.6	60-130			
Dichlorodifluoromethane	31.7	1.0	ug/L		79.2	50-140			
1,2-Dichlorobenzene	37.4	0.5	ug/L		93.5	60-130			
1,3-Dichlorobenzene	36.8	0.5	ug/L		91.9	60-130			
1,4-Dichlorobenzene	38.5	0.5	ug/L		96.2	60-130			
1,1-Dichloroethane	34.4	0.5	ug/L		86.0	60-130			
1,2-Dichloroethane	27.4	0.5	ug/L		68.5	60-130			
1,1-Dichloroethylene	38.5	0.5	ug/L		96.3	60-130			
cis-1,2-Dichloroethylene	37.2	0.5	ug/L		92.9	60-130			
trans-1,2-Dichloroethylene	39.0	0.5	ug/L		97.4	60-130			
1,2-Dichloropropane	37.9	0.5	ug/L		94.8	60-130			
cis-1,3-Dichloropropylene	33.9	0.5	ug/L		84.7	60-130			
trans-1,3-Dichloropropylene	33.4	0.5	ug/L		83.4	60-130			
Ethylbenzene	37.9	0.5	ug/L		94.8	60-130			
Ethylene dibromide (dibromoethane, 1,2	35.2	0.2	ug/L		88.0	60-130			
Hexane	44.5	1.0	ug/L		111	60-130			
Methyl Ethyl Ketone (2-Butanone)	82.8	5.0	ug/L		82.8	50-140			
Methyl Isobutyl Ketone	82.6	5.0	ug/L		82.6	50-140			
Methyl tert-butyl ether	73.0	2.0	ug/L		73.0	50-140			
Methylene Chloride	35.8	5.0	ug/L		89.6	60-130			
Styrene	35.4	0.5	ug/L		88.4	60-130			
1,1,1,2-Tetrachloroethane	33.0	0.5	ug/L		82.6	60-130			
1,1,2,2-Tetrachloroethane	46.5	0.5	ug/L		116	60-130			
Tetrachloroethylene	36.6	0.5	ug/L		91.5	60-130			
Toluene	38.6	0.5	ug/L		96.4	60-130			
1,1,1-Trichloroethane	28.7	0.5	ug/L		71.7	60-130			
1,1,2-Trichloroethane	36.4	0.5	ug/L		90.9	60-130			
Trichloroethylene	29.8	0.5	ug/L		74.6	60-130			
Trichlorofluoromethane	27.9	1.0	ug/L		69.8	60-130			
Vinyl chloride	27.4	0.5	ug/L		68.5	50-140			
m,p-Xylenes	85.1	0.5	ug/L		106	60-130			
o-Xylene	35.5	0.5	ug/L		88.8	60-130			
Surrogate: 4-Bromofluorobenzene	*83.6*		*ug/L*		*105*	*50-140*			

Qualifier Notes:

None

Sample Data Revisions

None

Work Order Revisions / Comments:

Revision 1 This report includes an updated project reference.

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.

PARACEL LABORATORIES LTD.

Paracel ID: 1943726

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
1943726	№ 50461

Client Name: Paterson Group

Contact Name: Eric Leveque

Address: 154 Colonnade Rd. S.

Telephone: 613-226-7381

Project Ref: PE4629 PE4625 generic.

Quote #:

PO #: 27512

E-mail: eleveque@patersongroup.ca

Page 1 of 1

Turnaround Time

☐ 1 day ☐ 3 day

☐ 2 day ☒ Regular

Date Required:

Regulation 153/04	Other Regulation
☐ Table 1 ☑ Res/Park ☐ Med/Fine	☐ REG 558 ☐ PWQO
☐ Table 2 ☐ Ind/Comm ☑ Coarse	☐ CCME ☐ MISA
☑ Table 3 ☐ Agri/Other	☐ SU - Sani ☐ SU - Storm
☐ Table ___	Mun: ___
For RSC: ☐ Yes ☐ No	☐ Other:

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

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken Date	Sample Taken Time	Required Analysis: VOCs
1	MW1-GW1	GW		2	Oct. 25/19		X
2							
3							
4							
5							
6							
7							
8							
9							
10							

Comments:

Method of Delivery: Walk in

Relinquished By (Sign):	Received By Driver/Depot: Shaun J.	Received at Lab:	Verified By: Dam
Relinquished By (Print): Mark St Pierre	Date/Time: 10/25/2019	Date/Time: 10-25-19 17:10	Date/Time: 10/25/19 18:06
Date/Time:	Temperature: °C	Temperature: 14.4 °C	pH Verified: ☐ By: NA

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Certificate of Analysis

Paterson Group Consulting Engineers

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

Client PO: 31387
Project: PE4767
Custody: 55031

Report Date: 27-Oct-2020
Order Date: 22-Oct-2020

Order #: 2043572

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

Paracel ID	Client ID
2043572-01	BH2-20-GW

Approved By: Mark Foto

Mark Foto, M.Sc.
Lab Supervisor

Any use of these results implies your agreement that our total liabilty 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 any circumstances be liable to you in connection with this work.

Certificate of Analysis

Report Date: 27-Oct-2020

Client: Paterson Group Consulting Engineers

Order Date: 22-Oct-2020

Client PO: 31387

Project Description: PE4767

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
REG 153: VOCs by P&T GC/MS	EPA 624 - P&T GC-MS	23-Oct-20	23-Oct-20

Certificate of Analysis

Report Date: 27-Oct-2020

Client: **Paterson Group Consulting Engineers**

Order Date: 22-Oct-2020

Client PO: **31387**

Project Description: PE4767

	Client ID:	BH2-20-GW	-	-	-
	Sample Date:	22-Oct-20 09:00	-	-	-
	Sample ID:	2043572-01	-	-	-
	MDL/Units	Water	-	-	-
Volatiles					
Acetone	5.0 ug/L	<5.0	-	-	-
Benzene	0.5 ug/L	<0.5	-	-	-
Bromodichloromethane	0.5 ug/L	<0.5	-	-	-
Bromoform	0.5 ug/L	<0.5	-	-	-
Bromomethane	0.5 ug/L	<0.5	-	-	-
Carbon Tetrachloride	0.2 ug/L	<0.2	-	-	-
Chlorobenzene	0.5 ug/L	<0.5	-	-	-
Chloroform	0.5 ug/L	<0.5	-	-	-
Dibromochloromethane	0.5 ug/L	<0.5	-	-	-
Dichlorodifluoromethane	1.0 ug/L	<1.0	-	-	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-
1,3-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-
1,1-Dichloroethane	0.5 ug/L	<0.5	-	-	-
1,2-Dichloroethane	0.5 ug/L	<0.5	-	-	-
1,1-Dichloroethylene	0.5 ug/L	<0.5	-	-	-
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	-	-	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	-	-	-
1,2-Dichloropropane	0.5 ug/L	<0.5	-	-	-
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	-	-	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	-	-	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	-	-	-
Ethylbenzene	0.5 ug/L	<0.5	-	-	-
Ethylene dibromide (dibromoethane, 1,2-)	0.2 ug/L	<0.2	-	-	-
Hexane	1.0 ug/L	<1.0	-	-	-
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	-	-	-
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	-	-	-
Methyl tert-butyl ether	2.0 ug/L	<2.0	-	-	-
Methylene Chloride	5.0 ug/L	<5.0	-	-	-
Styrene	0.5 ug/L	<0.5	-	-	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	-	-	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	-	-	-
Tetrachloroethylene	0.5 ug/L	1.6	-	-	-
Toluene	0.5 ug/L	<0.5	-	-	-
1,1,1-Trichloroethane	0.5 ug/L	<0.5	-	-	-

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 31387

Report Date: 27-Oct-2020

Order Date: 22-Oct-2020

Project Description: PE4767

	Client ID:	BH2-20-GW	-	-	-
	Sample Date:	22-Oct-20 09:00	-	-	-
	Sample ID:	2043572-01	-	-	-
	MDL/Units	Water	-	-	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	-	-	-
Trichloroethylene	0.5 ug/L	<0.5	-	-	-
Trichlorofluoromethane	1.0 ug/L	<1.0	-	-	-
Vinyl chloride	0.5 ug/L	<0.5	-	-	-
m,p-Xylenes	0.5 ug/L	<0.5	-	-	-
o-Xylene	0.5 ug/L	<0.5	-	-	-
Xylenes, total	0.5 ug/L	<0.5	-	-	-
4-Bromofluorobenzene	Surrogate	99.7%	-	-	-
Dibromofluoromethane	Surrogate	89.8%	-	-	-
Toluene-d8	Surrogate	106%	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	ND	5.0	ug/L						
Benzene	ND	0.5	ug/L						
Bromodichloromethane	ND	0.5	ug/L						
Bromoform	ND	0.5	ug/L						
Bromomethane	ND	0.5	ug/L						
Carbon Tetrachloride	ND	0.2	ug/L						
Chlorobenzene	ND	0.5	ug/L						
Chloroform	ND	0.5	ug/L						
Dibromochloromethane	ND	0.5	ug/L						
Dichlorodifluoromethane	ND	1.0	ug/L						
1,2-Dichlorobenzene	ND	0.5	ug/L						
1,3-Dichlorobenzene	ND	0.5	ug/L						
1,4-Dichlorobenzene	ND	0.5	ug/L						
1,1-Dichloroethane	ND	0.5	ug/L						
1,2-Dichloroethane	ND	0.5	ug/L						
1,1-Dichloroethylene	ND	0.5	ug/L						
cis-1,2-Dichloroethylene	ND	0.5	ug/L						
trans-1,2-Dichloroethylene	ND	0.5	ug/L						
1,2-Dichloropropane	ND	0.5	ug/L						
cis-1,3-Dichloropropylene	ND	0.5	ug/L						
trans-1,3-Dichloropropylene	ND	0.5	ug/L						
1,3-Dichloropropene, total	ND	0.5	ug/L						
Ethylbenzene	ND	0.5	ug/L						
Ethylene dibromide (dibromoethane, 1,2	ND	0.2	ug/L						
Hexane	ND	1.0	ug/L						
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L						
Methyl Isobutyl Ketone	ND	5.0	ug/L						
Methyl tert-butyl ether	ND	2.0	ug/L						
Methylene Chloride	ND	5.0	ug/L						
Styrene	ND	0.5	ug/L						
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L						
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L						
Tetrachloroethylene	ND	0.5	ug/L						
Toluene	ND	0.5	ug/L						
1,1,1-Trichloroethane	ND	0.5	ug/L						
1,1,2-Trichloroethane	ND	0.5	ug/L						
Trichloroethylene	ND	0.5	ug/L						
Trichlorofluoromethane	ND	1.0	ug/L						
Vinyl chloride	ND	0.5	ug/L						
m,p-Xylenes	ND	0.5	ug/L						
o-Xylene	ND	0.5	ug/L						
Xylenes, total	ND	0.5	ug/L						
Surrogate: 4-Bromofluorobenzene	*78.2*		*ug/L*		*97.7*	*50-140*			
Surrogate: Dibromofluoromethane	*86.7*		*ug/L*		*108*	*50-140*			
Surrogate: Toluene-d8	*84.5*		*ug/L*		*106*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	ND	5.0	ug/L	ND			NC	30	
Benzene	ND	0.5	ug/L	ND			NC	30	
Bromodichloromethane	ND	0.5	ug/L	ND			NC	30	
Bromoform	ND	0.5	ug/L	ND			NC	30	
Bromomethane	ND	0.5	ug/L	ND			NC	30	
Carbon Tetrachloride	ND	0.2	ug/L	ND			NC	30	
Chlorobenzene	ND	0.5	ug/L	ND			NC	30	
Chloroform	ND	0.5	ug/L	ND			NC	30	
Dibromochloromethane	ND	0.5	ug/L	ND			NC	30	
Dichlorodifluoromethane	ND	1.0	ug/L	ND			NC	30	
1,2-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,3-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,4-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,1-Dichloroethane	ND	0.5	ug/L	ND			NC	30	
1,2-Dichloroethane	ND	0.5	ug/L	ND			NC	30	
1,1-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
cis-1,2-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
trans-1,2-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
1,2-Dichloropropane	ND	0.5	ug/L	ND			NC	30	
cis-1,3-Dichloropropylene	ND	0.5	ug/L	ND			NC	30	
trans-1,3-Dichloropropylene	ND	0.5	ug/L	ND			NC	30	
Ethylbenzene	ND	0.5	ug/L	ND			NC	30	
Ethylene dibromide (dibromoethane, 1,2	ND	0.2	ug/L	ND			NC	30	
Hexane	ND	1.0	ug/L	ND			NC	30	
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L	ND			NC	30	
Methyl Isobutyl Ketone	ND	5.0	ug/L	ND			NC	30	
Methyl tert-butyl ether	ND	2.0	ug/L	ND			NC	30	
Methylene Chloride	ND	5.0	ug/L	ND			NC	30	
Styrene	ND	0.5	ug/L	ND			NC	30	
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	ND			NC	30	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	ND			NC	30	
Tetrachloroethylene	ND	0.5	ug/L	ND			NC	30	
Toluene	ND	0.5	ug/L	ND			NC	30	
1,1,1-Trichloroethane	ND	0.5	ug/L	ND			NC	30	
1,1,2-Trichloroethane	ND	0.5	ug/L	ND			NC	30	
Trichloroethylene	ND	0.5	ug/L	ND			NC	30	
Trichlorofluoromethane	ND	1.0	ug/L	ND			NC	30	
Vinyl chloride	ND	0.5	ug/L	ND			NC	30	
m,p-Xylenes	ND	0.5	ug/L	ND			NC	30	
o-Xylene	ND	0.5	ug/L	ND			NC	30	
Surrogate: 4-Bromofluorobenzene	*76.5*		*ug/L*		*95.7*	*50-140*			
Surrogate: Dibromofluoromethane	*87.8*		*ug/L*		*110*	*50-140*			
Surrogate: Toluene-d8	*84.9*		*ug/L*		*106*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	131	5.0	ug/L	ND	131	50-140			
Benzene	47.4	0.5	ug/L	ND	118	60-130			
Bromodichloromethane	46.6	0.5	ug/L	ND	116	60-130			
Bromoform	39.4	0.5	ug/L	ND	98.6	60-130			
Bromomethane	49.8	0.5	ug/L	ND	124	50-140			
Carbon Tetrachloride	47.3	0.2	ug/L	ND	118	60-130			
Chlorobenzene	39.0	0.5	ug/L	ND	97.5	60-130			
Chloroform	41.2	0.5	ug/L	ND	103	60-130			
Dibromochloromethane	41.6	0.5	ug/L	ND	104	60-130			
Dichlorodifluoromethane	49.0	1.0	ug/L	ND	122	50-140			
1,2-Dichlorobenzene	36.9	0.5	ug/L	ND	92.2	60-130			
1,3-Dichlorobenzene	37.4	0.5	ug/L	ND	93.4	60-130			
1,4-Dichlorobenzene	37.1	0.5	ug/L	ND	92.7	60-130			
1,1-Dichloroethane	48.8	0.5	ug/L	ND	122	60-130			
1,2-Dichloroethane	40.0	0.5	ug/L	ND	100	60-130			
1,1-Dichloroethylene	43.8	0.5	ug/L	ND	110	60-130			
cis-1,2-Dichloroethylene	42.7	0.5	ug/L	ND	107	60-130			
trans-1,2-Dichloroethylene	46.1	0.5	ug/L	ND	115	60-130			
1,2-Dichloropropane	46.0	0.5	ug/L	ND	115	60-130			
cis-1,3-Dichloropropylene	47.2	0.5	ug/L	ND	118	60-130			
trans-1,3-Dichloropropylene	47.1	0.5	ug/L	ND	118	60-130			
Ethylbenzene	40.0	0.5	ug/L	ND	100	60-130			
Ethylene dibromide (dibromoethane, 1,2-	38.6	0.2	ug/L	ND	96.6	60-130			
Hexane	49.8	1.0	ug/L	ND	125	60-130			
Methyl Ethyl Ketone (2-Butanone)	130	5.0	ug/L	ND	130	50-140			
Methyl Isobutyl Ketone	123	5.0	ug/L	ND	123	50-140			
Methyl tert-butyl ether	119	2.0	ug/L	ND	119	50-140			
Methylene Chloride	44.2	5.0	ug/L	ND	110	60-130			
Styrene	34.4	0.5	ug/L	ND	85.9	60-130			
1,1,1,2-Tetrachloroethane	37.5	0.5	ug/L	ND	93.8	60-130			
1,1,2,2-Tetrachloroethane	38.8	0.5	ug/L	ND	97.0	60-130			
Tetrachloroethylene	34.8	0.5	ug/L	ND	87.1	60-130			
Toluene	38.9	0.5	ug/L	ND	97.2	60-130			
1,1,1-Trichloroethane	48.5	0.5	ug/L	ND	121	60-130			
1,1,2-Trichloroethane	47.7	0.5	ug/L	ND	119	60-130			
Trichloroethylene	47.1	0.5	ug/L	ND	118	60-130			
Trichlorofluoromethane	45.2	1.0	ug/L	ND	113	60-130			
Vinyl chloride	48.1	0.5	ug/L	ND	120	50-140			
m,p-Xylenes	75.0	0.5	ug/L	ND	93.8	60-130			
o-Xylene	37.8	0.5	ug/L	ND	94.6	60-130			
Surrogate: 4-Bromofluorobenzene	*82.2*		*ug/L*		*103*	*50-140*			
Surrogate: Dibromofluoromethane	*90.9*		*ug/L*		*114*	*50-140*			
Surrogate: Toluene-d8	*81.8*		*ug/L*		*102*	*50-140*			

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.
NC: Not Calculated

PARACEL LABORATORIES LTD.

Paracel ID: 2043572

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2043572	№ 55031

Client Name: PATERSON	Project Ref: PE4767	Page 1 of 1
Contact Name: Mike Beaudoin	Quote #:	**Turnaround Time**
Address: 154 Colonnade Road	PO #: 31387	☐ 1 day ☐ 3 day
	E-mail: mbeaudoin@patersongroup.ca	☐ 2 day ☑ Regular
Telephone: 613-226-7381		Date Required:

Regulation 153/04	Other Regulation
☐ Table 1 ☐ Res/Park ☐ Med/Fine	☐ REG 558 ☐ PWQO
☐ Table 2 ☐ Ind/Comm ☐ Coarse	☐ CCME ☐ MISA
☑ Table 3 ☐ Agri/Other	☐ SU - Sani ☐ SU - Storm
☐ Table ___	Mun:
For RSC: ☐ Yes ☐ No	☐ 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	VOCs											
1	BH2-20-GW	GW		2	Oct 22/20		✓											
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Comments:

Method of Delivery: PARACEL COURIER

Relinquished By (Sign): [signature]	Received By Driver/Depot: M. BROUSE	Received at Lab: Sunee Parm Dohmai	Verified By: [signature]
Relinquished By (Print): Joshua Dempsey	Date/Time: 22/10/20 4:02	Date/Time: Oct 22, 2020 05.00	Date/Time: Oct 22, 2020 13:09
Date/Time: Oct 22/2020	Temperature: °C PH.	Temperature: 8.4 °C	pH Verified: ☐ By:

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Certificate of Analysis

Paterson Group Consulting Engineers

9 Auriga Drive
Ottawa, ON K2E 7T9
Attn: Mike Beaudoin

Client PO: 55096
Project: PE4767
Custody: 136642

Report Date: 29-Jun-2022
Order Date: 24-Jun-2022

Order #: 2226630

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

Paracel ID	Client ID
2226630-01	BH2-22-SS2
2226630-02	BH4-22-SS5
2226630-03	BH5-22-SS7

Approved By:

Dale Robertson, BSc
Laboratory Director

Any use of these results implies your agreement that our total liabilty 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 any circumstances be liable to you in connection with this work.

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 55096

Report Date: 29-Jun-2022

Order Date: 24-Jun-2022

Project Description: PE4767

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Solids, %	Gravimetric, calculation	28-Jun-22	28-Jun-22
Texture - Coarse Med/Fine	Based on ASTM D2487	28-Jun-22	29-Jun-22

Certificate of Analysis

Report Date: 29-Jun-2022

Client: Paterson Group Consulting Engineers

Order Date: 24-Jun-2022

Client PO: 55096

Project Description: PE4767

	Client ID:	BH2-22-SS2	BH4-22-SS5	BH5-22-SS7	-
	Sample Date:	16-Jun-22 09:00	16-Jun-22 09:00	16-Jun-22 09:00	-
	Sample ID:	2226630-01	2226630-02	2226630-03	-
	MDL/Units	Soil	Soil	Soil	-
Physical Characteristics					
% Solids	0.1 % by Wt.	94.9	97.1	80.4	-
>75 um	0.1 %	96.2	96.4	53.0	-
<75 um	0.1 %	3.8	3.6	47.0	-
Texture	0.1 %	Coarse	Coarse	Coarse	-

Certificate of Analysis

Report Date: 29-Jun-2022

Client: Paterson Group Consulting Engineers

Order Date: 24-Jun-2022

Client PO: 55096

Project Description: PE4767

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Physical Characteristics									
% Solids	65.7	0.1	% by Wt.	66.1			0.6	25	

Certificate of Analysis

Report Date: 29-Jun-2022

Client: Paterson Group Consulting Engineers

Order Date: 24-Jun-2022

Client PO: 55096

Project Description: PE4767

Qualifier Notes:

Login Qualifiers :

Container and COC sample IDs don't match - Jar ID reads BH5-22-SS7 and coc reads BH7-22-SS7.

Applies to samples: BH5-22-SS7

Sample Qualifiers :

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.
NC: Not Calculated

Soil results are reported on a dry weight basis when the units are denoted with 'dry'.
Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

PARACEL LABORATORIES LTD.

Paracel ID: 2226630

Paracel Order Number (Lab Use Only): 2226630

Chain Of Custody (Lab Use Only) № 136642

Page 1 of 1

Client Name: PATERSON	Project Ref: PE 4767
Contact Name: Micheal Beaudoin	Quote #:
Address: 9 Auriga Dr	PO #:
	E-mail: MBeaudoin@patersongroup.ca
Telephone: 613-226 7381	

Turnaround Time

☐ 1 day ☒ 3 day

☐ 2 day ☐ Regular

Date Required:

☐ REG 153/04 ☐ REG 406/19 | Other Regulation

☐ Table 1 ☐ Res/Park ☐ Med/Fine | ☐ REG 558 ☐ PWQO

☐ Table 2 ☐ Ind/Comm ☐ Coarse | ☐ CCME ☐ MISA

☐ Table 3 ☐ Agri/Other | ☐ SU - Sani ☐ SU - Storm

☐ Table | Mun:

For RSC: ☐ Yes ☐ No | ☐ 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)	Grain Size				
1	BH2-22-SS2	S		2										X				
2	BH4-22-SS5	S		2										X				
3	BH7-22-SS7	S		2										X				
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Comments:

Method of Delivery: PARACEL COURIER

Relinquished By (Sign): B Drieschner	Received By Driver/Depot: [signature]	Received at Lab: [signature]	Verified By: [signature]
Relinquished By (Print): Beau Drieschner	Date/Time: 24/06/22 3:20	Date/Time: June 24 2022 1615	Date/Time: June 24, 22 17:31
Date/Time: 24-Jun-22 (1440)	Temperature: °C PM	Temperature: 22.2 °C	pH Verified: ☐ By:

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Certificate of Analysis

Paterson Group Consulting Engineers

9 Auriga Drive
Ottawa, ON K2E 7T9
Attn: Mike Beaudoin

Client PO: 56161
Project: PE4767
Custody:

Report Date: 10-Nov-2022
Order Date: 4-Nov-2022

Order #: 2246085

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

Paracel ID	Client ID
2246085-01	BH1-20-GW

Approved By:

Dale Robertson, BSc
Laboratory Director

Any use of these results implies your agreement that our total liabilty 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 any circumstances be liable to you in connection with this work.

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 56161

Report Date: 10-Nov-2022

Order Date: 4-Nov-2022

Project Description: PE4767

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
REG 153: VOCs by P&T GC/MS	EPA 624 - P&T GC-MS	9-Nov-22	9-Nov-22

Certificate of Analysis

Report Date: 10-Nov-2022

Client: Paterson Group Consulting Engineers

Order Date: 4-Nov-2022

Client PO: 56161

Project Description: PE4767

	Client ID:	BH1-20-GW	-	-	-
	Sample Date:	04-Nov-22 09:00	-	-	-
	Sample ID:	2246085-01	-	-	-
	MDL/Units	Water	-	-	-
Volatiles					
Acetone	5.0 ug/L	<5.0	-	-	-
Benzene	0.5 ug/L	<0.5	-	-	-
Bromodichloromethane	0.5 ug/L	<0.5	-	-	-
Bromoform	0.5 ug/L	<0.5	-	-	-
Bromomethane	0.5 ug/L	<0.5	-	-	-
Carbon Tetrachloride	0.2 ug/L	<0.2	-	-	-
Chlorobenzene	0.5 ug/L	<0.5	-	-	-
Chloroform	0.5 ug/L	5.4	-	-	-
Dibromochloromethane	0.5 ug/L	<0.5	-	-	-
Dichlorodifluoromethane	1.0 ug/L	<1.0	-	-	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-
1,3-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-
1,1-Dichloroethane	0.5 ug/L	<0.5	-	-	-
1,2-Dichloroethane	0.5 ug/L	<0.5	-	-	-
1,1-Dichloroethylene	0.5 ug/L	<0.5	-	-	-
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	-	-	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	-	-	-
1,2-Dichloropropane	0.5 ug/L	<0.5	-	-	-
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	-	-	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	-	-	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	-	-	-
Ethylbenzene	0.5 ug/L	<0.5	-	-	-
Ethylene dibromide (dibromoethane, 1,2-)	0.2 ug/L	<0.2	-	-	-
Hexane	1.0 ug/L	<1.0	-	-	-
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	-	-	-
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	-	-	-
Methyl tert-butyl ether	2.0 ug/L	<2.0	-	-	-
Methylene Chloride	5.0 ug/L	<5.0	-	-	-
Styrene	0.5 ug/L	<0.5	-	-	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	-	-	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	-	-	-
Tetrachloroethylene	0.5 ug/L	57.1	-	-	-
Toluene	0.5 ug/L	<0.5	-	-	-
1,1,1-Trichloroethane	0.5 ug/L	<0.5	-	-	-

Certificate of Analysis

Report Date: 10-Nov-2022

Client: Paterson Group Consulting Engineers

Order Date: 4-Nov-2022

Client PO: 56161

Project Description: PE4767

	Client ID:	BH1-20-GW	-	-	-
	Sample Date:	04-Nov-22 09:00	-	-	-
	Sample ID:	2246085-01	-	-	-
	MDL/Units	Water	-	-	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	-	-	-
Trichloroethylene	0.5 ug/L	<0.5	-	-	-
Trichlorofluoromethane	1.0 ug/L	<1.0	-	-	-
Vinyl chloride	0.5 ug/L	<0.5	-	-	-
m,p-Xylenes	0.5 ug/L	<0.5	-	-	-
o-Xylene	0.5 ug/L	<0.5	-	-	-
Xylenes, total	0.5 ug/L	<0.5	-	-	-
4-Bromofluorobenzene	Surrogate	131%	-	-	-
Dibromofluoromethane	Surrogate	104%	-	-	-
Toluene-d8	Surrogate	121%	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	ND	5.0	ug/L						
Benzene	ND	0.5	ug/L						
Bromodichloromethane	ND	0.5	ug/L						
Bromoform	ND	0.5	ug/L						
Bromomethane	ND	0.5	ug/L						
Carbon Tetrachloride	ND	0.2	ug/L						
Chlorobenzene	ND	0.5	ug/L						
Chloroform	ND	0.5	ug/L						
Dibromochloromethane	ND	0.5	ug/L						
Dichlorodifluoromethane	ND	1.0	ug/L						
1,2-Dichlorobenzene	ND	0.5	ug/L						
1,3-Dichlorobenzene	ND	0.5	ug/L						
1,4-Dichlorobenzene	ND	0.5	ug/L						
1,1-Dichloroethane	ND	0.5	ug/L						
1,2-Dichloroethane	ND	0.5	ug/L						
1,1-Dichloroethylene	ND	0.5	ug/L						
cis-1,2-Dichloroethylene	ND	0.5	ug/L						
trans-1,2-Dichloroethylene	ND	0.5	ug/L						
1,2-Dichloropropane	ND	0.5	ug/L						
cis-1,3-Dichloropropylene	ND	0.5	ug/L						
trans-1,3-Dichloropropylene	ND	0.5	ug/L						
1,3-Dichloropropene, total	ND	0.5	ug/L						
Ethylbenzene	ND	0.5	ug/L						
Ethylene dibromide (dibromoethane, 1,2	ND	0.2	ug/L						
Hexane	ND	1.0	ug/L						
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L						
Methyl Isobutyl Ketone	ND	5.0	ug/L						
Methyl tert-butyl ether	ND	2.0	ug/L						
Methylene Chloride	ND	5.0	ug/L						
Styrene	ND	0.5	ug/L						
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L						
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L						
Tetrachloroethylene	ND	0.5	ug/L						
Toluene	ND	0.5	ug/L						
1,1,1-Trichloroethane	ND	0.5	ug/L						
1,1,2-Trichloroethane	ND	0.5	ug/L						
Trichloroethylene	ND	0.5	ug/L						
Trichlorofluoromethane	ND	1.0	ug/L						
Vinyl chloride	ND	0.5	ug/L						
m,p-Xylenes	ND	0.5	ug/L						
o-Xylene	ND	0.5	ug/L						
Xylenes, total	ND	0.5	ug/L						
Surrogate: 4-Bromofluorobenzene	*108*		*ug/L*		*135*	*50-140*			
Surrogate: Dibromofluoromethane	*87.9*		*ug/L*		*110*	*50-140*			
Surrogate: Toluene-d8	*101*		*ug/L*		*127*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	73.1	5.0	ug/L	ND	73.1	50-140			
Benzene	39.8	0.5	ug/L	ND	99.5	60-130			
Bromodichloromethane	42.9	0.5	ug/L	ND	107	60-130			
Bromoform	40.5	0.5	ug/L	ND	101	60-130			
Bromomethane	43.6	0.5	ug/L	ND	109	50-140			
Carbon Tetrachloride	43.2	0.2	ug/L	ND	108	60-130			
Chlorobenzene	42.4	0.5	ug/L	ND	106	60-130			
Chloroform	44.0	0.5	ug/L	ND	110	60-130			
Dibromochloromethane	37.6	0.5	ug/L	ND	94.1	60-130			
Dichlorodifluoromethane	38.1	1.0	ug/L	ND	95.2	50-140			
1,2-Dichlorobenzene	42.0	0.5	ug/L	ND	105	60-130			
1,3-Dichlorobenzene	41.5	0.5	ug/L	ND	104	60-130			
1,4-Dichlorobenzene	37.3	0.5	ug/L	ND	93.2	60-130			
1,1-Dichloroethane	39.8	0.5	ug/L	ND	99.6	60-130			
1,2-Dichloroethane	41.0	0.5	ug/L	ND	103	60-130			
1,1-Dichloroethylene	41.1	0.5	ug/L	ND	103	60-130			
cis-1,2-Dichloroethylene	42.4	0.5	ug/L	ND	106	60-130			
trans-1,2-Dichloroethylene	44.6	0.5	ug/L	ND	112	60-130			
1,2-Dichloropropane	44.8	0.5	ug/L	ND	112	60-130			
cis-1,3-Dichloropropylene	41.7	0.5	ug/L	ND	104	60-130			
trans-1,3-Dichloropropylene	36.1	0.5	ug/L	ND	90.3	60-130			
Ethylbenzene	40.6	0.5	ug/L	ND	101	60-130			
Ethylene dibromide (dibromoethane, 1,2	40.8	0.2	ug/L	ND	102	60-130			
Hexane	40.8	1.0	ug/L	ND	102	60-130			
Methyl Ethyl Ketone (2-Butanone)	98.7	5.0	ug/L	ND	98.7	50-140			
Methyl Isobutyl Ketone	104	5.0	ug/L	ND	104	50-140			
Methyl tert-butyl ether	112	2.0	ug/L	ND	112	50-140			
Methylene Chloride	44.9	5.0	ug/L	ND	112	60-130			
Styrene	34.7	0.5	ug/L	ND	86.8	60-130			
1,1,1,2-Tetrachloroethane	41.2	0.5	ug/L	ND	103	60-130			
1,1,2,2-Tetrachloroethane	39.8	0.5	ug/L	ND	99.6	60-130			
Tetrachloroethylene	41.2	0.5	ug/L	ND	103	60-130			
Toluene	42.6	0.5	ug/L	ND	107	60-130			
1,1,1-Trichloroethane	42.4	0.5	ug/L	ND	106	60-130			
1,1,2-Trichloroethane	41.7	0.5	ug/L	ND	104	60-130			
Trichloroethylene	43.5	0.5	ug/L	ND	109	60-130			
Trichlorofluoromethane	41.7	1.0	ug/L	ND	104	60-130			
Vinyl chloride	39.6	0.5	ug/L	ND	99.0	50-140			
m,p-Xylenes	76.3	0.5	ug/L	ND	95.4	60-130			
o-Xylene	38.2	0.5	ug/L	ND	95.4	60-130			
Surrogate: 4-Bromofluorobenzene	*77.5*		*ug/L*		*96.9*	*50-140*			
Surrogate: Dibromofluoromethane	*81.9*		*ug/L*		*102*	*50-140*			
Surrogate: Toluene-d8	*81.1*		*ug/L*		*101*	*50-140*			

Qualifier Notes:

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.
NC: Not Calculated

PARACEL LABORATORIES LTD

Paracel ID: 2246085

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2246085	

Client Name: Paterson	Project Ref: PE 4767
Contact Name: ~~Mohammad Ramadan~~ Michael Beaudoin	Quote #:
Address: 9 Auriga Dr.	PO #: 56161
Telephone:	E-mail: mbeaudoin@patersongroup.ca

Page 1 of 3

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)					
1	BH1-20-GW	GW		2	Nov. 4			X										
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Comments:

Method of Delivery: Walk-In

Relinquished By (Sign): [signature]	Received By Driver/Depot:	Received at Lab: Sandra Dencnia	Verified By: [signature]
Relinquished By (Print): Mohammad Ramadan	Date/Time:	Date/Time: Nov 4 4:55	Date/Time: Nov 4 2021 1338
Date/Time: Nov. 4	Temperature: °C	Temperature: 17	pH Verified: ☐ By:

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Certificate of Analysis

Paterson Group Consulting Engineers

9 Auriga Drive
Ottawa, ON K2E 7T9
Attn: Mike Beaudoin

Client PO: 56162
Project: PE4767
Custody:

Report Date: 10-Nov-2022
Order Date: 4-Nov-2022

Order #: 2246086

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

Paracel ID	Client ID
2246086-01	BH2-20-GW

Approved By:

Dale Robertson, BSc
Laboratory Director

Any use of these results implies your agreement that our total liabilty 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 any circumstances be liable to you in connection with this work.

Certificate of Analysis

Report Date: 10-Nov-2022

Client: Paterson Group Consulting Engineers

Order Date: 4-Nov-2022

Client PO: 56162

Project Description: PE4767

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
REG 153: VOCs by P&T GC/MS	EPA 624 - P&T GC-MS	9-Nov-22	9-Nov-22

Certificate of Analysis

Report Date: 10-Nov-2022

Client: Paterson Group Consulting Engineers

Order Date: 4-Nov-2022

Client PO: 56162

Project Description: PE4767

	Client ID:	BH2-20-GW	-	-	-
	Sample Date:	04-Nov-22 09:00	-	-	-
	Sample ID:	2246086-01	-	-	-
	MDL/Units	Water	-	-	-
Volatiles					
Acetone	5.0 ug/L	<5.0	-	-	-
Benzene	0.5 ug/L	<0.5	-	-	-
Bromodichloromethane	0.5 ug/L	<0.5	-	-	-
Bromoform	0.5 ug/L	<0.5	-	-	-
Bromomethane	0.5 ug/L	<0.5	-	-	-
Carbon Tetrachloride	0.2 ug/L	<0.2	-	-	-
Chlorobenzene	0.5 ug/L	<0.5	-	-	-
Chloroform	0.5 ug/L	<0.5	-	-	-
Dibromochloromethane	0.5 ug/L	<0.5	-	-	-
Dichlorodifluoromethane	1.0 ug/L	<1.0	-	-	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-
1,3-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-
1,1-Dichloroethane	0.5 ug/L	<0.5	-	-	-
1,2-Dichloroethane	0.5 ug/L	<0.5	-	-	-
1,1-Dichloroethylene	0.5 ug/L	<0.5	-	-	-
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	-	-	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	-	-	-
1,2-Dichloropropane	0.5 ug/L	<0.5	-	-	-
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	-	-	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	-	-	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	-	-	-
Ethylbenzene	0.5 ug/L	<0.5	-	-	-
Ethylene dibromide (dibromoethane, 1,2-)	0.2 ug/L	<0.2	-	-	-
Hexane	1.0 ug/L	<1.0	-	-	-
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	-	-	-
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	-	-	-
Methyl tert-butyl ether	2.0 ug/L	<2.0	-	-	-
Methylene Chloride	5.0 ug/L	<5.0	-	-	-
Styrene	0.5 ug/L	<0.5	-	-	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	-	-	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	-	-	-
Tetrachloroethylene	0.5 ug/L	2.2	-	-	-
Toluene	0.5 ug/L	<0.5	-	-	-
1,1,1-Trichloroethane	0.5 ug/L	<0.5	-	-	-

Certificate of Analysis

Report Date: 10-Nov-2022

Client: Paterson Group Consulting Engineers

Order Date: 4-Nov-2022

Client PO: 56162

Project Description: PE4767

	Client ID:	BH2-20-GW	-	-	-
	Sample Date:	04-Nov-22 09:00	-	-	-
	Sample ID:	2246086-01	-	-	-
	MDL/Units	Water	-	-	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	-	-	-
Trichloroethylene	0.5 ug/L	<0.5	-	-	-
Trichlorofluoromethane	1.0 ug/L	<1.0	-	-	-
Vinyl chloride	0.5 ug/L	<0.5	-	-	-
m,p-Xylenes	0.5 ug/L	<0.5	-	-	-
o-Xylene	0.5 ug/L	<0.5	-	-	-
Xylenes, total	0.5 ug/L	<0.5	-	-	-
4-Bromofluorobenzene	Surrogate	120%	-	-	-
Dibromofluoromethane	Surrogate	106%	-	-	-
Toluene-d8	Surrogate	129%	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	ND	5.0	ug/L						
Benzene	ND	0.5	ug/L						
Bromodichloromethane	ND	0.5	ug/L						
Bromoform	ND	0.5	ug/L						
Bromomethane	ND	0.5	ug/L						
Carbon Tetrachloride	ND	0.2	ug/L						
Chlorobenzene	ND	0.5	ug/L						
Chloroform	ND	0.5	ug/L						
Dibromochloromethane	ND	0.5	ug/L						
Dichlorodifluoromethane	ND	1.0	ug/L						
1,2-Dichlorobenzene	ND	0.5	ug/L						
1,3-Dichlorobenzene	ND	0.5	ug/L						
1,4-Dichlorobenzene	ND	0.5	ug/L						
1,1-Dichloroethane	ND	0.5	ug/L						
1,2-Dichloroethane	ND	0.5	ug/L						
1,1-Dichloroethylene	ND	0.5	ug/L						
cis-1,2-Dichloroethylene	ND	0.5	ug/L						
trans-1,2-Dichloroethylene	ND	0.5	ug/L						
1,2-Dichloropropane	ND	0.5	ug/L						
cis-1,3-Dichloropropylene	ND	0.5	ug/L						
trans-1,3-Dichloropropylene	ND	0.5	ug/L						
1,3-Dichloropropene, total	ND	0.5	ug/L						
Ethylbenzene	ND	0.5	ug/L						
Ethylene dibromide (dibromoethane, 1,2	ND	0.2	ug/L						
Hexane	ND	1.0	ug/L						
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L						
Methyl Isobutyl Ketone	ND	5.0	ug/L						
Methyl tert-butyl ether	ND	2.0	ug/L						
Methylene Chloride	ND	5.0	ug/L						
Styrene	ND	0.5	ug/L						
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L						
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L						
Tetrachloroethylene	ND	0.5	ug/L						
Toluene	ND	0.5	ug/L						
1,1,1-Trichloroethane	ND	0.5	ug/L						
1,1,2-Trichloroethane	ND	0.5	ug/L						
Trichloroethylene	ND	0.5	ug/L						
Trichlorofluoromethane	ND	1.0	ug/L						
Vinyl chloride	ND	0.5	ug/L						
m,p-Xylenes	ND	0.5	ug/L						
o-Xylene	ND	0.5	ug/L						
Xylenes, total	ND	0.5	ug/L						
Surrogate: 4-Bromofluorobenzene	*108*		*ug/L*		*135*	*50-140*			
Surrogate: Dibromofluoromethane	*87.9*		*ug/L*		*110*	*50-140*			
Surrogate: Toluene-d8	*101*		*ug/L*		*127*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	73.1	5.0	ug/L	ND	73.1	50-140			
Benzene	39.8	0.5	ug/L	ND	99.5	60-130			
Bromodichloromethane	42.9	0.5	ug/L	ND	107	60-130			
Bromoform	40.5	0.5	ug/L	ND	101	60-130			
Bromomethane	43.6	0.5	ug/L	ND	109	50-140			
Carbon Tetrachloride	43.2	0.2	ug/L	ND	108	60-130			
Chlorobenzene	42.4	0.5	ug/L	ND	106	60-130			
Chloroform	44.0	0.5	ug/L	ND	110	60-130			
Dibromochloromethane	37.6	0.5	ug/L	ND	94.1	60-130			
Dichlorodifluoromethane	38.1	1.0	ug/L	ND	95.2	50-140			
1,2-Dichlorobenzene	42.0	0.5	ug/L	ND	105	60-130			
1,3-Dichlorobenzene	41.5	0.5	ug/L	ND	104	60-130			
1,4-Dichlorobenzene	37.3	0.5	ug/L	ND	93.2	60-130			
1,1-Dichloroethane	39.8	0.5	ug/L	ND	99.6	60-130			
1,2-Dichloroethane	41.0	0.5	ug/L	ND	103	60-130			
1,1-Dichloroethylene	41.1	0.5	ug/L	ND	103	60-130			
cis-1,2-Dichloroethylene	42.4	0.5	ug/L	ND	106	60-130			
trans-1,2-Dichloroethylene	44.6	0.5	ug/L	ND	112	60-130			
1,2-Dichloropropane	44.8	0.5	ug/L	ND	112	60-130			
cis-1,3-Dichloropropylene	41.7	0.5	ug/L	ND	104	60-130			
trans-1,3-Dichloropropylene	36.1	0.5	ug/L	ND	90.3	60-130			
Ethylbenzene	40.6	0.5	ug/L	ND	101	60-130			
Ethylene dibromide (dibromoethane, 1,2	40.8	0.2	ug/L	ND	102	60-130			
Hexane	40.8	1.0	ug/L	ND	102	60-130			
Methyl Ethyl Ketone (2-Butanone)	98.7	5.0	ug/L	ND	98.7	50-140			
Methyl Isobutyl Ketone	104	5.0	ug/L	ND	104	50-140			
Methyl tert-butyl ether	112	2.0	ug/L	ND	112	50-140			
Methylene Chloride	44.9	5.0	ug/L	ND	112	60-130			
Styrene	34.7	0.5	ug/L	ND	86.8	60-130			
1,1,1,2-Tetrachloroethane	41.2	0.5	ug/L	ND	103	60-130			
1,1,2,2-Tetrachloroethane	39.8	0.5	ug/L	ND	99.6	60-130			
Tetrachloroethylene	41.2	0.5	ug/L	ND	103	60-130			
Toluene	42.6	0.5	ug/L	ND	107	60-130			
1,1,1-Trichloroethane	42.4	0.5	ug/L	ND	106	60-130			
1,1,2-Trichloroethane	41.7	0.5	ug/L	ND	104	60-130			
Trichloroethylene	43.5	0.5	ug/L	ND	109	60-130			
Trichlorofluoromethane	41.7	1.0	ug/L	ND	104	60-130			
Vinyl chloride	39.6	0.5	ug/L	ND	99.0	50-140			
m,p-Xylenes	76.3	0.5	ug/L	ND	95.4	60-130			
o-Xylene	38.2	0.5	ug/L	ND	95.4	60-130			
Surrogate: 4-Bromofluorobenzene	*77.5*		*ug/L*		*96.9*	*50-140*			
Surrogate: Dibromofluoromethane	*81.9*		*ug/L*		*102*	*50-140*			
Surrogate: Toluene-d8	*81.1*		*ug/L*		*101*	*50-140*			

Certificate of Analysis

Report Date: 10-Nov-2022

Client: Paterson Group Consulting Engineers

Order Date: 4-Nov-2022

Client PO: 56162

Project Description: PE4767

Qualifier Notes:

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.
NC: Not Calculated

PARACE LABORATORIES L

Paracel ID: 2246086

ffice
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-749-1947
elaparacellabs.com
racellabs.com

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2246086	

Client Name: Peterson Group
Project Ref: PE4767
Page 2 of 3
Contact Name: Michael Beaudoin
Quote #:
Address: 9 Auriga Dr.
PO #: 56162
E-mail: mbeaudoin@petersongroup.ca
Telephone:

Turnaround Time
☐ 1 day ☐ 3 day
☐ 2 day ☑ Regular
Date Required:

☑ REG 153/04 ☐ REG 406/19

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

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

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

	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)					
1	BH2-20-GW	GW		2	Nov. 4			X										
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Comments:

Method of Delivery: Walk-In

Relinquished By (Sign):	Received By Driver/Depot:	Received at Lab: Sandra Pomeroy	Verified By:
Relinquished By (Print): Mohammad Rumman	Date/Time:	Date/Time: Nov 4 4:55	Date/Time: Nov 7 2021 13:34
Date/Time: Nov. 4	Temperature: °C	Temperature: 17	pH Verified: ☐ By:

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Certificate of Analysis

Paterson Group Consulting Engineers

9 Auriga Drive
Ottawa, ON K2E 7T9
Attn: Mike Beaudoin

Client PO: 56163
Project: PE4767
Custody:

Report Date: 10-Nov-2022
Order Date: 4-Nov-2022

Order #: 2246087

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

Paracel ID	Client ID
2246087-01	BH2-22-GW
2246087-02	BH3-22-GW

Approved By:

Dale Robertson, BSc
Laboratory Director

Any use of these results implies your agreement that our total liabilty 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 any circumstances be liable to you in connection with this work.

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 56163

Report Date: 10-Nov-2022

Order Date: 4-Nov-2022

Project Description: PE4767

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
REG 153: VOCs by P&T GC/MS	EPA 624 - P&T GC-MS	9-Nov-22	9-Nov-22

Certificate of Analysis

Report Date: 10-Nov-2022

Client: Paterson Group Consulting Engineers

Order Date: 4-Nov-2022

Client PO: 56163

Project Description: PE4767

	Client ID:	BH2-22-GW	BH3-22-GW	-	-
	Sample Date:	04-Nov-22 09:00	04-Nov-22 09:00	-	-
	Sample ID:	2246087-01	2246087-02	-	-
	MDL/Units	Water	Water	-	-
Volatiles					
Acetone	5.0 ug/L	<5.0	<5.0	-	-
Benzene	0.5 ug/L	<0.5	<0.5	-	-
Bromodichloromethane	0.5 ug/L	<0.5	<0.5	-	-
Bromoform	0.5 ug/L	<0.5	<0.5	-	-
Bromomethane	0.5 ug/L	<0.5	<0.5	-	-
Carbon Tetrachloride	0.2 ug/L	<0.2	<0.2	-	-
Chlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
Chloroform	0.5 ug/L	<0.5	<0.5	-	-
Dibromochloromethane	0.5 ug/L	<0.5	<0.5	-	-
Dichlorodifluoromethane	1.0 ug/L	<1.0	<1.0	-	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
1,3-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
1,1-Dichloroethane	0.5 ug/L	<0.5	<0.5	-	-
1,2-Dichloroethane	0.5 ug/L	<0.5	<0.5	-	-
1,1-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	-
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	-
1,2-Dichloropropane	0.5 ug/L	<0.5	<0.5	-	-
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	-	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	-	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	<0.5	-	-
Ethylbenzene	0.5 ug/L	<0.5	<0.5	-	-
Ethylene dibromide (dibromoethane, 1,2-)	0.2 ug/L	<0.2	<0.2	-	-
Hexane	1.0 ug/L	<1.0	<1.0	-	-
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	<5.0	-	-
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	<5.0	-	-
Methyl tert-butyl ether	2.0 ug/L	<2.0	<2.0	-	-
Methylene Chloride	5.0 ug/L	<5.0	<5.0	-	-
Styrene	0.5 ug/L	<0.5	<0.5	-	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	-	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	-	-
Tetrachloroethylene	0.5 ug/L	19.7	1.5	-	-
Toluene	0.5 ug/L	<0.5	<0.5	-	-
1,1,1-Trichloroethane	0.5 ug/L	<0.5	<0.5	-	-

Certificate of Analysis

Report Date: 10-Nov-2022

Client: **Paterson Group Consulting Engineers**

Order Date: 4-Nov-2022

Client PO: **56163**

Project Description: PE4767

	Client ID:	BH2-22-GW	BH3-22-GW	-	-
	Sample Date:	04-Nov-22 09:00	04-Nov-22 09:00	-	-
	Sample ID:	2246087-01	2246087-02	-	-
	MDL/Units	Water	Water	-	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	<0.5	-	-
Trichloroethylene	0.5 ug/L	<0.5	<0.5	-	-
Trichlorofluoromethane	1.0 ug/L	<1.0	<1.0	-	-
Vinyl chloride	0.5 ug/L	<0.5	<0.5	-	-
m,p-Xylenes	0.5 ug/L	<0.5	<0.5	-	-
o-Xylene	0.5 ug/L	<0.5	<0.5	-	-
Xylenes, total	0.5 ug/L	<0.5	<0.5	-	-
4-Bromofluorobenzene	Surrogate	140%	125%	-	-
Dibromofluoromethane	Surrogate	102%	114%	-	-
Toluene-d8	Surrogate	127%	133%	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	ND	5.0	ug/L						
Benzene	ND	0.5	ug/L						
Bromodichloromethane	ND	0.5	ug/L						
Bromoform	ND	0.5	ug/L						
Bromomethane	ND	0.5	ug/L						
Carbon Tetrachloride	ND	0.2	ug/L						
Chlorobenzene	ND	0.5	ug/L						
Chloroform	ND	0.5	ug/L						
Dibromochloromethane	ND	0.5	ug/L						
Dichlorodifluoromethane	ND	1.0	ug/L						
1,2-Dichlorobenzene	ND	0.5	ug/L						
1,3-Dichlorobenzene	ND	0.5	ug/L						
1,4-Dichlorobenzene	ND	0.5	ug/L						
1,1-Dichloroethane	ND	0.5	ug/L						
1,2-Dichloroethane	ND	0.5	ug/L						
1,1-Dichloroethylene	ND	0.5	ug/L						
cis-1,2-Dichloroethylene	ND	0.5	ug/L						
trans-1,2-Dichloroethylene	ND	0.5	ug/L						
1,2-Dichloropropane	ND	0.5	ug/L						
cis-1,3-Dichloropropylene	ND	0.5	ug/L						
trans-1,3-Dichloropropylene	ND	0.5	ug/L						
1,3-Dichloropropene, total	ND	0.5	ug/L						
Ethylbenzene	ND	0.5	ug/L						
Ethylene dibromide (dibromoethane, 1,2	ND	0.2	ug/L						
Hexane	ND	1.0	ug/L						
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L						
Methyl Isobutyl Ketone	ND	5.0	ug/L						
Methyl tert-butyl ether	ND	2.0	ug/L						
Methylene Chloride	ND	5.0	ug/L						
Styrene	ND	0.5	ug/L						
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L						
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L						
Tetrachloroethylene	ND	0.5	ug/L						
Toluene	ND	0.5	ug/L						
1,1,1-Trichloroethane	ND	0.5	ug/L						
1,1,2-Trichloroethane	ND	0.5	ug/L						
Trichloroethylene	ND	0.5	ug/L						
Trichlorofluoromethane	ND	1.0	ug/L						
Vinyl chloride	ND	0.5	ug/L						
m,p-Xylenes	ND	0.5	ug/L						
o-Xylene	ND	0.5	ug/L						
Xylenes, total	ND	0.5	ug/L						
Surrogate: 4-Bromofluorobenzene	*108*		*ug/L*		*135*	*50-140*			
Surrogate: Dibromofluoromethane	*87.9*		*ug/L*		*110*	*50-140*			
Surrogate: Toluene-d8	*101*		*ug/L*		*127*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	73.1	5.0	ug/L	ND	73.1	50-140			
Benzene	39.8	0.5	ug/L	ND	99.5	60-130			
Bromodichloromethane	42.9	0.5	ug/L	ND	107	60-130			
Bromoform	40.5	0.5	ug/L	ND	101	60-130			
Bromomethane	43.6	0.5	ug/L	ND	109	50-140			
Carbon Tetrachloride	43.2	0.2	ug/L	ND	108	60-130			
Chlorobenzene	42.4	0.5	ug/L	ND	106	60-130			
Chloroform	44.0	0.5	ug/L	ND	110	60-130			
Dibromochloromethane	37.6	0.5	ug/L	ND	94.1	60-130			
Dichlorodifluoromethane	38.1	1.0	ug/L	ND	95.2	50-140			
1,2-Dichlorobenzene	42.0	0.5	ug/L	ND	105	60-130			
1,3-Dichlorobenzene	41.5	0.5	ug/L	ND	104	60-130			
1,4-Dichlorobenzene	37.3	0.5	ug/L	ND	93.2	60-130			
1,1-Dichloroethane	39.8	0.5	ug/L	ND	99.6	60-130			
1,2-Dichloroethane	41.0	0.5	ug/L	ND	103	60-130			
1,1-Dichloroethylene	41.1	0.5	ug/L	ND	103	60-130			
cis-1,2-Dichloroethylene	42.4	0.5	ug/L	ND	106	60-130			
trans-1,2-Dichloroethylene	44.6	0.5	ug/L	ND	112	60-130			
1,2-Dichloropropane	44.8	0.5	ug/L	ND	112	60-130			
cis-1,3-Dichloropropylene	41.7	0.5	ug/L	ND	104	60-130			
trans-1,3-Dichloropropylene	36.1	0.5	ug/L	ND	90.3	60-130			
Ethylbenzene	40.6	0.5	ug/L	ND	101	60-130			
Ethylene dibromide (dibromoethane, 1,2	40.8	0.2	ug/L	ND	102	60-130			
Hexane	40.8	1.0	ug/L	ND	102	60-130			
Methyl Ethyl Ketone (2-Butanone)	98.7	5.0	ug/L	ND	98.7	50-140			
Methyl Isobutyl Ketone	104	5.0	ug/L	ND	104	50-140			
Methyl tert-butyl ether	112	2.0	ug/L	ND	112	50-140			
Methylene Chloride	44.9	5.0	ug/L	ND	112	60-130			
Styrene	34.7	0.5	ug/L	ND	86.8	60-130			
1,1,1,2-Tetrachloroethane	41.2	0.5	ug/L	ND	103	60-130			
1,1,2,2-Tetrachloroethane	39.8	0.5	ug/L	ND	99.6	60-130			
Tetrachloroethylene	41.2	0.5	ug/L	ND	103	60-130			
Toluene	42.6	0.5	ug/L	ND	107	60-130			
1,1,1-Trichloroethane	42.4	0.5	ug/L	ND	106	60-130			
1,1,2-Trichloroethane	41.7	0.5	ug/L	ND	104	60-130			
Trichloroethylene	43.5	0.5	ug/L	ND	109	60-130			
Trichlorofluoromethane	41.7	1.0	ug/L	ND	104	60-130			
Vinyl chloride	39.6	0.5	ug/L	ND	99.0	50-140			
m,p-Xylenes	76.3	0.5	ug/L	ND	95.4	60-130			
o-Xylene	38.2	0.5	ug/L	ND	95.4	60-130			
Surrogate: 4-Bromofluorobenzene	*77.5*		*ug/L*		*96.9*	*50-140*			
Surrogate: Dibromofluoromethane	*81.9*		*ug/L*		*102*	*50-140*			
Surrogate: Toluene-d8	*81.1*		*ug/L*		*101*	*50-140*			

Qualifier Notes:

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.
NC: Not Calculated

PARACEL LABORATORIES LTD

Paracel ID: 2246087

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2246087	

Client Name: Paterson Group

Project Ref: PE4767

Page 3 of 3

Contact Name: Michael Beaudoin

Quote #:

Address: 9 Auriga Drive

PO #: 56163

E-mail: mbeaudoin@patersongroup.ca

Telephone:

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)						
1	BH2-22-GW	GW		2	Nov 4			X											
2	BH3-22-GW	↓		↓	↓														
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Comments:

Method of Delivery: Walk-In

Relinquished By (Sign): [signature]	Received By Driver/Depot:	Received at Lab: Sandra Domanis	Verified By: [signature]
Relinquished By (Print): Mohammed Ramadan	Date/Time:	Date/Time: Nov 4 4:55	Date/Time: Nov 7 2022 1337
Date/Time: Nov. 4	Temperature: °C	Temperature: 17	pH Verified: ☐ By: NA

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Certificate of Analysis

Paterson Group Consulting Engineers
9 Auriga Drive
Ottawa, ON K2E 7T9
Attn: Mike Beaudoin

Client PO: 58152
Project: PE4767
Custody: 140018

Report Date: 17-Aug-2023
Order Date: 15-Aug-2023

Order #: 2333193

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

Paracel ID	Client ID
2333193-01	BH2-20-GW

Approved By:

Dale Robertson, BSc
Laboratory Director

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
REG 153: VOCs by P&T GC/MS	EPA 624 - P&T GC-MS	16-Aug-23	16-Aug-23

	Client ID:	BH2-20-GW	-	-	-		
	Sample Date:	15-Aug-23 15:40	-	-	-	-	-
	Sample ID:	2333193-01	-	-	-		
	Matrix:	Ground Water	-	-	-		
	MDL/Units						
Volatiles							
Acetone	5 ug/L	<5.0	-	-	-	-	-
Benzene	0.5 ug/L	<0.5	-	-	-	-	-
Bromodichloromethane	0.5 ug/L	<0.5	-	-	-	-	-
Bromoform	0.5 ug/L	<0.5	-	-	-	-	-
Bromomethane	0.5 ug/L	<0.5	-	-	-	-	-
Carbon Tetrachloride	0.2 ug/L	<0.2	-	-	-	-	-
Chlorobenzene	0.5 ug/L	<0.5	-	-	-	-	-
Chloroform	0.5 ug/L	<0.5	-	-	-	-	-
Dibromochloromethane	0.5 ug/L	<0.5	-	-	-	-	-
Dichlorodifluoromethane	1 ug/L	<1.0	-	-	-	-	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-	-	-
1,3-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-	-	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-	-	-
1,1-Dichloroethane	0.5 ug/L	<0.5	-	-	-	-	-
1,2-Dichloroethane	0.5 ug/L	<0.5	-	-	-	-	-
1,1-Dichloroethylene	0.5 ug/L	<0.5	-	-	-	-	-
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	-	-	-	-	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	-	-	-	-	-
1,2-Dichloropropane	0.5 ug/L	<0.5	-	-	-	-	-
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	-	-	-	-	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	-	-	-	-	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	-	-	-	-	-
Ethylene dibromide (dibromoethane,	0.2 ug/L	<0.2	-	-	-	-	-
Ethylbenzene	0.5 ug/L	<0.5	-	-	-	-	-
Hexane	1 ug/L	<1.0	-	-	-	-	-

	Client ID:	BH2-20-GW	-	-	-	-	-
	Sample Date:	15-Aug-23 15:40	-	-	-	-	-
	Sample ID:	2333193-01	-	-	-		
	Matrix:	Ground Water	-	-	-		
	MDL/Units						
Volatiles							
Methyl Ethyl Ketone (2-Butanone)	5 ug/L	<5.0	-	-	-	-	-
Methyl Isobutyl Ketone	5 ug/L	<5.0	-	-	-	-	-
Methyl tert-butyl ether	2 ug/L	<2.0	-	-	-	-	-
Methylene Chloride	5 ug/L	<5.0	-	-	-	-	-
Styrene	0.5 ug/L	<0.5	-	-	-	-	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	-	-	-	-	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	-	-	-	-	-
Tetrachloroethylene	0.5 ug/L	<0.5	-	-	-	-	-
Toluene	0.5 ug/L	<0.5	-	-	-	-	-
1,1,1-Trichloroethane	0.5 ug/L	<0.5	-	-	-	-	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	-	-	-	-	-
Trichloroethylene	0.5 ug/L	<0.5	-	-	-	-	-
Trichlorofluoromethane	1 ug/L	<1.0	-	-	-	-	-
Vinyl chloride	0.5 ug/L	<0.5	-	-	-	-	-
m,p-Xylenes	0.5 ug/L	<0.5	-	-	-	-	-
o-Xylene	0.5 ug/L	<0.5	-	-	-	-	-
Xylenes, total	0.5 ug/L	<0.5	-	-	-	-	-
Toluene-d8	Surrogate	92.5%	-	-	-	-	-
Dibromofluoromethane	Surrogate	105%	-	-	-	-	-
4-Bromofluorobenzene	Surrogate	94.6%	-	-	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles								
Acetone	ND	5.0	ug/L					
Benzene	ND	0.5	ug/L					
Bromodichloromethane	ND	0.5	ug/L					
Bromoform	ND	0.5	ug/L					
Bromomethane	ND	0.5	ug/L					
Carbon Tetrachloride	ND	0.2	ug/L					
Chlorobenzene	ND	0.5	ug/L					
Chloroform	ND	0.5	ug/L					
Dibromochloromethane	ND	0.5	ug/L					
Dichlorodifluoromethane	ND	1.0	ug/L					
1,2-Dichlorobenzene	ND	0.5	ug/L					
1,3-Dichlorobenzene	ND	0.5	ug/L					
1,4-Dichlorobenzene	ND	0.5	ug/L					
1,1-Dichloroethane	ND	0.5	ug/L					
1,2-Dichloroethane	ND	0.5	ug/L					
1,1-Dichloroethylene	ND	0.5	ug/L					
cis-1,2-Dichloroethylene	ND	0.5	ug/L					
trans-1,2-Dichloroethylene	ND	0.5	ug/L					
1,2-Dichloropropane	ND	0.5	ug/L					
cis-1,3-Dichloropropylene	ND	0.5	ug/L					
trans-1,3-Dichloropropylene	ND	0.5	ug/L					
1,3-Dichloropropene, total	ND	0.5	ug/L					
Ethylbenzene	ND	0.5	ug/L					
Ethylene dibromide (dibromoethane, 1,2-)	ND	0.2	ug/L					
Hexane	ND	1.0	ug/L					
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L					
Methyl Isobutyl Ketone	ND	5.0	ug/L					
Methyl tert-butyl ether	ND	2.0	ug/L					
Methylene Chloride	ND	5.0	ug/L					
Styrene	ND	0.5	ug/L					
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L					
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Tetrachloroethylene	ND	0.5	ug/L					
Toluene	ND	0.5	ug/L					
1,1,1-Trichloroethane	ND	0.5	ug/L					
1,1,2-Trichloroethane	ND	0.5	ug/L					
Trichloroethylene	ND	0.5	ug/L					
Trichlorofluoromethane	ND	1.0	ug/L					
Vinyl chloride	ND	0.5	ug/L					
m,p-Xylenes	ND	0.5	ug/L					
o-Xylene	ND	0.5	ug/L					
Xylenes, total	ND	0.5	ug/L					
Surrogate: 4-Bromofluorobenzene	*72.2*		*%*	*90.2*	*50-140*			
Surrogate: Dibromofluoromethane	*80.9*		*%*	*101*	*50-140*			
Surrogate: Toluene-d8	*76.4*		*%*	*95.5*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	ND	5.0	ug/L	ND			NC	30	
Benzene	ND	0.5	ug/L	ND			NC	30	
Bromodichloromethane	4.61	0.5	ug/L	4.97			7.5	30	
Bromoform	ND	0.5	ug/L	ND			NC	30	
Bromomethane	ND	0.5	ug/L	ND			NC	30	
Carbon Tetrachloride	ND	0.2	ug/L	ND			NC	30	
Chlorobenzene	ND	0.5	ug/L	ND			NC	30	
Chloroform	9.87	0.5	ug/L	9.62			2.6	30	
Dibromochloromethane	4.76	0.5	ug/L	4.83			1.5	30	
Dichlorodifluoromethane	ND	1.0	ug/L	ND			NC	30	
1,2-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,3-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,4-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,1-Dichloroethane	ND	0.5	ug/L	ND			NC	30	
1,2-Dichloroethane	ND	0.5	ug/L	ND			NC	30	
1,1-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
cis-1,2-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
trans-1,2-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
1,2-Dichloropropane	ND	0.5	ug/L	ND			NC	30	
cis-1,3-Dichloropropylene	ND	0.5	ug/L	ND			NC	30	
trans-1,3-Dichloropropylene	ND	0.5	ug/L	ND			NC	30	
Ethylbenzene	ND	0.5	ug/L	ND			NC	30	
Ethylene dibromide (dibromoethane, 1,2-)	ND	0.2	ug/L	ND			NC	30	
Hexane	ND	1.0	ug/L	ND			NC	30	
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L	ND			NC	30	
Methyl Isobutyl Ketone	ND	5.0	ug/L	ND			NC	30	
Methyl tert-butyl ether	ND	2.0	ug/L	ND			NC	30	
Methylene Chloride	ND	5.0	ug/L	ND			NC	30	
Styrene	ND	0.5	ug/L	ND			NC	30	
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	ND			NC	30	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	ND			NC	30	
Tetrachloroethylene	ND	0.5	ug/L	ND			NC	30	
Toluene	ND	0.5	ug/L	ND			NC	30	
1,1,1-Trichloroethane	ND	0.5	ug/L	ND			NC	30	
1,1,2-Trichloroethane	ND	0.5	ug/L	ND			NC	30	
Trichloroethylene	ND	0.5	ug/L	ND			NC	30	
Trichlorofluoromethane	ND	1.0	ug/L	ND			NC	30	
Vinyl chloride	ND	0.5	ug/L	ND			NC	30	
m,p-Xylenes	ND	0.5	ug/L	ND			NC	30	
o-Xylene	ND	0.5	ug/L	ND			NC	30	
Surrogate: 4-Bromofluorobenzene	*77.1*		*%*		*96.4*	*50-140*			
Surrogate: Dibromofluoromethane	*82.9*		*%*		*104*	*50-140*			
Surrogate: Toluene-d8	*74.6*		*%*		*93.2*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	116	5.0	ug/L	ND	116	50-140			
Benzene	31.6	0.5	ug/L	ND	78.9	60-130			
Bromodichloromethane	43.8	0.5	ug/L	ND	110	60-130			
Bromoform	39.5	0.5	ug/L	ND	98.8	60-130			
Bromomethane	32.3	0.5	ug/L	ND	80.8	50-140			
Carbon Tetrachloride	32.4	0.2	ug/L	ND	81.0	60-130			
Chlorobenzene	36.3	0.5	ug/L	ND	90.7	60-130			
Chloroform	30.9	0.5	ug/L	ND	77.2	60-130			
Dibromochloromethane	38.8	0.5	ug/L	ND	96.9	60-130			
Dichlorodifluoromethane	30.3	1.0	ug/L	ND	75.6	50-140			
1,2-Dichlorobenzene	45.3	0.5	ug/L	ND	113	60-130			
1,3-Dichlorobenzene	36.6	0.5	ug/L	ND	91.4	60-130			
1,4-Dichlorobenzene	40.5	0.5	ug/L	ND	101	60-130			
1,1-Dichloroethane	33.1	0.5	ug/L	ND	82.8	60-130			
1,2-Dichloroethane	34.0	0.5	ug/L	ND	85.0	60-130			
1,1-Dichloroethylene	34.6	0.5	ug/L	ND	86.5	60-130			
cis-1,2-Dichloroethylene	32.3	0.5	ug/L	ND	80.8	60-130			
trans-1,2-Dichloroethylene	33.7	0.5	ug/L	ND	84.2	60-130			
1,2-Dichloropropane	32.8	0.5	ug/L	ND	81.9	60-130			
cis-1,3-Dichloropropylene	32.0	0.5	ug/L	ND	79.9	60-130			
trans-1,3-Dichloropropylene	33.5	0.5	ug/L	ND	83.7	60-130			
Ethylbenzene	33.4	0.5	ug/L	ND	83.6	60-130			
Ethylene dibromide (dibromoethane, 1,2-)	36.5	0.2	ug/L	ND	91.2	60-130			
Hexane	34.2	1.0	ug/L	ND	85.6	60-130			
Methyl Ethyl Ketone (2-Butanone)	89.9	5.0	ug/L	ND	89.9	50-140			
Methyl Isobutyl Ketone	72.7	5.0	ug/L	ND	72.7	50-140			
Methyl tert-butyl ether	78.3	2.0	ug/L	ND	78.3	50-140			
Methylene Chloride	35.8	5.0	ug/L	ND	89.6	60-130			
Styrene	33.0	0.5	ug/L	ND	82.6	60-130			
1,1,1,2-Tetrachloroethane	36.2	0.5	ug/L	ND	90.6	60-130			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,1,2,2-Tetrachloroethane	32.0	0.5	ug/L	ND	80.0	60-130			
Tetrachloroethylene	44.5	0.5	ug/L	ND	111	60-130			
Toluene	34.3	0.5	ug/L	ND	85.8	60-130			
1,1,1-Trichloroethane	33.1	0.5	ug/L	ND	82.8	60-130			
1,1,2-Trichloroethane	32.5	0.5	ug/L	ND	81.4	60-130			
Trichloroethylene	31.3	0.5	ug/L	ND	78.4	60-130			
Trichlorofluoromethane	33.1	1.0	ug/L	ND	82.8	60-130			
Vinyl chloride	33.7	0.5	ug/L	ND	84.2	50-140			
m,p-Xylenes	68.9	0.5	ug/L	ND	86.1	60-130			
o-Xylene	31.7	0.5	ug/L	ND	79.3	60-130			
Surrogate: 4-Bromofluorobenzene	*69.9*		*%*		*87.3*	*50-140*			
Surrogate: Dibromofluoromethane	*78.3*		*%*		*97.8*	*50-140*			
Surrogate: Toluene-d8	*72.3*		*%*		*90.4*	*50-140*			

Certificate of Analysis

Report Date: 17-Aug-2023

Client: **Paterson Group Consulting Engineers**

Order Date: 15-Aug-2023

Client PO: **58152**

Project Description: PE4767

Qualifier Notes:

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.

NC: Not Calculated

Any use of these results implies your agreement that our total liabilty 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 any circumstances be liable to you in connection with this work.

PARACEL LABORATORIES LTD.

Paracel ID: 2333193

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
	№ 140018

Client Name: PATERSON
Contact Name: MICHAEL BEAUDOIN
Address: 9 AUNGA DR NEPEAN, ON-
Telephone: 613 226 7381

Project Ref: PE4676
Quote #:
PO #:
E-mail: MBEAUDOIN@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)

	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)					
1	BH2-20-GW	GW	\	2	AUG 15/23	3:40p		X										
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Comments:

Method of Delivery:

Relinquished By (Sign):	Received By Driver/Depot: 4:12	Received at Lab: HP	Verified By:
Relinquished By (Print): DOMINIC LANDRY	Date/Time: AUG 15/23	Date/Time: Aug 16/23, 11:05	Date/Time: Aug 16/2023 11:01
Date/Time: AUG 15/2023	Temperature: 19.1 °C	Temperature: 9.5°C	pH Verified: ☐ By: NA