PATERSON GROUP

Phase II Environmental Site Assessment

551 Riverdale Avenue

Ottawa, Ontario

Prepared for JSS Riverdale Holdings Inc.

Report: PE6907-2
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EXECUTIVE SUMMARY

Assessment

A Phase II ESA was carried out for the property addressed 551 Riverdale Avenue, in Ottawa, Ontario. The purpose of the Phase II ESA was to address potentially contaminating activities (PCAs) that were identified during the Phase I ESA and considered to result in areas of potential environmental concern (APECs) on the Phase II ESA Property.

The Phase II ESA subsurface investigation consisted of drilling five (5) boreholes across the Phase II Property. Three (3) boreholes were constructed with groundwater monitoring wells. The general soil profile encountered during the field program consisted of fill material, followed by native glacial till. The boreholes were advanced to depths ranging from 4.45 to 5.94m below the existing grade and terminated in the native glacial till layer.

Eight (8) soil samples (plus one duplicate) were submitted for laboratory analysis of either, benzene, toluene, ethylbenzene, xylenes (BTEX), petroleum hydrocarbons (PHCs, F1-F4), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), metals (including hydride forming compounds: arsenic (As), antimony (Sb), selenium (Se)), electrical conductivity (EC) and sodium adsorption ratio (SAR). Two representative samples were submitted for pH analysis. Metal parameter concentrations were identified below the site standards, with the exception of molybdenum identified in the upper fill layer in Boreholes BH1-25 and BH2-25. PHC, fractions F2 through F4 impacted fill was identified throughout all boreholes. Several PAH parameters were observed to exceed the MECP Table 9 Non-Potable Standards within the upper fill material throughout the subject property. Several VOC parameter concentrations were identified above the site standards in native till layer in Boreholes BH2-25 and BH3-25. The remaining soil results comply with the MEPC Table 9 Non-Potable Standards.

Three (3) groundwater samples (plus one duplicate) were submitted for laboratory analysis of PHCs (F1-F4) and VOCs. Based on the analytical test results, all detected PHC concentrations complied with the MECP Table 9 Standards. Several VOC parameters were detected in Samples BH2A-25-GW1 and BH3-25-GW1 at concentrations above the MECP Table 9 Standards.

Recommendations

Based on the findings of this assessment, metals, PHC and PAH impacted fill was identified underneath the asphaltic concrete parking areas on the subject site, which will require remedial work. It is our understanding that the subject site is to be redeveloped in the future with a mid-rise apartment building.

It should be noted that VOC impacted native till was identified throughout the subject site, located within the water table.

Soil

It is our recommendation that an environmental site remediation program be completed in conjunction with site redevelopment activities. This will require the segregation of clean soil from impacted soils, the latter of which will require disposal at an approved waste disposal facility and confirmatory sampling.

It is recommended that Paterson personnel be present on-site during remediation activities to direct the excavation and segregation of impacted soil, as well as to conduct confirmatory sampling as required.

Prior to off-site disposal at a licensed landfill, a leachate analysis of a representative sample of contaminated soil must be conducted in accordance with the Ontario Regulation 347/558.

Any clean soil that requires removal from the Phase II Property for construction purposes must be handled in accordance with Ontario Regulation 406/19: On-site and Excess Soil Management. Further information can be provided upon request.

Groundwater

Groundwater impacted by VOCs (cis-1,2-Dichloroethylene, Tetrachloroethylene and Trichloroethylene) was identified in Boreholes BH2A-25 and BH3-25 on the Phase II ESA Property. The VOC exceedances are suspected to be a result of a former off-site dry cleaners 125m west of the Phase II ESA Property.

It is our opinion that the contaminated groundwater does not pose a risk to the current use of the subject buildings, although further assessment would be required to confirm this opinion. However, the presence of contaminated groundwater does pose a liability to the site.

Given that there is contaminated groundwater on-site and that the source of the cis-1,2-Dichloroethylene, Tetrachloroethylene and Trichloroethylene in Boreholes BH2A-25 and

BH3-25, is expected to be a former off-site dry-cleaning facility, remediation of the groundwater to meet the generic MECP standards would not likely be a feasible option. In lieu of generic remediation, a due diligence risk assessment should be completed to assess the risk to the current use of the land and any required risk mitigation measures that would be required to be implemented in any future developments. Further information can be provided upon request.

It is recommended that the monitoring wells be maintained fur future sampling purposes. The monitoring wells will be registered with the MECP under Ontario Regulation 903 (Ontario Water Resources Act). At such a time that the monitoring wells are no longer required, they must be decommissioned in accordance with O.Reg. 903.

Vapour Risk

Given the volatility of the VOC contaminants identified within the groundwater beneath the subject site, there is a potential for volatile vapour intrusion into the existing subject buildings. It is recommended that an interior air quality testing program be carried out to assess the potential risk regarding the current occupation of the subject buildings, along with a due diligence risk assessment to determine the risk to the future building.

1.0 INTRODUCTION

At the request of JSS Riverdale Holdings Inc., Paterson Group (Paterson) carried out a Phase II Environmental Site Assessment at 551 Riverdale Avenue (the Phase II ESA Property), in the City of Ottawa, Ontario. The purpose of this Phase II ESA has been to address areas of potential environmental concern (APECs) identified on the Phase II ESA Property, during the Phase I ESA conducted by Paterson in February 2025.

1.1 Site Description

Address:	551 Riverdale Avenue, Ottawa, Ontario.
Legal Description:	Part of Lot M, Concession C (Rideau Front), Geographic Township of Nepean (City of Ottawa).
Location:	The site is situated on the east side of Riverdale Avenue, approximately 100m north of the intersection of Bank Street and Riverdale Avenue, in the City of Ottawa. Refer to Figure 1 – Key Plan, for the site location context.
Latitude and Longitude:	45° 23’ 28.03" N, 75° 40' 42.39" W

Site Description:

Configuration:	Irregular
Area:	4,970 m^2 (approximate).
Zoning:	R4UD – Residential Fourth Density Zone. R4UD [2657]-h – Residential Fourth Density Zone.

1.2 Property Ownership

Paterson was engaged to carry out this Phase II-ESA by Mr. Marcus Saikaley, who is located at 21-551 Riverdale Avenue, Ottawa, Ontario K1S 1S3.

1.3 Current and Proposed Future Uses

The Phase II ESA Property is currently used for residential purposes.

It is our understanding that the Phase II Property is to be redeveloped for a new residential development.

1.4 Applicable Site Condition Standard

The site condition standards for the property were obtained from Table 9 of the document entitled "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", prepared by the Ontario Ministry of Environment, Conservation and Parks (MECP), April 2011. The selected MECP Table 9 Standards are based on the following considerations:

- ❒ Generic site conditions
- ❒ Within 30m of a water body
- ❒ Non-potable groundwater conditions
- ❒ Residential land use

Section 35 of O.Reg. 153/04 does apply to the Phase II ESA Property in that the property does not rely upon potable groundwater.

Section 41 of O.Reg. 153/04 does not apply to the Phase II ESA Property, as the property is not within 30m of an environmentally sensitive area.

Section 43.1 of O.Reg. 153/04 applies to the Phase II ESA Property in that the property is within 30m of a water body.

The intended use of the Phase II ESA Property is for residential purposes; therefore, the Residential Standards have been selected for the purpose of this Phase II ESA.

2.0 BACKGROUND INFORMATION

2.1 Physical Setting

The Phase II ESA Property is situated on the east side of Riverdale Avenue, approximately 100m north of the intersection of Bank Street and Riverdale Avenue, in the City of Ottawa, Ontario.

The Phase II ESA Property is occupied by four blocks, with a total of 23 townhouse units, as well as several storage sheds at the south corner of the property, wit the remainder consisting of asphaltic concrete parking. Site drainage consists primarily of infiltration in the landscaped areas and sheet flow to catch basins located along Riverdale Avenue.

The site and regional topography gradually slope downward towards the east, towards the Rideau River. The Phase II Property is considered at grade with respect to the neighbouring street to the west of the subject site.

2.2 Past Investigations

Paterson completed a Phase I ESA in February 2025 for the Phase II ESA Property. Based on the findings of the Phase I ESA, 5 potentially contaminating activities (PCAs) were determined to result in 4 areas of potential environmental concern (APECs) on the Phase II ESA Property:

- ❑ APEC 1: Fill Material of Unknown Quality (PCA 30).
- ❑ APEC 2: Application of Road Salt (PCA N/A).
- ❑ APEC 3: Former Dry Cleaners (PCA 37).
- ❑ APEC 4: Automotive Service Garage & Former Retail Fuel Outlet (PCA 28, 52).

The rationale for identifying the above APECs is based on aerial photographs, fire insurance plans, city directories, field observations, and personal interviews. A Phase II ESA was recommended to address the aforementioned APECs.

3.0 SCOPE OF INVESTIGATION

3.1 Overview of Site Investigation

The subsurface investigation was conducted during the interim of February 10, 2025 and February 11, 2025. The field program consisted of drilling five (5) boreholes to address the APECs identified on the Phase II ESA Property. Secondary boreholes were completed at BH1-25 and BH2-25 due to shallower than expected refusal caused by large boulders. Three (3) boreholes were completed with monitoring well installations. Boreholes were drilled to a maximum depth of 5.9m below the ground surface (mbgs).

3.2 Media Investigated

During the subsurface investigation, soil samples and groundwater samples were obtained and submitted for laboratory analysis. The rationale for sampling and analyzing this media is based on the Contaminants of Potential Concern identified in the Phase I ESA.

Contaminants of potential concern on the Phase II ESA Property include benzene, toluene, ethylbenzene and xylenes (BTEX), volatile organic compounds (VOCs), petroleum hydrocarbons (PHCs, F1-F4), polycyclic aromatic hydrocarbons (PAHs), metals (including As, Se and Sb), electrical conductivity (EC) and sodium adsorption ratio (SAR). These CPCs may be present in the soil and/or groundwater beneath the Phase II ESA Property.

3.3 Phase I Conceptual Site Model

Geological and Hydrogeological Setting

Based on the available mapping information, the bedrock beneath the Phase I Property generally consists of shale of the Billings Formation. The surficial geology consists largely of offshore marine sediments, consisting of clay and silt with a drift thickness of approximately 5m to 10m.

Water Bodies and Areas of Natural and Scientific Interest

No water bodies are present on the Phase I Property. The Rideau River is the closest significant water body present within the Phase I Study area, located adjacent to the east of the Phase I Property.

There are no areas of natural and scientific interest on the Phase I Property or within the Phase I Study Area.

Drinking Water Wells

Based on the availability of municipal water services in the area of the Phase I Property, no drinking water wells are expected to remain in use within the Phase I Study Area.

Existing Buildings and Structures

The Phase I Property is currently occupied by twenty-three townhouse units all with a full basement, as well as three small storage sheds in the southern corner of the property.

Current and Future Property Use

The Phase I Property is currently used for residential purposes.

It is our understanding that the Phase I Property is to be redeveloped for a new residential development. Since the land use will remain as residential, a record of site condition (RSC) will not be required to be filed with the MECP.

Neighbouring Land Use

The surrounding lands within the Phase I Study Area consist of a combination of commercial retail/restaurant, residential and parkland. Current land use is depicted on Drawing PE6907-2 – Surrounding Land Use Plan, in the Figures section of this report.

Potentially Contaminating Activities and Areas of Potential Environmental Concern

As per Section 7.1 of the Phase I ESA, five (5) PCAs and the resultant APECs are summarized in the table below, along with their respective locations and contaminants of potential concern (CPCs).

Table 1: Potentially Contaminating Activities and 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 Fill Material of Unknown Quality	Throughout the Phase I Property	PCA 30 – Importation of Fill Material of Unknown Quality	On-site	BTEX PHCs PAHs Metals (including As, Se, Sb)	Soil
APEC 2[1] Application of Road Salt	Throughout the Phase I Property	PCA N/A – Application of road salt for the safety of vehicular or pedestrian traffic under conditions of snow or ice.	On-site	Electrical Conductivity (EC) Sodium Adsorption Ratio (SAR)	Soil
APEC 3 Former Dry Cleaners	Western portion of the Phase I Property	PCA 37 – Operation of Dry Cleaning Equipment (where chemicals are used)	Off-site	VOCs	Soil and/or Groundwater

1 - In accordance with Section 49.1 of O.Reg. 153/04 standards are deemed to be met if an applicable site condition standard at a property solely because the qualified person has determined that a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both. The exemption outlined in Section 49.1 is being relied on, with respect to the Phase I ESA Property.

Table 1: Potentially Contaminating Activities and Areas of Potential Environmental Concern - Continued

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 4: Former Retail Fuel Outlet and Existing Automotive Service Garage	Southern portion of the Phase I Property	PCA 28 – Gasoline and Associated Products Storage in Fixed Tanks PCA 52 – Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems	Off-site	VOCs PHCs	Groundwater

Contaminants of Potential Concern

As per Section 7.1, the contaminants of potential concern (CPCs) in soil and/or groundwater include petroleum hydrocarbons (PHCs, F1-F4), benzene, ethylbenzene, toluene and xylenes (BTEX), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and Metals (including As, Se and Sb).

In accordance with Section 49.1 of O.Reg. 153/04, as amended, electrical conductivity (EC) and sodium adsorption ratio (SAR) are not considered to be CPCs.

Assessment of Uncertainty and/or Absence of Information

The information available for review as part of the preparation of the Phase I-ESA is considered to be sufficient to conclude that there are on- and off-site PCAs that have resulted in APECs on the Phase I ESA Property.

A variety of independent sources were consulted as part of this assessment, and as such, the conclusions of this report are not affected by uncertainty which may be present with respect to the individual sources.

3.4 Deviations from Sampling and Analysis Plan

The Sampling and Analysis Plan for this project is included in Appendix 1 of this report. No deviations from the Sampling and Analysis Plan were identified during the Phase II ESA.

3.5 Impediments

Physical impediments encountered during the Phase II ESA field program included underground and overhead utilities and structures, which limited the locations of the boreholes. Due to underground services along the entranceway, BH2 had to be relocated accordingly.

4.0 INVESTIGATION METHOD

4.1 Subsurface Investigation

The subsurface investigation was completed during the interim of February 10, 2025 and February 11, 2025. The field program consisted of drilling five boreholes (BH1/BH1A-25, BH2/BH2A-25 and BH3-25) across the Phase II Property.

The boreholes were drilled to a maximum depth of 5.9m below ground surface (bgs) to intercept groundwater. Three (3) boreholes were completed as groundwater monitoring wells.

The boreholes were placed to address the aforementioned APECs presented in Table 1. The boreholes were drilled using a low-clearance track mounted drill-rig operated by George Downing Estate Drilling of Hawkesbury, Ontario, under full-time supervision of Paterson personnel. The borehole locations are indicated on the attached Drawing PE6907-3 - Test Hole Location Plan.

4.2 Soil Sampling

A total of twenty-one soil samples were obtained from the boreholes by means of sampling from auger flights and split spoon sampling. Split spoon samples were taken at approximate 0.76 m intervals. The depths at which auger samples and split spoon were obtained from the boreholes are shown as “**AU**” and “**SS**” respectively on the Soil Profile and Test Data Sheets.

The stratigraphy encountered within the boreholes generally consisted of a surficial layer of asphalt, over a layer of fill comprised of silty sand with gravel

and some crushed stone, underlain by glacial till, consisting of a silty sand to silty clay matrix. Bedrock was not confirmed during the field program.

4.3 Field Screening Measurements

Soil samples recovered at the time of sampling were placed immediately into airtight plastic bags with nominal headspace. All lumps of soil inside the bags were broken by hand, and the soil was allowed to come to room temperature prior to conducting the vapour survey. Allowing the samples to stabilize to room temperature ensures consistency of readings between samples.

To measure the soil vapours, the analyser probe is inserted into the nominal headspace above the soil sample. A photo ionization detector (PID) was used to measure the volatile organic vapour concentrations. The sample is agitated/manipulated gently as the measurement is taken. The peak reading registered within the first 15 seconds is recorded as the vapour measurement.

The PID readings were found to range from 0.8 to 3.7 ppm in the soil samples obtained. These results do not indicate the potential for significant contamination from volatile contaminants. Vapour readings are noted on the Soil Profile and Test Data Sheets in Appendix 1. The results of the vapour survey are presented on the Soil Profile and Test Data sheets.

4.4 Groundwater Monitoring Well Installation

Three (3) groundwater monitoring wells were installed on the Phase II ESA Property as part of the subsurface investigation. The monitoring wells were constructed using 50mm diameter, Schedule 40 threaded PVC risers and screens. Monitoring well construction details are listed in Table 1: Test Hole Summary Details in Appendix 2 and are also presented on the Soil Profile and Test Data Sheets, appended to this report.

4.5 Groundwater Sampling

Groundwater sampling protocols were followed using the MECP document entitled “Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario”, dated May 1996.

Groundwater samples were obtained from each monitoring well, using dedicated sampling equipment. Standing water was purged from each well prior to sampling. Samples were stored in coolers to reduce analyte volatilization during

transportation. Details of our standard operating procedure for groundwater sampling are provided in the Sampling and Analysis Plan in Appendix 1.

4.6 Analytical Testing

Based on the guidelines outlined in the Sampling and Analysis Plan, soil samples were submitted for analysis of the parameters listed in Table 2: Soil Testing Summary, in Appendix 2.

Based on the guidelines outlined in the Sampling and Analysis Plan, groundwater samples were submitted for analysis of the parameters listed in Table 3: Groundwater Testing Summary, in Appendix 2.

Paracel Laboratories (Paracel), of Ottawa, Ontario, performed the laboratory analysis on the samples submitted for analytical testing. Paracel is a member of the Standards Council of Canada/Canadian Association for Laboratory Accreditation (SCC/CALA). Paracel is accredited and certified by SCC/CALA for specific tests registered with the association.

4.7 Residue Management

All soil cuttings, purge water and fluids from equipment cleaning were retained on-site.

4.8 Elevation Surveying

The ground surface elevations at each borehole location were surveyed using GPS Survey equipment by Paterson personnel and referenced to a geodetic datum.

4.9 Quality Assurance and Quality Control Measures

A summary of quality assurance and quality control (QA/QC) measures, including sampling containers, preservation, labelling, handling, and custody, equipment cleaning procedures, and field quality control measurements is provided in the Sampling and Analysis Plan in Appendix 1.

5.0 REVIEW AND EVALUATION

5.1 Geology

Stratigraphy at the Phase II Property generally consists of the following:

- **Asphaltic Concrete** was identified at ground surface in all boreholes and extended to a maximum depth of 0.10 mbgs.
- **Fill Material** generally consisting of silty sand, with gravel and trace crushed stone was identified below the asphaltic concrete structure in all boreholes and extended to a maximum depth of 2.13 mbgs. Groundwater was not encountered in this layer.
- **Native Clayey Silt** was encountered in BH3-25 and extended to a maximum depth of 2.21 mbgs. Groundwater was not encountered in this layer.
- **Native Silty Sand** was encountered in BH3-25 and extended to a maximum depth of 2.97 mbgs. Groundwater was not encountered in the layer.
- **Glacial Till** generally consisting of silty sand to silty clay with gravel, cobbles and boulders was encountered in all boreholes and extended to a maximum depth of 5.94 mbgs. Groundwater was encountered in this layer in all boreholes.

The stratigraphy of the Phase II ESA Property, from ground to surface to the deepest aquifer or aquitard investigated, is provided in the Soil Profile and Test Data Sheets, in Appendix 1.

5.2 Groundwater Elevations, Flow Direction, and Hydraulic Gradient

Groundwater levels were measured during the groundwater sampling events on February 19, 2025 and March 6, 2025, using an electronic water level meter. Groundwater levels were recorded from the monitoring wells installed in BH1-25, BH2A-25 and BH3-25. The groundwater levels are summarized in Table 4: Groundwater Levels, in Appendix 2.

The groundwater at the Phase II ESA Property was encountered within the overburden throughout all boreholes at depths ranging from approximately 3.11m to 3.56m below the existing ground surface.

Using the groundwater elevations recorded during the interim of February 19, 2025 to March 6, 2025, groundwater contour mapping was completed as part of this assessment. Groundwater contours are shown on Drawing PE6907-3 – Test Hole Location Plan. Based on the contour mapping, groundwater flow at the subject site is in an easterly direction. A horizontal hydraulic gradient of approximately 0.006m/m was calculated.

It should be noted that groundwater levels are expected to fluctuate throughout the year with seasonal variations.

5.3 Fine-Coarse Soil Texture

Grain size analysis was not completed as part of this investigation. Coarse grained soil standards were chosen based on the nature of the recovered soil samples.

5.4 Soil: Field Screening

Field screening of the soil samples collected during drilling resulted in vapour readings ranging from 0.8 to 3.7ppm. The field screening results of each individual soil sample are provided on the Soil Profile and Test Data Sheets appended to this report.

5.5 Soil Quality

A total twenty-one (21) representative soil samples were recovered from five (5) boreholes, eight (8) of which (plus one duplicate) were submitted for laboratory analysis of either, BTEX, VOCs, PHCs (F1-F4), PAHs, Metals and EC/SAR. The results of the analytical testing are presented in Table 4: Soil Analytical Test Results, as well as on the laboratory certificates of analysis, appended to this report.

Metals and Inorganics

Molybdenum in Samples BH1-25-AU1 and BH2-25-AU1 exceed the MECP Table 9 Standards. The remaining metal concentrations in the soil samples analyzed are in compliance with the selected MECP Table 9 Standards. The analytical results for metals tested in the soil are shown on Drawing PE6907-4 – Analytical Testing Plan – Soil (Metals, Inorganics).

Several samples were found to exceed the MECP Table 9 Standards. The remaining EC and SAR levels in the soil samples analyzed are in compliance with the selected MECP Table 9 Standards. The analytical results for EC and SAR tested in the soil are shown on Drawing PE6907-4 – Analytical Testing Plan – Soil (Metals, Inorganics).

All analytical results were found to be within the pH range of 5.0 and 9.0 and are therefore within the acceptable range for both surface and subsurface soils.

PHCs (F1-F4)

Several PHC parameter concentrations in Samples BH1-25-AU1, BH2-25-AU1 and BH3-25-AU1 exceed the MECP Table 9 Standards. Sample BH1-25-AU1 exceeds PHC F2, due to increased analyte concentrations during the laboratory analysis. The remaining PHC concentrations in the soil samples analyzed are in compliance with the selected MECP Table 9 Standards. The analytical results for the tested soil are shown on Drawing PE6907-5 – Analytical Testing Plan – Soil (PHCs).

BTEX and VOCs

Several VOC parameter concentrations in Samples BH1-25-SS6, BH2A-25-SS7 and BH3-25-SS6 exceed the MECP Table 9 Standards. The remaining VOC concentrations in the soil samples analyzed are in compliance with the selected MECP Table 9 Standards. The analytical results for the tested soil are shown on Drawing PE6907-6 – Analytical Testing Plan – Soil (VOCs, BTEX).

Several BTEX parameter concentrations in Samples BH1-25-SS6, BH2A-25-SS7 and BH3-25-SS6 exceed the MECP Table 9 Standards. The remaining BTEX concentrations in the soil samples analyzed are in compliance with the selected MECP Table 9 Standards. The analytical results for the tested soil are shown on Drawing PE6907-6 – Analytical Testing Plan – Soil (VOCs, BTEX).

PAHs

Various PAH parameter concentrations in Samples BH1-25-AU1 and BH3-25-AU1 exceed the MECP Table 9 Standards, due to increased method detection limits. The remaining PAH concentrations in the soil samples analyzed are in compliance with the selected MECP Table 9 Standards. The analytical results for PAHs tested in the soil are shown on Drawing PE6907-7 – Analytical Testing Plan – Soil (PAHs).

Maximum Soil Parameter Concentrations

The maximum concentration of each parameter identified in soil samples analyzed on the Phase II Property are presented in Table 4A: Maximum Concentrations – Soil, appended to this report.

5.6 Groundwater Quality

Three groundwater samples (plus one duplicate) were recovered from the monitoring wells installed in Boreholes BH1A-25, BH2A-25 and BH3-25 during the sampling events on February 19, 2025 and March 6, 2025 and submitted for laboratory analysis of PHCs (F1-F4) and VOCs.

The results of the analytical testing are presented in Table 5: Groundwater Analytical Test Results, as well as on the laboratory certificates of analysis, appended to this report.

VOCs

Several VOC parameter concentrations were identified in Samples BH2A-25-GW1 and BH3-25-GW1 that exceeded the MECP Table 9 Standards. The remaining VOC concentrations in the groundwater samples analyzed are in compliance with the selected MECP Table 9 Standards. The analytical results for VOCs tested in the groundwater are shown on Drawing PE6907-8 – Analytical Testing Plan – Groundwater – VOCs.

PHCs (F1-F4)

All detectable PHC concentrations identified in the groundwater samples are in compliance with the MECP Table 9 Standards. The analytical results for PHCs tested in the groundwater are shown on Drawing PE6907-9 – Analytical Testing Plan – Groundwater – PHCs.

Maximum Groundwater Parameter Concentrations

The maximum concentration of each parameter identified in the groundwater samples analyzed on the Phase II Property are presented in Table 5A: Maximum Concentrations – Groundwater, appended to this report.

5.7 Quality Assurance and Quality Control Results

All samples submitted as part of the February 2025 and March 2025 sampling events were handled in accordance with the Analytical Protocol with respect to preservation method, storage requirement, and container type.

As per Subsection 47(3) of O.Reg. 153/04, as amended, under the Environmental Protection Act, a Certificate of Analysis has been received for each sample submitted for analysis and all Certificates of Analysis are appended to this report.

As per the Sampling and Analysis Plan, a duplicate soil sample was obtained from BH1-25-AU1 and submitted for laboratory analysis of BTEX, PHCs (F1-F4), PAHs, Metals and EC/SAR. The relative percent difference (RPD) calculations for the soil samples are provided in Table 6: QA/QC Calculations.

The RPD calculated for all, but one parameter fell within the acceptable range of 20%. Given that there is a similarity in the list of parameters detected in both the original and duplicate sample, and that both samples comply with the site standards, the data quality objectives outlined in the Sampling and Analysis Plan, appended to this report, are considered to have been met.

Similarly, a duplicate groundwater sample was obtained from sample BH1A-25-GW1 and submitted for laboratory analysis of VOC and PHC parameters. No parameter concentrations were detected in either the original or the duplicate samples above the laboratory method detection limits, and as such, they are considered to meet the data quality objectives outlined in the Sampling and Analysis Plan, appended to this report.

Based on the results of the QA/QC analysis, the quality of the field data collected during this Phase II ESA is considered to be sufficient to meet the overall objectives of this assessment.

5.8 Phase II Conceptual Site Model

The following section has been prepared in accordance with the requirements of O.Reg. 153/04, as amended by the Environmental Protection Act. Conclusions and recommendations are discussed in a subsequent section.

Site Description

Potentially Contaminating Activity and Areas of Potential Environmental Concern

As indicated in Table 1, Section 3.3 of this report, the on-site and off-site PCAs that were identified to have resulted in APECs on the Phase II Property are as follows:

- PCA 30 – "Importation of Fill Material of Unknown Quality" associated with the presence of fill material throughout the Phase I Property (APEC 1);
- PCA N/A – "Application of road salt for the safety of vehicular or pedestrian traffic under conditions of snow or ice" across the Phase I Property (APEC 2);
- PCA 37 – "Operation of Dry-Cleaning Equipment (where chemicals are used)" associated with the former presence of a dry cleaners at the property addressed 1235 Bank Street, approximately 125m west of the Phase I Property (APEC 3);
- PCA 28 – "Gasoline and Associated Products Storage in Fixed Tanks" associated with the former retail fuel outlet at the property addressed 1305 Bank Street (formerly 1271 Bank Street), to the west of the Phase I Property (APEC 4);
- PCA 52 – "Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems" associated with the existing Jiffy Lube at the property addressed 1305 Bank Street, to the west of the Phase I Property (APEC 4);

In accordance with Section 49.1 of O.Reg. 153/04, the application of road salt is not considered a PCA that would result in an APEC on the Phase II Property, if the application of road salt was applied to the surface of the parking lot and laneway for the safety of vehicular and pedestrian traffic under conditions of ice and/or snow. Therefore, APEC 2 is exempted.

Contaminants of Potential Concern

The contaminants of potential concern for the soil and/or groundwater on the Phase II Property include the following:

- Petroleum Hydrocarbons, Fractions 1 – 4 (PHCs F1-F4);
- Benzene, Toluene, Ethylbezene, and Xylenes (BTEX);
- Volatile Organic Compounds (VOCs);
- Polycyclic Aromatic Hydrocarbons (PAHs);
- Metals (including As, Se and Sb).

In accordance with Section 49.1 of O.Reg. 153/04, as amended, electrical conductivity (EC) and sodium adsorption ratio (SAR) are not considered to be CPCs.

Subsurface Structures and Utilities

Underground service locates were completed prior to the subsurface investigation. Buried utilities on the Phase II Property include gas, electrical, water and sewer services on the northern half of the Phase II Property.

No other subsurface structures were identified on the Phase II Property.

Based on standard practice for subsurface utility installation, service trenches are expected to be present approximately 1 to 2m below existing grade. In general, trench backfill may provide a preferential pathway for contaminant transport if the water table is at or above the base of the trenches.

Based on the findings of this Phase II ESA, service trenches are not considered to have created preferential pathways for contaminant migration.

Physical Setting

Site Stratigraphy

Stratigraphy at the Phase II Property generally consists of the following:

- **Asphaltic Concrete** was identified at ground surface in all boreholes and extended to a maximum depth of 0.10 mbgs.
- **Fill Material** generally consisting of silty sand, with some gravel, and trace amounts of gravel, crushed stone, bricks and asphalt in all boreholes.

Borehole BH3-25 was observed to have trace amounts of wood in the fill material. Fill material extended to a maximum depth of 2.13 mbgs.

- **Native Silty Sand/Clayey Silt** was encountered in the Borehole BH3-25 extending to a maximum depth of 2.97 mbgs. Silty sand and clayey silt were not encountered in the remaining boreholes.
- **Glacial Till** was encountered in all boreholes and consisted of a mix of silty sand or silty clay with variable amounts of gravel, cobbles and boulders extending to a maximum depth of 5.94 mbgs. Groundwater was encountered in this layer in all boreholes.

The stratigraphy of the Phase II ESA Property, from ground to surface to the deepest aquifer or aquitard investigated, is provided in the Soil Profile and Test Data Sheets, in Appendix 1.

Hydrogeological Characteristics

Groundwater levels were measured during the groundwater sampling events on February 19, 2025 and March 6, 2025, using an electronic water level meter. Groundwater levels were recorded from the monitoring wells installed in BH1-25, BH2A-25 and BH3-25. The groundwater levels are summarized in Table 4: Groundwater Levels, in Appendix 2.

The groundwater at the Phase II ESA Property was encountered within the overburden throughout all boreholes at depths ranging from approximately 3.11m to 3.56m below the existing ground surface.

Using the groundwater elevations recorded during the interim of February 19, 2025 to March 6, 2025, groundwater contour mapping was completed as part of this assessment. Groundwater contours are shown on Drawing PE6907-3 – Test Hole Location Plan. Based on the contour mapping, groundwater flow at the subject site is in an easterly direction. A horizontal hydraulic gradient of approximately 0.006m/m was calculated.

It should be noted that groundwater levels are expected to fluctuate throughout the year with seasonal variations.

Free product was not observed during the Phase II ESA investigation.

Approximate Depth to Bedrock

Bedrock was not encountered during the subsurface investigation. Based on the available mapping provided by the Geological Survey of Canada, bedrock is reported to be present at a depth of approximately 5 to 10m below grade.

Approximate Depth to Water Table

The depth to the water table at the subject site varies between approximately 2.78 m to 3.56m below existing grade.

Section 35 of Ontario Regulation 153/04: Non-Potable Groundwater

Section 35 of O.Reg. 153/04 does apply to the Phase II Property in that the property, and the properties within the 250m study area do not rely upon potable groundwater.

Section 41 of Ontario Regulation 153/04: Environmentally Sensitive Areas

Section 41 of the Regulation does not apply to the Phase II ESA Property, in that the subject property is not within 30m of an environmentally sensitive area.

Section 43.1 of Ontario Regulation 153/04: Shallow Soil Property or Water Body

Section 43.1 of the Regulation does apply to the Phase II ESA Property as a water body is located within 30m of the Phase II Property.

Section 49.1 of Ontario Regulation 153/04

APEC 2 has been presented as part of this Phase II to reflect the past potential use of salt or similar substances during conditions of snow or ice or both. The related parameters in soil (EC, SAR) are considered to have met the Phase II Property standards based on Section 49.1 of the Regulation.

Fill Placement

Fill material generally consisted of silty sand, with some gravel, and trace amounts of gravel, crushed stone, bricks and asphalt in all boreholes. Borehole BH3-25 was observed to have trace amounts of wood in the fill material.

Existing Buildings and Structures

The Phase I Property is currently occupied by twenty-three townhouse units all with a full basement, as well as three small storage sheds in the southern corner of the property.

Proposed Buildings and Other Structures

It is our understanding that the Phase I Property is to be redeveloped for a new residential development.

Water Bodies and Areas of Natural Scientific Interest

No water bodies are present on the Phase I Property. The Rideau River is the closest significant water body present within the Phase I Study area, located adjacent to the east of the Phase I Property.

There are no areas of natural and scientific interest on the Phase I Property or within the Phase I Study Area.

Environmental Condition

Areas Where Contaminants are Present

Based on the findings of the subsurface investigation, PHC, molybdenum and PAH impacted fill material was identified in the boreholes from 0.10 to 0.61 mbgs.

VOC impacted native soil was identified in BH1-25, BH2-25 and BH3-25 from 3.81 to 5.18 mbgs.

VOC impacted groundwater was identified in Boreholes BH2A-25 and BH3-25. The remaining groundwater results complied with the selected MECP Table 9 Standards.

Types of Contaminants

PHCs (F2, F3 and F4), Molybdenum, Xylenes, VOCs, PAHs, EC and SAR were identified in the fill and/or native soils.

Based on the current analytical testing, the groundwater beneath the Phase II Property is impacted with several VOCs.

Contaminated Media

Based on the results of the Phase II ESA, shallow fill material (directly beneath the pavement structure) is impacted with molybdenum, PAHs, PHCs and/or EC and SAR to a depth of approximately 1.52 mbgs. Native glacial till impacted with several VOCs was identified beneath the Phase II Property.

The groundwater beneath the western and southern portion of the Phase II Property is impacted with VOCs.

What is Known About Areas Where Contaminants Are Present

Fill material is impacted with molybdenum, PHCs (F3 and F4), PAH throughout the Phase II Property, as well as PHC (F2) in the northern portion of the subject property. Impacts related to the application of road salt for safety purposes are present throughout the subject property. Impacted fill material is expected to be a result of placement of poor-quality fill material across the Phase II Property during site development. Native glacial till material is impacted with several VOCs throughout the Phase II Property.

VOC impacted groundwater was also identified beneath the central and southern portion of the subject site. Based on the nature and depth of the contaminants, the VOC impacted groundwater is considered likely to have resulted from the off-site migration of contaminated groundwater onto the subject site, from a former dry-cleaning operation to the west of the Phase II Property.

Distribution and Migration of Contaminants

Based on the analytical testing and site observations, fill material impacted with molybdenum, PHCs fractions F2, F3 and F4, and PAHs were identified throughout the Phase II Property. No impacted fill is expected to be present beneath the current buildings due to the fact that the buildings are constructed within the native soil layer. Vertical delineation samples show these impacts to be contained to the upper fill layer.

Based on the analytical testing, several VOC parameters were identified exceeding the site standards throughout the native till on the Phase II Property. The VOC impacts identified at the boreholes were identified in the water table. The VOC impacts appear to have migrated from the former dry cleaners to the west onto the Riverdale Avenue property.

Discharge of Contaminants

The discharge of contaminants is considered to be a result of the historical placement of poor-quality fill material or leaks and spills associated with the former off-site dry-cleaning operation. EC and SAR exceedances are related to the application of road salt for safety purposes (de-icing) on the subject property and adjacent roadways.

Climatic and Meteorological Conditions

In general, climatic and meteorological conditions have the potential to affect contaminant distribution. Two (2) 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.

Downward leaching of contaminants by means of infiltration of precipitation is considered to be minimal at the Phase II Property, as the majority of the site has been paved and/or covered with building structures.

Potential for Vapour Intrusion

Given the volatility of the contaminants identified within the groundwater beneath the subject site, there is a potential for vapour intrusion into the existing subject buildings.

Any future development of the subject site will require the remediation of the property or a due diligence risk assessment to be completed.

6.0 CONCLUSIONS

Assessment

A Phase II ESA was carried out for the property addressed 551 Riverdale Avenue, in Ottawa, Ontario. The purpose of the Phase II ESA was to address potentially contaminating activities (PCAs) that were identified during the Phase I ESA and considered to result in areas of potential environmental concern (APECs) on the Phase II ESA Property.

The Phase II ESA subsurface investigation consisted of drilling five (5) boreholes across the Phase II Property. Three (3) boreholes were constructed with groundwater monitoring wells. The general soil profile encountered during the field program consisted of fill material, followed by native glacial till. The boreholes were advanced to depths ranging from 4.45 to 5.94m below the existing grade and terminated in the native glacial till layer.

Eight (8) soil samples (plus one duplicate) were submitted for laboratory analysis of either, benzene, toluene, ethylbenzene, xylenes (BTEX), petroleum hydrocarbons (PHCs, F1-F4), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), metals (including hydride forming compounds: arsenic (As), antimony (Sb), selenium (Se)), electrical conductivity (EC) and sodium adsorption ratio (SAR). Two representative samples were submitted for pH analysis. Metal parameter concentrations were identified below the site standards, with the exception of molybdenum identified in the upper fill layer in Boreholes BH1-25 and BH2-25. PHC, fractions F2 through F4 impacted fill was identified throughout all boreholes. Several PAH parameters were observed to exceed the MECP Table 9 Non-Potable Standards within the upper fill material throughout the subject property. Several VOC parameter concentrations were identified above the site standards in native till layer in Boreholes BH2-25 and BH3-25. The remaining soil results comply with the MEPC Table 9 Non-Potable Standards.

Three (3) groundwater samples (plus one duplicate) were submitted for laboratory analysis of PHCs (F1-F4) and VOCs. Based on the analytical test results, all detected PHC concentrations complied with the MECP Table 9 Standards. Several VOC parameters were detected in Samples BH2A-25-GW1 and BH3-25-GW1 at concentrations above the MECP Table 9 Standards.

Recommendations

Based on the findings of this assessment, metals, PHC and PAH impacted fill was identified underneath the asphaltic concrete parking areas on the subject site, which will require remedial work. It is our understanding that the subject site is to be redeveloped in the future with a mid-rise apartment building.

It should be noted that VOC impacted native till was identified throughout the subject site, located within the water table.

Soil

It is our recommendation that an environmental site remediation program be completed in conjunction with site redevelopment activities. This will require the segregation of clean soil from impacted soils, the latter of which will require disposal at an approved waste disposal facility and confirmatory sampling.

It is recommended that Paterson personnel be present on-site during remediation activities to direct the excavation and segregation of impacted soil, as well as to conduct confirmatory sampling as required.

Prior to off-site disposal at a licensed landfill, a leachate analysis of a representative sample of contaminated soil must be conducted in accordance with the Ontario Regulation 347/558.

Any clean soil that requires removal from the Phase II Property for construction purposes must be handled in accordance with Ontario Regulation 406/19: On-site and Excess Soil Management. Further information can be provided upon request.

Groundwater

Groundwater impacted by VOCs (cis-1,2-Dichloroethylene, Tetrachloroethylene and Trichloroethylene) was identified in Boreholes BH2A-25 and BH3-25 on the Phase II ESA Property. The VOC exceedances are suspected to be a result of a former off-site dry cleaners 125m west of the Phase II ESA Property.

It is our opinion that the contaminated groundwater does not pose a risk to the current use of the subject buildings, although further assessment would be required to confirm this opinion. However, the presence of contaminated groundwater does pose a liability to the site.

Given that there is contaminated groundwater on-site and that the source of the cis-1,2-Dichloroethylene, Tetrachloroethylene and Trichloroethylene in Boreholes BH2A-25 and BH3-25, is expected to be a former off-site dry-cleaning facility, remediation of the groundwater to meet the generic MECP standards would not likely be a feasible option. In lieu of generic remediation, a due diligence risk assessment should be completed to assess the risk to the current use of the land and any required risk mitigation measures that would be required to be implemented in any future developments. Further information can be provided upon request.

It is recommended that the monitoring wells be maintained fur future sampling purposes. The monitoring wells will be registered with the MECP under Ontario Regulation 903 (Ontario Water Resources Act). At such a time that the monitoring wells are no longer required, they must be decommissioned in accordance with O.Reg. 903.

Vapour Risk

Given the volatility of the VOC contaminants identified within the groundwater beneath the subject site, there is a potential for volatile vapour intrusion into the existing subject buildings. It is recommended that an interior air quality testing program be carried out to assess the potential risk regarding the current occupation of the subject buildings, along with a due diligence risk assessment to determine the risk to the future building.

7.0 STATEMENT OF LIMITATIONS

This Phase II - Environmental Site Assessment report has been prepared under the supervision of a Qualified Person, in general accordance with O.Reg. 153/04, as amended, and meets the requirements of CSA Z769-00 (reaffirmed 2022). The conclusions presented herein are based on information gathered from a limited sampling and testing program. The test results represent conditions at specific test locations at the time of the field program.

The client should be aware that any information pertaining to soils and all test hole logs are furnished as a matter of general information only and test hole descriptions or logs are not to be interpreted as descriptive of conditions at locations other than those of the test holes themselves.

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 JSS Riverdale Holdings Inc. Notification from above noted party and Paterson Group will be required to release this report to any other party.

Paterson Group Inc.

Joshua Dempsey, B.Sc.

Mark D'Arcy, P.Eng., QP$_{ESA}$

Report Distribution:

- JSS Riverdale Holdings Inc.
- Paterson Group Inc.

FIGURES

FIGURE 1 – KEY PLAN

DRAWING PE6709-1 – SITE PLAN

DRAWING PE6709-2 – SURROUNDING LAND USE PLAN

DRAWING PE6709-3 – TEST HOLE LOCATION PLAN

DRAWING PE6709-4 – ANALYTICAL TESTING PLAN – SOIL (METALS)

DRAWING PE6709-4A – CROSS-SECTION A-A' – SOIL (METALS)

DRAWING PE6709 – 5 – ANALYTICAL TESTING PLAN – SOIL (PHCs)

DRAWING PE6709 – 5A – CROSS-SECTION A-A' – SOIL (PHCs)

DRAWING PE6709 – 6 – ANALYTICAL TESTING PLAN – SOIL (VOCS, BTEX)

DRAWING PE6709 – 6A – CROSS SECTION A-A' – SOIL (VOCs, BTEX)

DRAWING PE6709 – 7 – ANALYTICAL TESTING PLAN – SOIL (PAHs)

DRAWING PE6709 – 7A – CROSS-SECTION A-A' – SOIL (PAHs)

DRAWING PE6709 – 8 – ANALYTICAL TESTING PLAN – GROUNDWATER (VOCs)

DRAWING PE6709 – 8A – CROSS SECTION A-A' – GROUNDWATER (VOCs)

DRAWING PE6709 – 9 – ANALYTICAL TESTING PLAN – GROUNDWATER (PHCs)

DRAWING PE6709 – 9A – CROSS-SECTION A-A' – GROUNDWATER (PHCs)

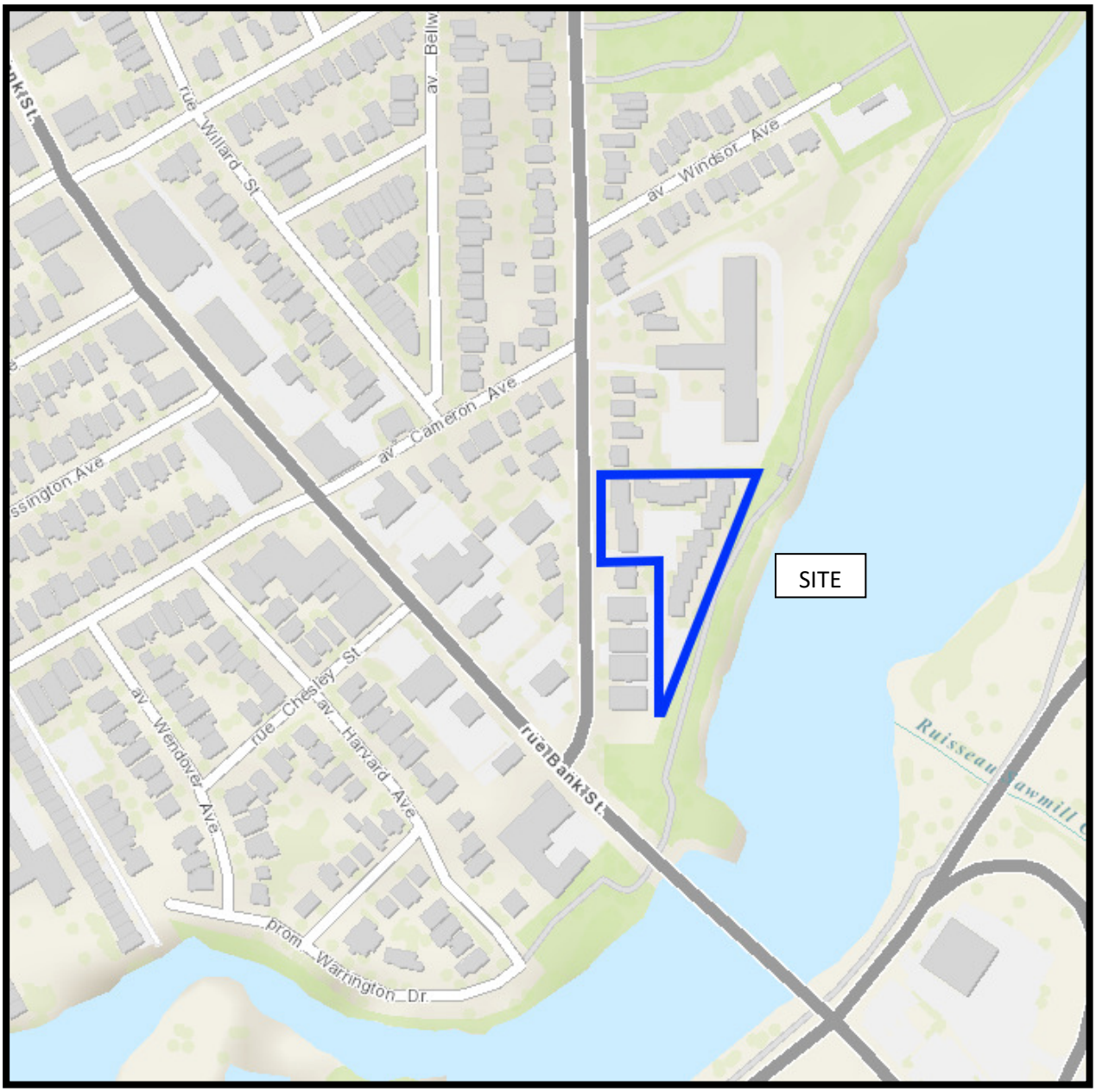
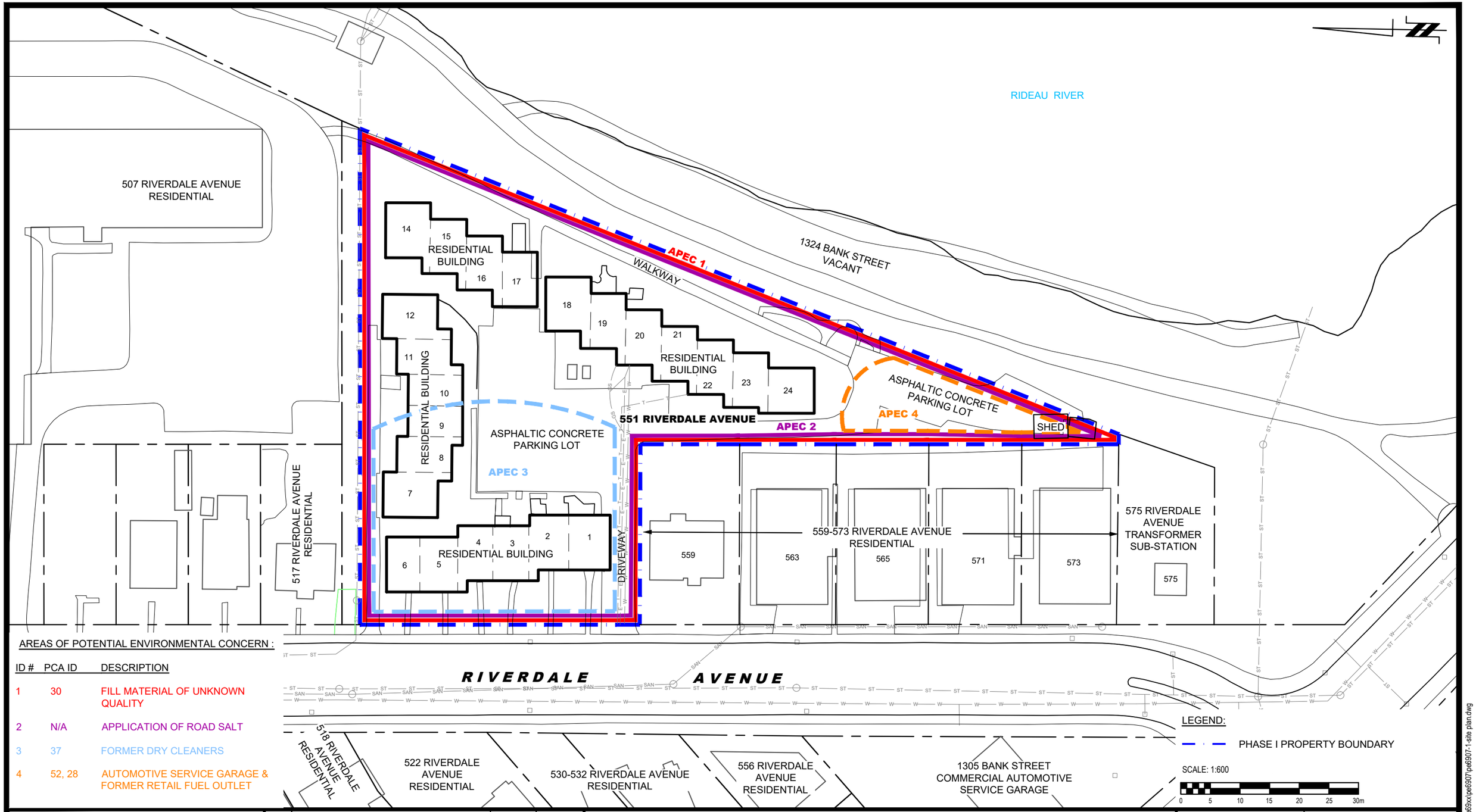


FIGURE 1

KEY PLAN

PATERSON GROUP



AREAS OF POTENTIAL ENVIRONMENTAL CONCERN :

ID #	PCA ID	DESCRIPTION
1	30	FILL MATERIAL OF UNKNOWN QUALITY
2	N/A	APPLICATION OF ROAD SALT
3	37	FORMER DRY CLEANERS
4	52, 28	AUTOMOTIVE SERVICE GARAGE & FORMER RETAIL FUEL OUTLET

LEGEND:

PHASE I PROPERTY BOUNDARY

SCALE: 1:600

0 5 10 15 20 25 30m

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL

JSS RIVERDALE HOLDINGS INC.

PHASE I - ENVIRONMENTAL SITE ASSESSMENT
551 RIVERDALE AVENUE

OTTAWA, ONTARIO

Title:

SITE PLAN

Scale: 1:600	Date: 02/2025
Drawn by: YA	Report No.: PE6907-1
Checked by: JD	Dwg. No.: PE6907-1
Approved by: MSD	Revision No.:

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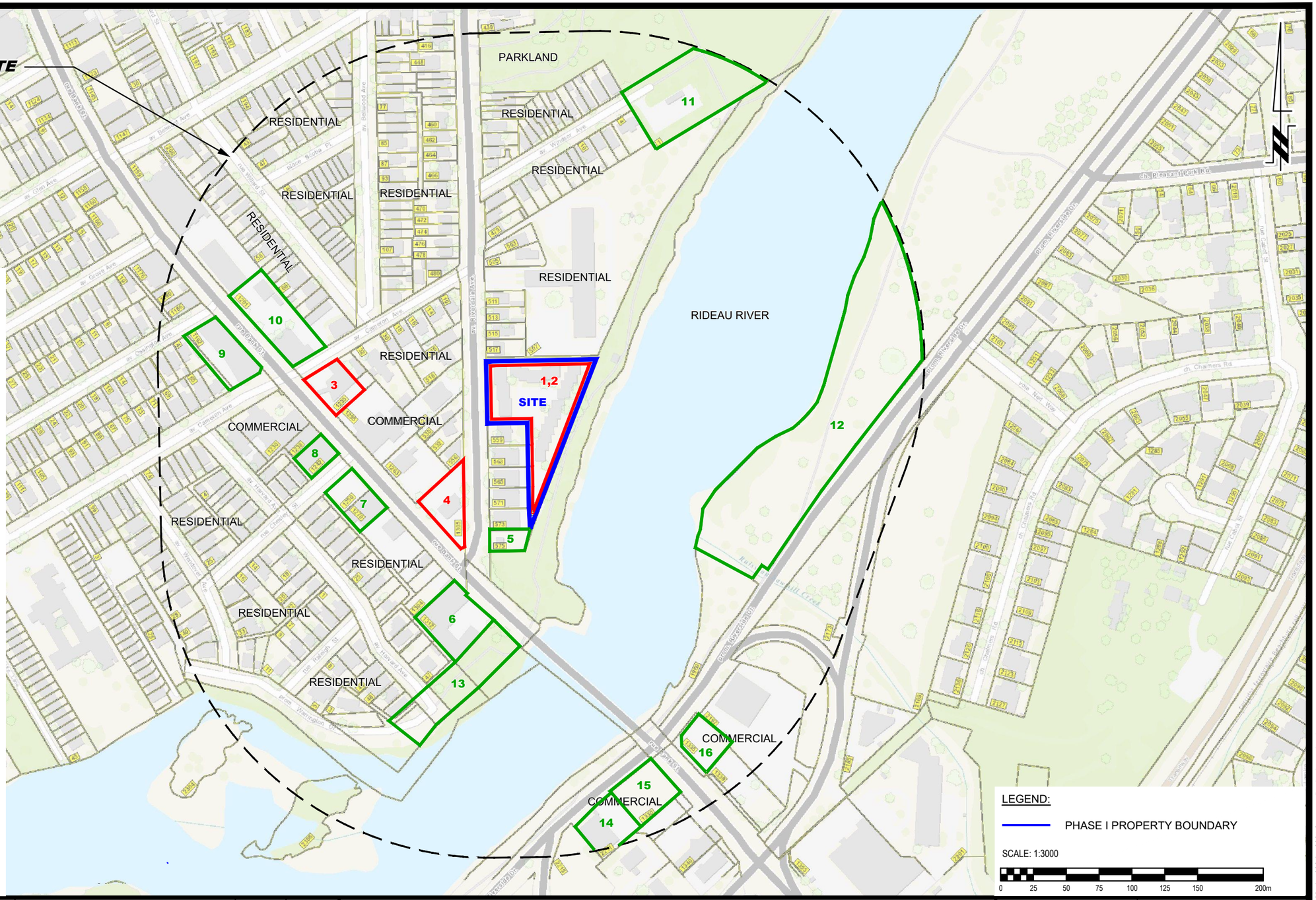
PHASE I - ENVIRONMENTAL SITE ASSESSMENT STUDY AREA

POTENTIALLY CONTAMINATING ACTIVITIES :

ID #	PCA ID	DESCRIPTION
1	37	FILL MATERIAL OF UNKNOWN QUALITY
2	N/A	APPLICATION OF ROAD SALT
3	37	FORMER DRY CLEANERS
4	52, 28	AUTOMOTIVE SERVICE GARAGE & FORMER RETAIL FUEL OUTLET
5	55	TRANSFORMER SUB-STATION
6	32	FORMER ALUMINUM AND STEEL MANUFACTURING
7	28, NA	FORMER RETAIL FUEL OUTLET AND FORMER DIESEL SPILL
8	52	FORMER AUTOMOTIVE SERVICE GARAGE
9	52	FORMER AUTOMOTIVE SERVICE GARAGE
10	52	FORMER AUTOMOTIVE SERVICE GARAGE
11	58	FORMER LANDFILL SITE (UR-35)
12	58	FORMER LANDFILL SITE (UR-10)
13	58	FORMER LANDFILL SITE (UR-33)
14	28,52	FORMER GASOLINE SERVICE STATION AND AUTOMOTIVE SERVICE GARAGE
15	28,52	FORMER GASOLINE SERVICE STATION AND AUTOMOTIVE SERVICE GARAGE
16	28	FORMER SERVICE STATION



LEGEND:

PHASE I PROPERTY BOUNDARY

SCALE: 1:3000

0 25 50 75 100 125 150 200m

PATERSON GROUP
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K2E 7T9
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NO.	REVISIONS	DATE	INITIAL

JSS RIVERDALE HOLDINGS INC.

PHASE I - ENVIRONMENTAL SITE ASSESSMENT
551 RIVERDALE AVENUE

OTTAWA, ONTARIO

Title:

SURROUNDING LAND USE PLAN

Scale: 1:3000	Date: 02/2025
Drawn by: YA	Report No.: PE6907-1
Checked by: JD	Dwg. No.: PE6907-2
Approved by: MSD	Revision No.:

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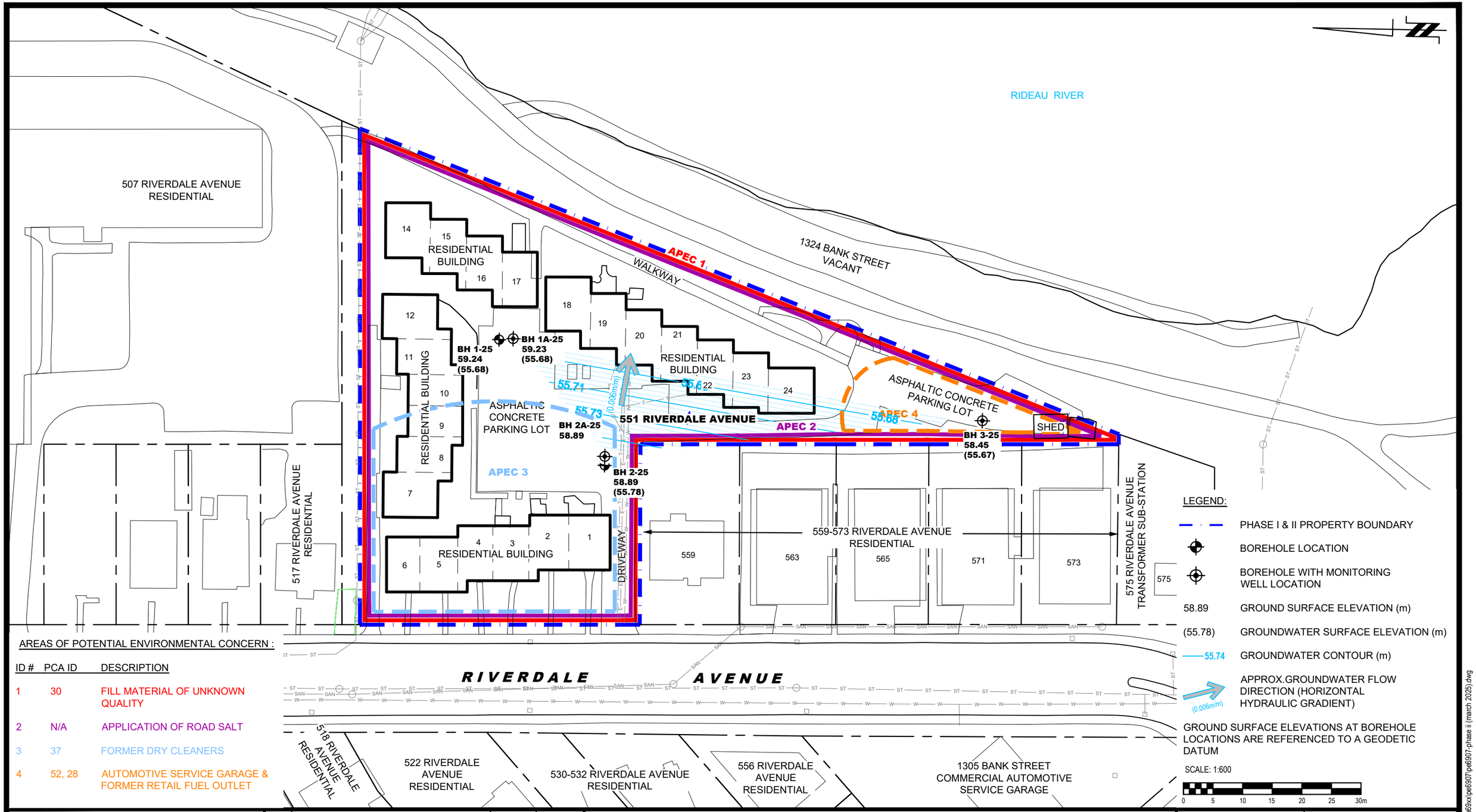

AREAS OF POTENTIAL ENVIRONMENTAL CONCERN :

ID #	PCA ID	DESCRIPTION
1	30	FILL MATERIAL OF UNKNOWN QUALITY
2	N/A	APPLICATION OF ROAD SALT
3	37	FORMER DRY CLEANERS
4	52, 28	AUTOMOTIVE SERVICE GARAGE & FORMER RETAIL FUEL OUTLET

LEGEND:

- PHASE I & II PROPERTY BOUNDARY
- BOREHOLE LOCATION
- BOREHOLE WITH MONITORING WELL LOCATION
- 58.89 GROUND SURFACE ELEVATION (m)
- (55.78) GROUNDWATER SURFACE ELEVATION (m)
- 55.74 GROUNDWATER CONTOUR (m)
- (0.006m/m) APPROX.GROUNDWATER FLOW DIRECTION (HORIZONTAL HYDRAULIC GRADIENT)

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

SCALE: 1:600

0 5 10 15 20 25 30m

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OTTAWA, ON
K2E 7T9
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NO.	REVISIONS	DATE	INITIAL

JSS RIVERDALE HOLDINGS INC.

PHASE II - ENVIRONMENTAL SITE ASSESSMENT
551 RIVERDALE AVENUE

OTTAWA, **ONTARIO**

Title:

TEST HOLE LOCATION PLAN

Scale: 1:600	Date: 03/2025
Drawn by: YA	Report No.: PE6907-2
Checked by: JD	Dwg. No.: PE6907-3
Approved by: MSD	Revision No.:

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RIDEAU RIVER

507 RIVERDALE AVENUE
RESIDENTIAL

BH1-25-AU1	0.23-0.61m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
Conductivity(uS/cm)	1,690,000	700,000
Molybdenum	2.6	2.0
Remaining metals comply with the MECP Table 9 Standards		
SAR complies with the MECP Table 9 Standards		

DUP1-25 (Duplicate of BH1-25-AU1)	0.23-0.61m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
Conductivity (uS/cm)	1,300,000	700,000
Molybdenum	2.4	2
Remaining metals comply with the MECP Table 9 Standards		
SAR complies with the MECP Table 9 Standards		

BH1-25-SS2	0.76-1.37m	10-FEB-25
Metals comply with the MECP Table 9 Standards		
EC and SAR comply with the MECP Table 9 Standards		

BH3-25-AU1	0.15-0.61m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
SAR	6.8	5
Conductivity (uS/cm)	1,650,000	700,000
Metals comply with the MECP Table 9 Standards		

BH2-25-AU1	0.10-0.61m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
SAR	7.68	5
Conductivity (uS/cm)	1,120,000	700,000
Molybdenum	2.5	2
Remaining metals comply with the MECP Table 9 Standards		

BH2-25-SS3	1.52-1.85m	10-FEB-25
Metals comply with the MECP Table 9 Standards		
EC and SAR comply with the MECP Table 9 Standards		

1324 BANK STREET
VACANT

WALKWAY

RESIDENTIAL BUILDING

RESIDENTIAL BUILDING

RESIDENTIAL BUILDING

ASPHALTIC CONCRETE PARKING LOT

ASPHALTIC CONCRETE PARKING LOT

551 RIVERDALE AVENUE

SHED

BH 1-25
59.24
(55.68)

BH 1A-25
59.23
(55.68)

BH 2A-25
58.89

BH 2-25
58.89
(55.78)

BH 3-25
58.45
(55.67)

A

A'

517 RIVERDALE AVENUE
RESIDENTIAL

DRIVEWAY

559-573 RIVERDALE AVENUE
RESIDENTIAL

575 RIVERDALE AVENUE
TRANSFORMER SUB-STATION

RIVERDALE AVENUE

518 RIVERDALE AVENUE RESIDENTIAL

522 RIVERDALE AVENUE RESIDENTIAL

530-532 RIVERDALE AVENUE RESIDENTIAL

556 RIVERDALE AVENUE RESIDENTIAL

1305 BANK STREET
COMMERCIAL AUTOMOTIVE SERVICE GARAGE

LEGEND:

SOIL RESULT COMPLIES WITH THE MECP TABLE 9 STANDARDS

SOIL RESULT EXCEEDS THE MECP TABLE 9 STANDARDS

PHASE I & II PROPERTY BOUNDARY

BOREHOLE LOCATION

BOREHOLE WITH MONITORING WELL LOCATION

58.89 GROUND SURFACE ELEVATION (m)

(55.78) GROUNDWATER SURFACE ELEVATION (m)

A—A' CROSS SECTION

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

SCALE: 1:600

0 5 10 15 20 25 30m

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K2E 7T9
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NO.	REVISIONS	DATE	INITIAL

JSS RIVERDALE HOLDINGS INC.

PHASE II - ENVIRONMENTAL SITE ASSESSMENT
551 RIVERDALE AVENUE

OTTAWA, ONTARIO

Title: ANALYTICAL TESTING PLAN- SOIL (METALS, INORGANICS)

Scale: 1:600	Date: 03/2025
Drawn by: YA	Report No.: PE6907-2
Checked by: JD	Dwg. No.: PE6907-4
Approved by: MSD	Revision No.:

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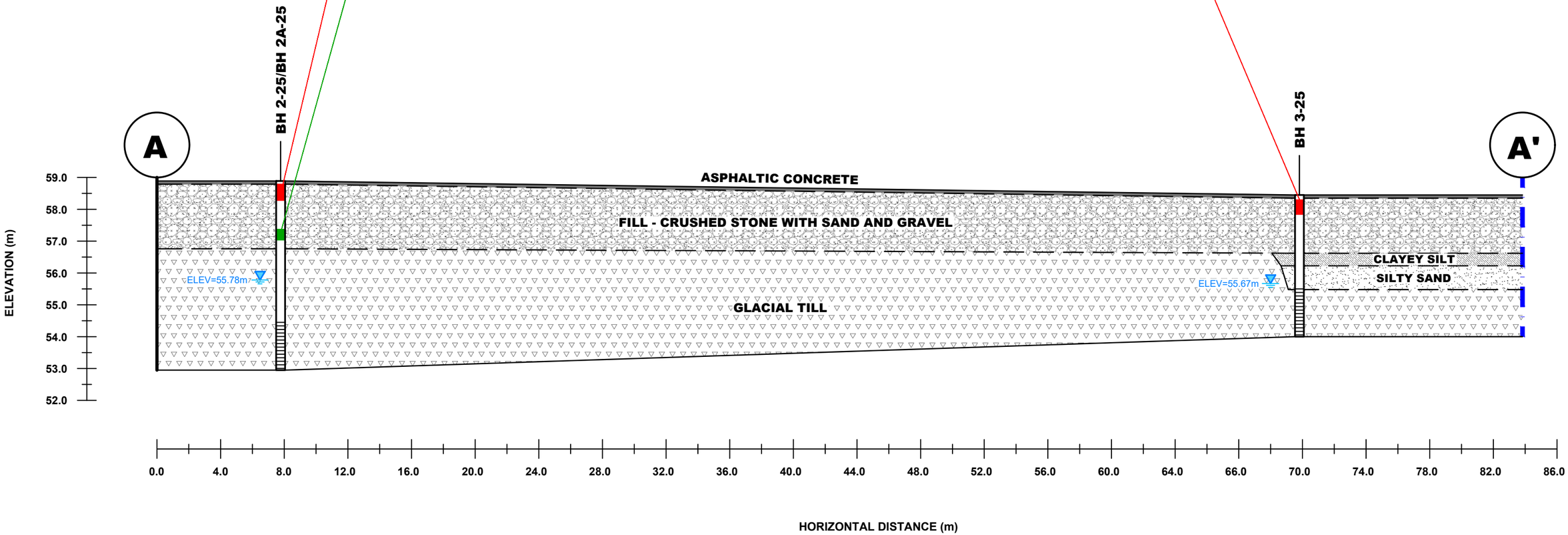
BH2-25-AU1	0.10-0.61m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
SAR	7.68	5
Conductivity (uS/cm)	1,120,000	700,000
Molybdenum	2.5	2
Remaining metals comply with the MECP Table 9 Standards		

BH2-25-SS3	1.52-1.85m	10-FEB-25
Metals comply with the MECP Table 9 Standards		
EC and SAR comply with the MECP Table 9 Standards		

BH3-25-AU1	0.15-0.61m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
SAR	6.8	5
Conductivity (uS/cm)	1,650,000	700,000
Metals comply with the MECP Table 9 Standards		



LEGEND:

SOIL RESULT COMPLIES WITH THE MECP TABLE 9 STANDARDS

SOIL RESULT EXCEEDS THE MECP TABLE 9 STANDARDS

PHASE I & II PROPERTY BOUNDARY

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TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL

JSS RIVERDALE HOLDINGS INC.

PHASE II - ENVIRONMENTAL SITE ASSESSMENT
551 RIVERDALE AVENUE

OTTAWA, ONTARIO

Title: **CROSS SECTION A-A' - SOIL (METALS, INORGANICS)**

Scale: AS SHOWN	Date: 03/2025
Drawn by: YA	Report No.: PE6907-2
Checked by: JD	Dwg. No.: PE6907-4A
Approved by: MSD	Revision No.:

11x17

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507 RIVERDALE AVENUE
RESIDENTIAL

BH1-25-AU1	0.23-0.61m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
PHC F2	ND(40)	10
PHC F3	769	240
PHC F4	2120	120
PHC F4G	3590	120
Remaining PHCs comply with the MECP Table 9 Standards		

DUP1-25 (Duplicate of BH1-25-AU1)	0.23-0.61m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
PHC F2	ND(40)	10
PHC F3	678	240
PHC F4	2090	120
PHC F4G	4340	120
Remaining PHCs comply with the MECP Table 9 Standards		

BH1-25-SS2	0.76-1.37m	10-FEB-25
PHCs comply with the MECP Table 9 Standards		

RIDEAU RIVER

1324 BANK STREET
VACANT

BH3-25-AU1	0.15-0.61m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
PHC F4	570	120
PHC F4G	1290	120
Remaining PHCs comply with the MECP Table 9 Standards		

BH3-25-SS6	3.81-4.42m	10-FEB-25
PHCs comply with the MECP Table 9 Standards		

WALKWAY

RESIDENTIAL BUILDING

RESIDENTIAL BUILDING

RESIDENTIAL BUILDING

ASPHALTIC CONCRETE PARKING LOT

ASPHALTIC CONCRETE PARKING LOT

SHED

551 RIVERDALE AVENUE

BH 1-25
59.24
(55.68)

BH 1A-25
59.23
(55.68)

BH 2A-25
58.89

BH 2-25
58.89
(55.78)

BH 3-25
58.45
(55.67)

A

A'

517 RIVERDALE AVENUE
RESIDENTIAL

DRIVEWAY

559-573 RIVERDALE AVENUE
RESIDENTIAL

575 RIVERDALE AVENUE
TRANSFORMER SUB-STATION

BH2-25-AU1	0.10-0.61m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
PHC F4	168	120
PHC F4G	486	120
Remaining PHCs comply with the MECP Table 9 Standards		

BH2-25-SS3	1.52-1.85 m	10-FEB-25
PHCs comply with the MECP Table 9 Standards		

RIVERDALE AVENUE

518 RIVERDALE AVENUE RESIDENTIAL

522 RIVERDALE AVENUE RESIDENTIAL

530-532 RIVERDALE AVENUE RESIDENTIAL

556 RIVERDALE AVENUE RESIDENTIAL

1305 BANK STREET
COMMERCIAL AUTOMOTIVE SERVICE GARAGE

LEGEND:

SOIL RESULT COMPLIES WITH THE MECP TABLE 9 STANDARDS

SOIL RESULT EXCEEDS THE MECP TABLE 9 STANDARDS

PHASE I & II PROPERTY BOUNDARY

BOREHOLE LOCATION

BOREHOLE WITH MONITORING WELL LOCATION

58.89 GROUND SURFACE ELEVATION (m)

(55.78) GROUNDWATER SURFACE ELEVATION (m)

A—A' CROSS SECTION

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

SCALE: 1:600

0 5 10 15 20 25 30m

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL

JSS RIVERDALE HOLDINGS INC.

PHASE II - ENVIRONMENTAL SITE ASSESSMENT
551 RIVERDALE AVENUE

OTTAWA, ONTARIO

Title: ANALYTICAL TESTING PLAN- SOIL (PHCs)

Scale: 1:600	Date: 03/2025
Drawn by: YA	Report No.: PE6907-2
Checked by: JD	Dwg. No.: PE6907-5
Approved by: MSD	Revision No.:

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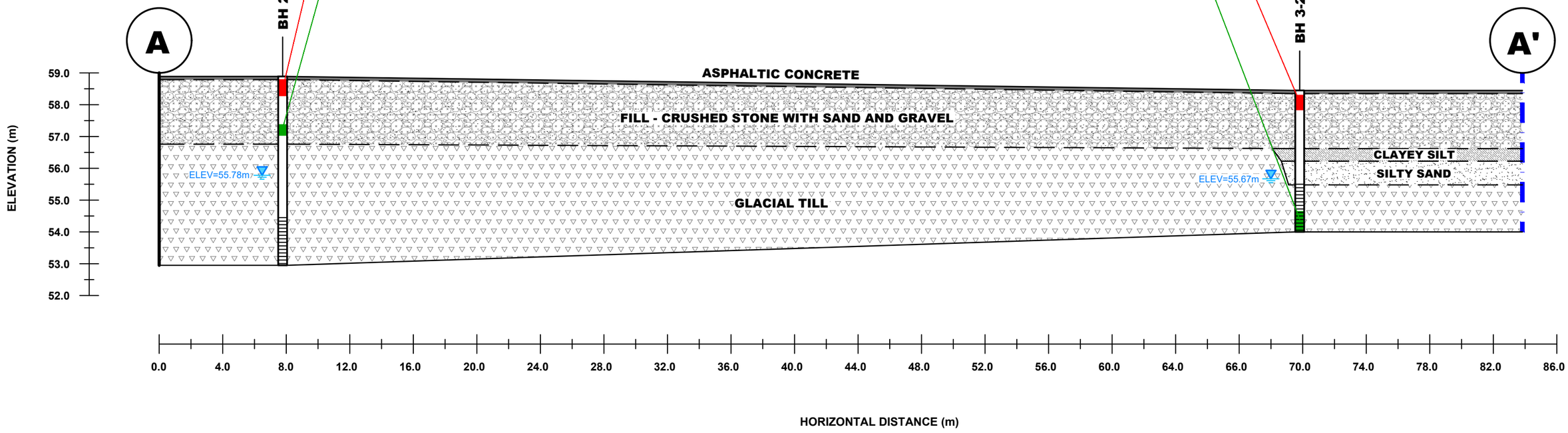
11x17

BH2-25-AU1	0.10-0.61m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
PHC F4	168	120
PHC F4G	486	120
Remaining PHCs comply with the MECP Table 9 Standards		

BH2-25-SS3	1.52-1.85 m	10-FEB-25
PHCs comply with the MECP Table 9 Standards		

BH3-25-AU1	0.15-0.61m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
PHC F4	570	120
PHC F4G	1290	120
Remaining PHCs comply with the MECP Table 9 Standards		

BH3-25-SS6	3.81-4.42m	10-FEB-25
PHCs comply with the MECP Table 9 Standards		



LEGEND:

SOIL RESULT COMPLIES WITH THE MECP TABLE 9 STANDARDS

SOIL RESULT EXCEEDS THE MECP TABLE 9 STANDARDS

PHASE I & II PROPERTY BOUNDARY

PATERSON GROUP
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NO.	REVISIONS	DATE	INITIAL

JSS RIVERDALE HOLDINGS INC.

PHASE II - ENVIRONMENTAL SITE ASSESSMENT
551 RIVERDALE AVENUE

OTTAWA, ONTARIO

Title: **CROSS SECTION A-A' - SOIL (PHCs)**

Scale: AS SHOWN	Date: 03/2025
Drawn by: YA	Report No.: PE6907-2
Checked by: JD	Dwg. No.: PE6907-5A
Approved by: MSD	Revision No.:

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11x17

RIDEAU RIVER

507 RIVERDALE AVENUE
RESIDENTIAL

BH1-25-AU1	0.23-0.61m	10-FEB-25
BTEX complies with the MECP Table 9 Standards		
DUP1-25	0.23-0.61m	10-FEB-25
(Duplicate of BH1-25-AU1)		
BTEX comply with the MECP Table 9 Standards		
BH1-25-SS2	0.76-1.37m	10-FEB-25
BTEX comply with the MECP Table 9 Standards		
BH1-25-SS6	4.57-5.18m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
cis-1,2-Dichloroethylene	0.09	0.05
Hexane	0.78	0.05
m/p-Xylene	0.54	0.05
o-Xylene	0.15	0.05
Xylenes, total	0.7	0.05
Remaining VOCs comply with the MECP Table 9 Standards		

BH3-25-AU1	0.15-0.61m	10-FEB-25
BTEX comply with the MECP Table 9 Standards		
BH3-25-SS6	3.81-4.42m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
Tetrachloroethylene	1.89	0.05
m/p-Xylene	0.09	0.05
Xylenes, total	0.09	0.05
Remaining VOCs comply with the MECP Table 9 Standards		

BH2A-25-SS7	4.57-5.18m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
cis-1,2-Dichloroethylene	0.86	0.05
Remaining VOCs comply with the MECP Table 9 Standards		

BH2-25-AU1	0.10-0.61m	10-FEB-25
BTEX comply with the MECP Table 9 Standards		
BH2-25-SS3	1.52-1.85m	10-FEB-25
BTEX comply with the MECP Table 9 Standards		

14 15 RESIDENTIAL BUILDING 16 17
18 19 20 21 RESIDENTIAL BUILDING 22 23 24
12 11 RESIDENTIAL BUILDING 10 9 8 7
4 3 2 1 RESIDENTIAL BUILDING 6 5
WALKWAY
1324 BANK STREET
VACANT
ASPHALTIC CONCRETE PARKING LOT
ASPHALTIC CONCRETE PARKING LOT
SHED
551 RIVERDALE AVENUE
BH 1-25
59.24
(55.68)
BH 1A-25
59.23
(55.68)
BH 2A-25
58.89
BH 2-25
58.89
(55.78)
BH 3-25
58.45
(55.67)
A
A'
DRIVEWAY
559
559-573 RIVERDALE AVENUE
RESIDENTIAL
563 565 571 573
575
575 RIVERDALE AVENUE
TRANSFORMER SUB-STATION
517 RIVERDALE AVENUE
RESIDENTIAL
518 RIVERDALE AVENUE RESIDENTIAL
522 RIVERDALE AVENUE RESIDENTIAL
530-532 RIVERDALE AVENUE RESIDENTIAL
556 RIVERDALE AVENUE RESIDENTIAL
1305 BANK STREET
COMMERCIAL AUTOMOTIVE
SERVICE GARAGE
RIVERDALE AVENUE

LEGEND:

SOIL RESULT COMPLIES WITH THE MECP TABLE 9 STANDARDS

SOIL RESULT EXCEEDS THE MECP TABLE 9 STANDARDS

- PHASE I & II PROPERTY BOUNDARY
- BOREHOLE LOCATION
- BOREHOLE WITH MONITORING WELL LOCATION
- 58.89 GROUND SURFACE ELEVATION (m)
- (55.78) GROUNDWATER SURFACE ELEVATION (m)
- A—A' CROSS SECTION

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

SCALE: 1:600

0 5 10 15 20 25 30m

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL

JSS RIVERDALE HOLDINGS INC.

PHASE II - ENVIRONMENTAL SITE ASSESSMENT
551 RIVERDALE AVENUE

OTTAWA, ONTARIO

Title: **ANALYTICAL TESTING PLAN- SOIL (VOCs, BTEX)**

Scale: 1:600	Date: 03/2025
Drawn by: YA	Report No.: PE6907-2
Checked by: JD	Dwg. No.: PE6907-6
Approved by: MSD	Revision No.:

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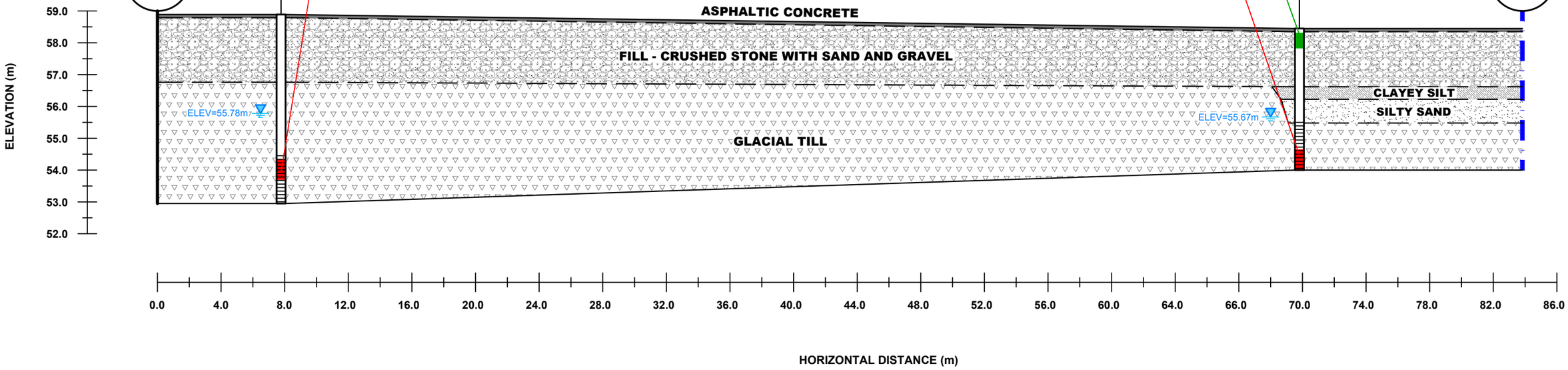
11x17

BH2A-25-SS7	4.57-5.18m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
cis-1,2-Dichloroethylene	0.86	0.05
Remaining VOCs comply with the MECP Table 9 Standards		

BH3-25-AU1	0.15-0.61m	10-FEB-25
BTEX comply with the MECP Table 9 Standards		
BH3-25-SS6	3.81-4.42m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
Tetrachloroethylene	1.89	0.05
m/p-Xylene	0.09	0.05
Xylenes, total	0.09	0.05
Remaining VOCs comply with the MECP Table 9 Standards		



LEGEND:

SOIL RESULT COMPLIES WITH THE MECP TABLE 9 STANDARDS

SOIL RESULT EXCEEDS THE MECP TABLE 9 STANDARDS

PHASE I & II PROPERTY BOUNDARY

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
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NO.	REVISIONS	DATE	INITIAL

JSS RIVERDALE HOLDINGS INC.

PHASE II - ENVIRONMENTAL SITE ASSESSMENT
551 RIVERDALE AVENUE

OTTAWA, ONTARIO

Title: CROSS SECTION A-A' - SOIL (VOCs, BTEX)

Scale: AS SHOWN	Date: 03/2025
Drawn by: YA	Report No.: PE6907-2
Checked by: JD	Dwg. No.: PE6907-6A
Approved by: MSD	Revision No.:

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11x17

RIDEAU RIVER

507 RIVERDALE AVENUE
RESIDENTIAL

BH1-25-AU1	0.23-0.61m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
Acenaphthene	ND(0.4)	0.072
Acenaphthylene	ND(0.4)	0.093
Anthracene	ND(0.4)	0.22
Benzo[a]anthracene	ND(0.4)	0.36
Benzo[a]pyrene	ND(0.4)	0.3
Dibenzo[a,h]anthracene	ND(0.4)	0.1
Fluorene	ND(0.4)	0.19
Indeno[1,2,3-cd]pyrene	ND(0.4)	0.23
Methylnaphthalene (1&2)	ND(0.8)	0.59
Naphthalene	ND(0.2)	0.09

DUP1-25 (Duplicate of BH1-25-AU1)	0.23-0.61m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
Acenaphthene	ND(0.4)	0.072
Acenaphthylene	ND(0.4)	0.093
Anthracene	ND(0.4)	0.22
Benzo[a]anthracene	ND(0.4)	0.36
Benzo[a]pyrene	ND(0.4)	0.3
Dibenzo[a,h]anthracene	ND(0.4)	0.1
Fluorene	ND(0.4)	0.19
Indeno[1,2,3-cd]pyren	ND(0.4)	0.23
Methylnaphthalene (1&2)	ND(0.8)	0.59
Naphthalene	ND(0.2)	0.09

Remaining PAHs comply with the MECP Table 9 Standards

BH3-25-AU1	0.15-0.61m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
Acenaphthene	ND(0.2)	0.072
Acenaphthylene	ND(0.2)	0.093
Dibenzo[a,h]anthracene	ND(0.2)	0.1
Fluorene	ND(0.2)	0.19
Naphthalene	ND(0.1)	0.09

Remaining PAHs comply with the MECP Table 9 Standards

BH2-25-AU1	0.10-0.61m	10-FEB-25

PAHs comply with the MECP Table 9 Standards

BH2-25-SS3	1.52-1.85m	10-FEB-25

PAHs comply with the MECP Table 9 Standards

1324 BANK STREET
VACANT

WALKWAY

RESIDENTIAL BUILDING

RESIDENTIAL BUILDING

RESIDENTIAL BUILDING

RESIDENTIAL BUILDING

ASPHALTIC CONCRETE PARKING LOT

ASPHALTIC CONCRETE PARKING LOT

SHED

551 RIVERDALE AVENUE

BH 1-25
59.24
(55.68)

BH 1A-25
59.23
(55.68)

BH 2A-25
58.89

BH 2-25
58.89
(55.78)

BH 3-25
58.45
(55.67)

A

A'

559-573 RIVERDALE AVENUE
RESIDENTIAL

DRIVEWAY

517 RIVERDALE AVENUE
RESIDENTIAL

575 RIVERDALE AVENUE
TRANSFORMER SUB-STATION

RIVERDALE AVENUE

518 RIVERDALE AVENUE
RESIDENTIAL

522 RIVERDALE AVENUE
RESIDENTIAL

530-532 RIVERDALE AVENUE
RESIDENTIAL

556 RIVERDALE AVENUE
RESIDENTIAL

1305 BANK STREET
COMMERCIAL AUTOMOTIVE
SERVICE GARAGE

LEGEND:

SOIL RESULT COMPLIES WITH THE MECP TABLE 9 STANDARDS

SOIL RESULT EXCEEDS THE MECP TABLE 9 STANDARDS

PHASE I & II PROPERTY BOUNDARY

BOREHOLE LOCATION

BOREHOLE WITH MONITORING WELL LOCATION

58.89 GROUND SURFACE ELEVATION (m)

(55.78) GROUNDWATER SURFACE ELEVATION (m)

A—A' CROSS SECTION

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

SCALE: 1:600

0 5 10 15 20 25 30m

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL

JSS RIVERDALE HOLDINGS INC.

PHASE II - ENVIRONMENTAL SITE ASSESSMENT
551 RIVERDALE AVENUE

OTTAWA, ONTARIO

Title: ANALYTICAL TESTING PLAN- SOIL (PAHs)

Scale: 1:600	Date: 03/2025
Drawn by: YA	Report No.: PE6907-2
Checked by: JD	Dwg. No.: PE6907-7
Approved by: MSD	Revision No.:

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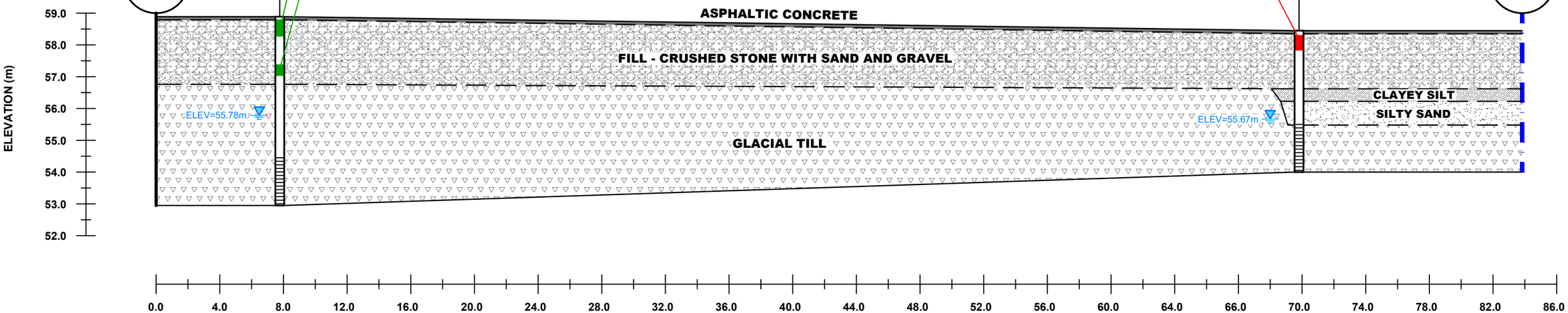
11x17

BH2-25-AU1 0.10-0.61m 10-FEB-25
PAHs comply with the MECP Table 9 Standards

BH2-25-SS3 1.52-1.85m 10-FEB-25
PAHs comply with the MECP Table 9 Standards

BH3-25-AU1	0.15-0.61m	10-FEB-25
Parameter	Result(µg/g)	Standard(µg/g)
Acenaphthene	ND(0.2)	0.072
Acenaphthylene	ND(0.2)	0.093
Dibenzo[a,h]anthracene	ND(0.2)	0.1
Fluorene	ND(0.2)	0.19
Naphthalene	ND(0.1)	0.09

Remaining PAHs comply with the MECP Table 9 Standards



LEGEND:

SOIL RESULT COMPLIES WITH THE MECP TABLE 9 STANDARDS

SOIL RESULT EXCEEDS THE MECP TABLE 9 STANDARDS

PHASE I & II PROPERTY BOUNDARY

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL

JSS RIVERDALE HOLDINGS INC.

PHASE II - ENVIRONMENTAL SITE ASSESSMENT
551 RIVERDALE AVENUE

OTTAWA, ONTARIO

Title: CROSS SECTION A-A' - SOIL (PAHs)

Scale: AS SHOWN	Date: 03/2025
Drawn by: YA	Report No.: PE6907-2
Checked by: JD	Dwg. No.: PE6907-7A
Approved by: MSD	Revision No.:

11x17

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RIDEAU RIVER

BH1A-25-GW1	4.27-5.79m	19-FEB-25
VOCs comply with the MECP Table 9 Standards		
DUP1	4.27-5.79m	19-FEB-25
(Duplicate of BH1A-25-GW1)		
VOCs comply with the MECP Table 9 Standards		

BH3-25-GW1	2.93-4.45 m	06-MAR-25
Parameter	Result(µg/L)	Standard(µg/L)
Chloroform	6.1	2.4
cis-1,2-Dichloroethylene	53.3	1.6
Tetrachloroethylene	639	1.6
Trichloroethylene	21	1.6
Remaining VOCs comply with the MECP Table 9 Standards		

BH2A-25-GW1	4.42-5.94m	19-FEB-25
Parameter	Result(µg/L)	Standard(µg/L)
cis-1,2-Dichloroethylene	167	1.6
Tetrachloroethylene	148	1.6
Trichloroethylene	16.8	1.6
Remaining VOCs comply with the MECP Table 9 Standards		
PHCs comply with the MECP Table 9 Standards		

507 RIVERDALE AVENUE RESIDENTIAL

517 RIVERDALE AVENUE RESIDENTIAL

RESIDENTIAL BUILDING

RESIDENTIAL BUILDING

RESIDENTIAL BUILDING

RESIDENTIAL BUILDING

WALKWAY

1324 BANK STREET VACANT

ASPHALTIC CONCRETE PARKING LOT

ASPHALTIC CONCRETE PARKING LOT

551 RIVERDALE AVENUE

SHED

BH 1-25
59.24
(55.68)

BH 1A-25
59.23
(55.68)

BH 2A-25
58.89

BH 2-25
58.89
(55.78)

BH 3-25
58.45
(55.67)

A

A'

DRIVEWAY

559-573 RIVERDALE AVENUE RESIDENTIAL

575 RIVERDALE AVENUE TRANSFORMER SUB-STATION

RIVERDALE AVENUE

518 RIVERDALE AVENUE RESIDENTIAL

522 RIVERDALE AVENUE RESIDENTIAL

530-532 RIVERDALE AVENUE RESIDENTIAL

556 RIVERDALE AVENUE RESIDENTIAL

1305 BANK STREET COMMERCIAL AUTOMOTIVE SERVICE GARAGE

LEGEND:

GROUNDWATER RESULT COMPLIES WITH THE MECP TABLE 9 STANDARDS

GROUNDWATER RESULT EXCEEDS THE MECP TABLE 9 STANDARDS

PHASE I & II PROPERTY BOUNDARY

BOREHOLE LOCATION

BOREHOLE WITH MONITORING WELL LOCATION

58.89 GROUND SURFACE ELEVATION (m)

(55.78) GROUNDWATER SURFACE ELEVATION (m)

A—A' CROSS SECTION

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

SCALE: 1:600

0 5 10 15 20 25 30m

PATERSON GROUP
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OTTAWA, ON
K2E 7T9
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NO.	REVISIONS	DATE	INITIAL

JSS RIVERDALE HOLDINGS INC.

PHASE II - ENVIRONMENTAL SITE ASSESSMENT
551 RIVERDALE AVENUE

OTTAWA, ONTARIO

Title: ANALYTICAL TESTING PLAN- GROUNDWATER (VOCs)

Scale: 1:600	Date: 03/2025
Drawn by: YA	Report No.: PE6907-2
Checked by: JD	Dwg. No.: PE6907-8
Approved by: MSD	Revision No.:

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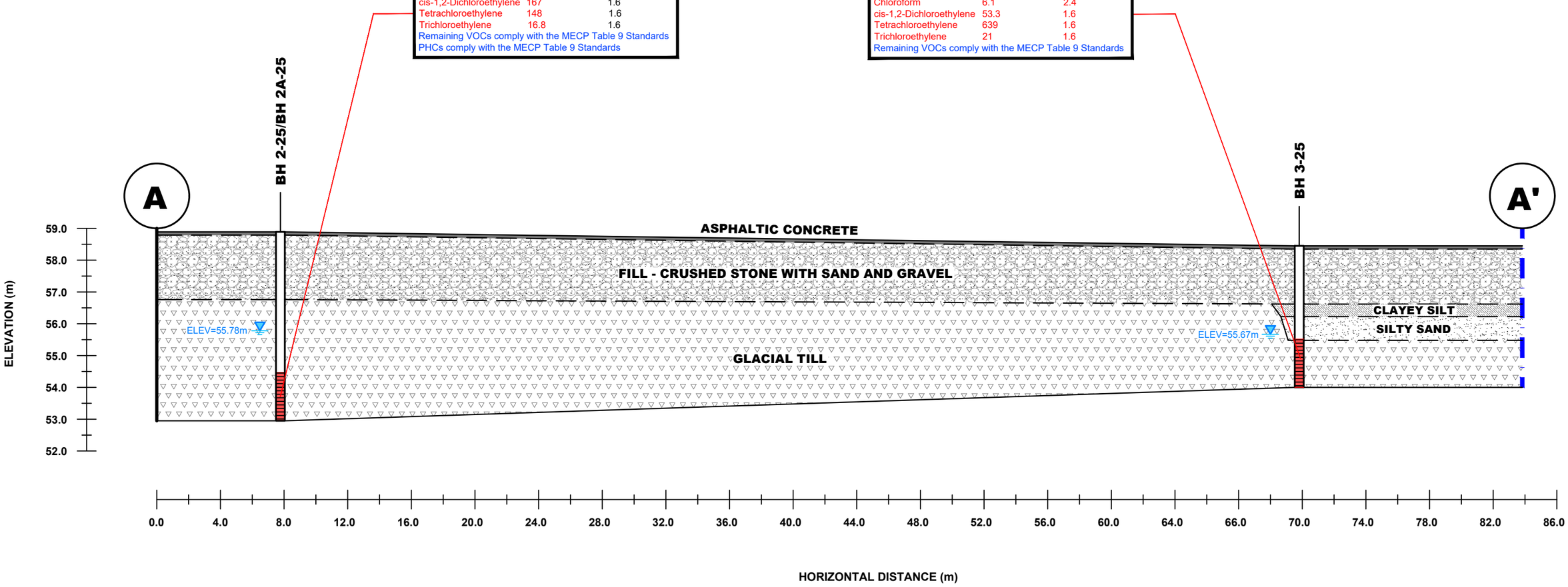
BH2A-25-GW1	4.42-5.94m	19-FEB-25
Parameter	Result(µg/L)	Standard(µg/L)
cis-1,2-Dichloroethylene	167	1.6
Tetrachloroethylene	148	1.6
Trichloroethylene	16.8	1.6
Remaining VOCs comply with the MECP Table 9 Standards		
PHCs comply with the MECP Table 9 Standards		

BH3-25-GW1	2.93-4.45 m	06-MAR-25
Parameter	Result(µg/L)	Standard(µg/L)
Chloroform	6.1	2.4
cis-1,2-Dichloroethylene	53.3	1.6
Tetrachloroethylene	639	1.6
Trichloroethylene	21	1.6
Remaining VOCs comply with the MECP Table 9 Standards		



LEGEND:

GROUNDWATER RESULT COMPLIES WITH THE MECP TABLE 9 STANDARDS

GROUNDWATER RESULT EXCEEDS THE MECP TABLE 9 STANDARDS

PHASE I & II PROPERTY BOUNDARY

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL

JSS RIVERDALE HOLDINGS INC.

PHASE II - ENVIRONMENTAL SITE ASSESSMENT
551 RIVERDALE AVENUE

OTTAWA, ONTARIO

Title: **CROSS SECTION A-A' - GROUNDWATER (VOCs)**

Scale: AS SHOWN	Date: 03/2025
Drawn by: YA	Report No.: PE6907-2
Checked by: JD	Dwg. No.: PE6907-8A
Approved by: MSD	Revision No.:

11x17

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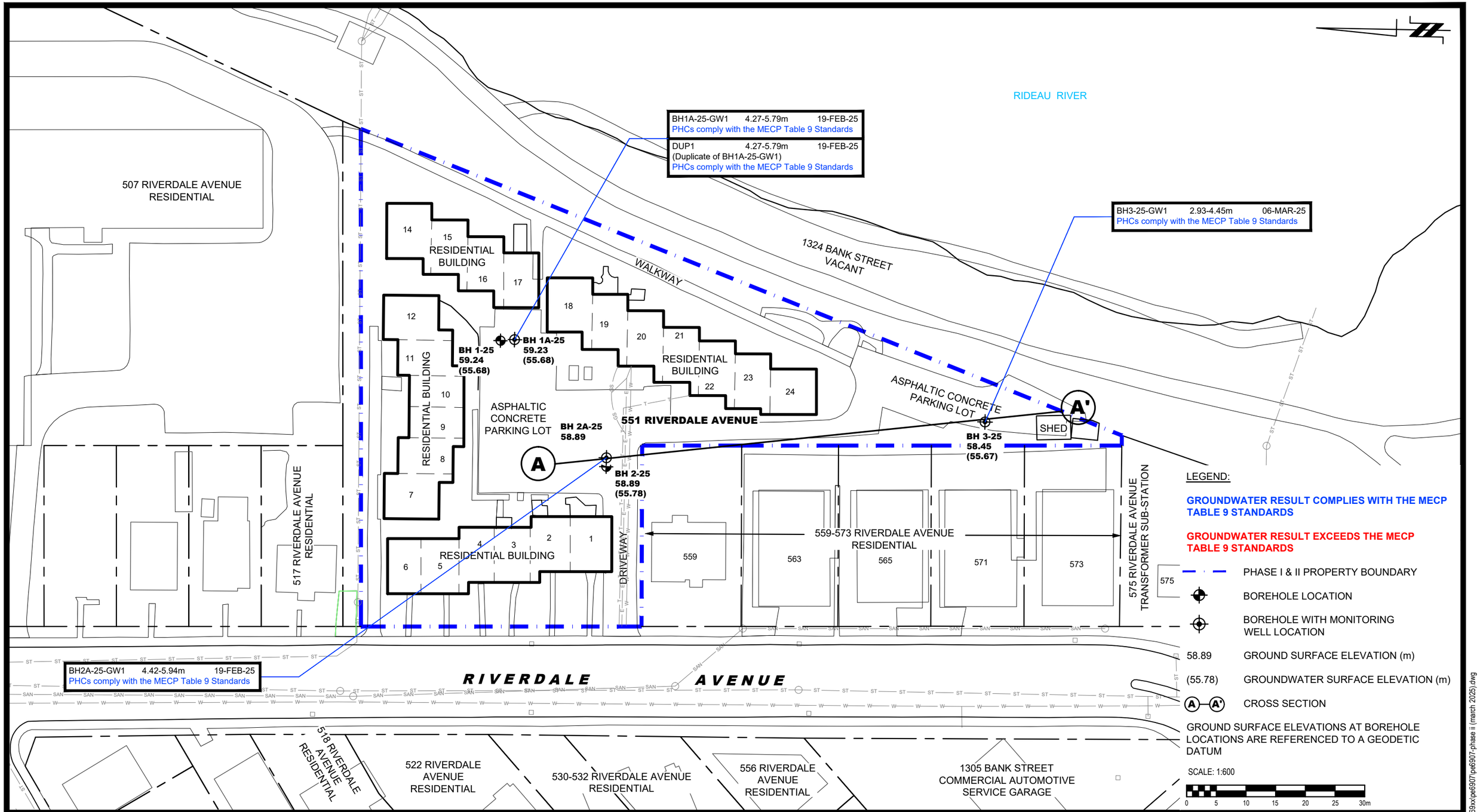

PATERSON GROUP
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OTTAWA, ON
K2E 7T9
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NO.	REVISIONS	DATE	INITIAL

JSS RIVERDALE HOLDINGS INC.

PHASE II - ENVIRONMENTAL SITE ASSESSMENT
551 RIVERDALE AVENUE

OTTAWA, ONTARIO

Title: **ANALYTICAL TESTING PLAN- GROUNDWATER (PHCs)**

Scale: 1:600	Date: 03/2025
Drawn by: YA	Report No.: PE6907-2
Checked by: JD	Dwg. No.: PE6907-9
Approved by: MSD	Revision No.:

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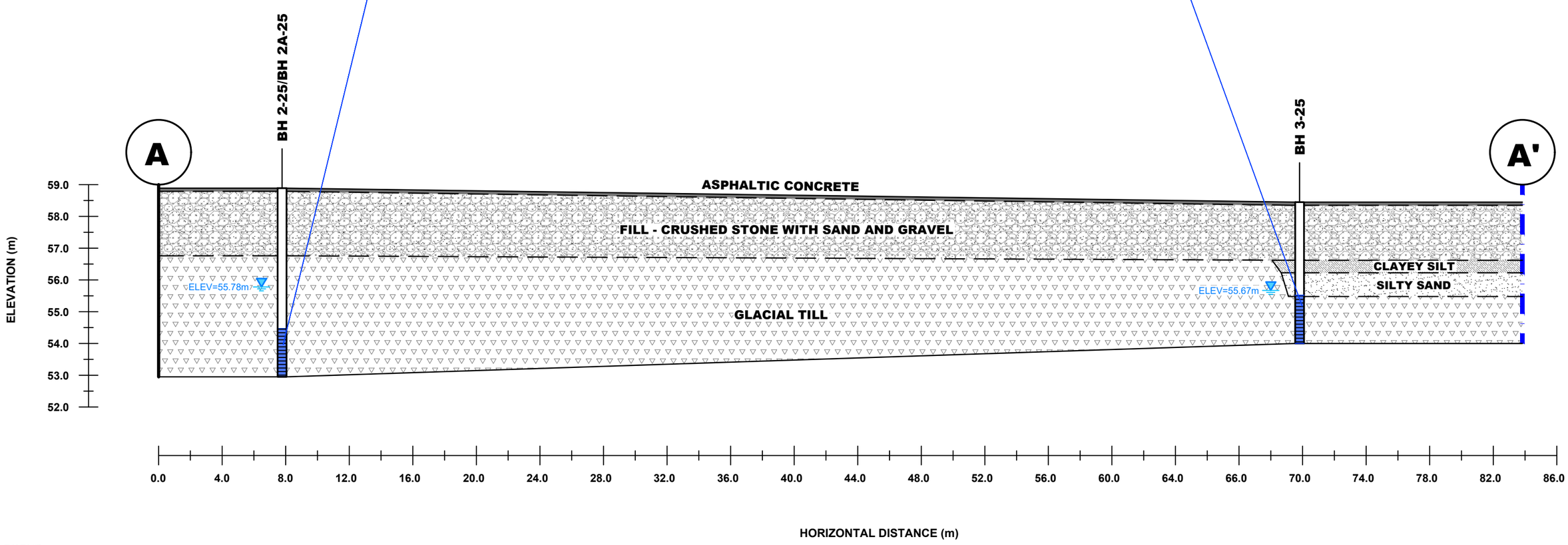
11x17

BH2A-25-GW1 4.42-5.94m 19-FEB-25
PHCs comply with the MECP Table 9 Standards

BH3-25-GW1 2.93-4.45m 06-MAR-25
PHCs comply with the MECP Table 9 Standards



LEGEND:

GROUNDWATER RESULT COMPLIES WITH THE MECP TABLE 9 STANDARDS

GROUNDWATER RESULT EXCEEDS THE MECP TABLE 9 STANDARDS

PHASE I & II PROPERTY BOUNDARY

PATERSON GROUP
9 AURIGA DRIVE
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K2E 7T9
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NO.	REVISIONS	DATE	INITIAL

JSS RIVERDALE HOLDINGS INC.

PHASE II - ENVIRONMENTAL SITE ASSESSMENT
551 RIVERDALE AVENUE

OTTAWA, ONTARIO

Title: **CROSS SECTION A-A' - GROUNDWATER (PHCs)**

Scale: AS SHOWN	Date: 03/2025
Drawn by: YA	Report No.: PE6907-2
Checked by: JD	Dwg. No.: PE6907-9A
Approved by: MSD	Revision No.:

11x17

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APPENDIX 1

SAMPLING AND ANALYSIS PLAN

SOIL PROFILE AND TEST DATA SHEETS

SYMBOLS AND TERMS

LABORATORY CERTIFICATES OF ANALYSIS

PATERSON GROUP

Sampling and Analysis Plan

551 Riverdale Avenue
Ottawa, Ontario

Prepared for JSS Riverdale Holdings Inc.

Report: PE6907-SAP
February 4, 2025

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1.0 SAMPLING PROGRAM

Paterson Group Inc. (Paterson) was commissioned by JSS Riverdale Holdings Inc. to conduct a Phase II – Environmental Site Assessment (Phase II ESA) at 551 Riverdale Avenue, in the City of Ottawa, Ontario.

Based on the findings of the Phase I ESA, the following subsurface investigation program was completed in conjunction with a geotechnical investigation.

Borehole	Location & Rationale	Proposed Depth & Rationale
BH1-24	Placed on the northeastern portion of the Phase II property for general site coverage purposes.	5-6 m; For general coverage purposes and for monitoring well installation.
BH2-24	Placed in the central west portion of the Phase II property to assess for potential soil and groundwater impacts resulting from the identified APECs and for horizontal and/or vertical delineation purposes.	5-6 m; Drill to intercept water table for monitoring well installation.
BH3-24	Placed on the southern portion of the Phase II property to assess for potential soil and groundwater impacts resulting from the identified APECs and for horizontal and/or vertical delineation purposes.	5-6 m; Drill to intercept water table for monitoring well installation.

Borehole locations are shown on Drawing PE6907-3 – Test Hole Location Plan, appended to the main report.

At each borehole, split-spoon samples of the overburden soils will be obtained at 0.76 m (2'6") intervals until practical refusal to augering. All soil samples will be retained, and samples will be selected for submission following a preliminary screening analysis.

Following the borehole drilling, groundwater monitoring wells will be installed in all boreholes for the collection of groundwater samples.

2.0 ANALYTICAL TESTING PROGRAM

The analytical testing program for soil at the subject site is based on the following general considerations:

- ❒ At least one sample from each borehole should be submitted, in order to delineate the horizontal extent of contamination across the site.
- ❒ At least one sample from each stratigraphic unit should be submitted, in order to delineate the vertical extent of contamination at the site.
- ❒ In boreholes where there is visual or olfactory evidence of contamination, or where organic vapour meter or photoionization detector readings indicate the presence of contamination, the 'worst-case' sample from each borehole should be submitted for comparison with MECP site condition standards.
- ❒ In boreholes with evidence of contamination as described above, a sample should be submitted from the stratigraphic unit below the 'worst-case' sample to determine whether the contaminant(s) have migrated downward.
- ❒ Parameters analyzed should be consistent with the Contaminants of Potential Concern identified in the Phase I ESA.

The analytical testing program for soil at the subject site is based on the following general considerations:

- ❒ Groundwater monitoring wells should be installed in all boreholes with visual or olfactory evidence of soil contamination, in stratigraphic units where soil contamination was encountered, where those stratigraphic units are at or below the water table (i.e. a water sample can be obtained).
- ❒ Groundwater monitoring well screens should straddle the water table at sites where the contaminants of concern are suspected to be LNAPLs.
- ❒ At least one groundwater monitoring well should be installed in a stratigraphic unit below the suspected contamination, where said stratigraphic unit is water-bearing.
- ❒ Parameters analyzed should be consistent with the Contaminants of Concern identified in the Phase I ESA and with the contaminants identified in the soil samples.

3.0 STANDARD OPERATING PROCEDURES

3.1 Environmental Drilling Procedure

Purpose

The purpose of environmental boreholes is to identify and/or delineate contamination within the soil and/or to install groundwater monitoring wells in order to identify contamination within the groundwater.

Equipment

The following is a list of equipment that is in addition to regular drilling equipment stated in the geotechnical drilling SOP:

- ❒ Glass soil sample jars
- ❒ two buckets
- ❒ cleaning brush (toilet brush works well)
- ❒ dish detergent
- ❒ methyl hydrate
- ❒ water (if not available on site - water jugs available in trailer)
- ❒ latex or nitrile gloves (depending on suspected contaminant)
- ❒ RKI Eagle organic vapour meter or MiniRae photoionization detector (depending on contamination suspected)

Determining Borehole Locations

If conditions on site are not as suspected, and planned borehole locations cannot be drilled, **call the office to discuss**. Alternative borehole locations will be determined in conversation with the field technician and supervising engineer.

After drilling is completed a plan with the borehole locations must be provided. Distances and orientations of boreholes with respect to site features (buildings, roadways, etc.) must be provided. Distances should be measured using a measuring tape or wheel rather than paced off. Ground surface elevations at each borehole should be surveyed relative to a geodetic benchmark, if one is available, or a temporary site benchmark which can be tied in at a later date if necessary.

Drilling Procedure

The actual drilling procedure for environmental boreholes is the same as geotechnical boreholes (see SOP for drilling and sampling) with a few exceptions as follows:

- ❒ Continuous split spoon samples (every 0.6 m or 2') or semi-continuous (every 0.76 m or 2'6") are required.
- ❒ Make sure samples are well sealed in plastic bags with no holes prior to screening and are kept cool but unfrozen.
- ❒ If sampling for VOCs, BTEX, or PHCs F_1, a soil core from each soil sample, which may be analyzed, must be taken and placed in the laboratory-provided methanol vial.
- ❒ Note all and any odours or discolouration of samples.
- ❒ Split spoon samplers must be washed between samples.
- ❒ If obvious contamination is encountered, continue sampling until vertical extent of contamination is delineated.
- ❒ As a general rule, environmental boreholes should be deep enough to intercept the groundwater table (unless this is impossible/impractical - call project manager to discuss).
- ❒ If at all possible, soil samples should be submitted to a preliminary screening procedure on site, either using a RKI Eagle, PID, etc. depending on type of suspected contamination.

Spoon Washing Procedure

All sampling equipment (spilt spoons, etc.) must be washed between samples in order to prevent cross contamination of soil samples.

- ❒ Obtain two buckets of water (preferably hot if available)
- ❒ Add a small amount of dish soap to one bucket
- ❒ Scrub spoons with brush in soapy water, inside and out, including tip
- ❒ Rinse in clean water
- ❒ Apply a small amount of methyl hydrate to the inside of the spoon. (A spray bottle or water bottle with a small hole in the cap works well)
- ❒ Allow to dry (takes seconds)
- ❒ Rinse with distilled water, a spray bottle works well.

The methyl hydrate eliminates any soap residue that may be on the spoon and is especially important when dealing with suspected VOCs.

Screening Procedure

The RKI Eagle is used to screen most soil samples, particularly where petroleum hydrocarbon contamination is suspected. The MiniRae is used when VOCs are suspected, however it also can be useful for detecting petroleum. These tools are for screening purposes only and cannot be used in place of laboratory testing.

Vapour results obtained from the RKI Eagle and the PID are relative and must be interpreted.

Screening equipment should be calibrated on an approximately monthly basis, more frequently if heavily used.

- ❒ Samples should be brought to room temperature; this is specifically important in colder weather. Soil must not be frozen.
- ❒ Turn instrument on and allow to come to zero - calibrate if necessary
- ❒ If using RKI Eagle, ensure instrument is in methane elimination mode unless otherwise directed.
- ❒ Ensure measurement units are ppm (parts per million) initially. RKI Eagle will automatically switch to %LEL (lower explosive limit) if higher concentrations are encountered.
- ❒ Break up large lumps of soil in the sample bag, taking care not to puncture bag.
- ❒ Insert probe into soil bag, creating a seal with your hand around the opening.
- ❒ Gently manipulate soil in bag while observing instrument readings.
- ❒ Record the highest value obtained in the first 15 to 25 seconds
- ❒ Make sure to indicate scale (ppm or LEL); also note which instrument was used (RKI Eagle 1 or 2, or MiniRae).
- ❒ Jar samples and refrigerate as per Sampling and Analysis Plan.

3.2 Monitoring Well Installation Procedure

Equipment

- ❒ 5' x 2" threaded sections of Schedule 40 PVC slotted well screen (5' x 1 ¼" if installing in cored hole in bedrock)
- ❒ 5' x 2" threaded sections of Schedule 40 PVC riser pipe (5' x 1 ¼" if installing in cored hole in bedrock)
- ❒ Threaded end-cap
- ❒ Slip-cap or J-plug
- ❒ Asphalt cold patch or concrete
- ❒ Silica Sand
- ❒ Bentonite chips (Holeplug)
- ❒ Steel flushmount casing

Procedure

- ❒ Drill borehole to required depth, using drilling and sampling procedures described above.
- ❒ If borehole is deeper than required monitoring well, backfill with bentonite chips to required depth. This should only be done on wells where contamination is not suspected, in order to prevent downward migration of contamination.
- ❒ Only one monitoring well should be installed per borehole.
- ❒ Monitoring wells should not be screened across more than one stratigraphic unit to prevent potential migration of contaminants between units.
- ❒ Where LNAPLs are the suspected contaminants of concern, monitoring wells should be screened straddling the water table in order to capture any free product floating on top of the water table.
- ❒ Thread the end cap onto a section of screen. Thread second section of screen if required. Thread risers onto screen. Lower into borehole to required depth. Ensure slip-cap or J-plug is inserted to prevent backfill materials entering well.
- ❒ As drillers remove augers, backfill borehole annulus with silica sand until the level of sand is approximately 0.3 m above the top of the screen.
- ❒ Backfill with holeplug until at least 0.3 m of holeplug is present above the top of the silica sand.
- ❒ Backfill remainder of borehole with holeplug or with auger cuttings (if contamination is not suspected).
- ❒ Install flushmount casing. Seal space between flushmount and borehole annulus with concrete, cold patch, or holeplug to match surrounding ground surface.

3.3 Monitoring Well Sampling Procedure

Equipment

- ❒ Water level metre or interface probe on hydrocarbon/LNAPL sites
- ❒ Spray bottles containing water and methanol to clean water level tape or interface probe
- ❒ Peristaltic pump
- ❒ Polyethylene tubing for peristaltic pump
- ❒ Flexible tubing for peristaltic pump
- ❒ Latex or nitrile gloves (depending on suspected contaminant)
- ❒ Allen keys and/or 9/16" socket wrench to remove well caps
- ❒ Graduated bucket with volume measurements
- ❒ pH/Temperature/Conductivity combo pen
- ❒ Laboratory-supplied sample bottles

Sampling Procedure

- ❒ Locate well and use socket wrench or Allan key to open metal flush mount protector cap. Remove plastic well cap.
- ❒ Measure water level, with respect to existing ground surface, using water level meter or interface probe. If using interface probe on suspected NAPL site, measure the thickness of free product.
- ❒ Measure total depth of well.
- ❒ Clean water level tape or interface probe using methanol and water. Change gloves between wells.
- ❒ Calculate volume of standing water within well and record.
- ❒ Insert polyethylene tubing into well and attach to peristaltic pump. Turn on peristaltic pump and purge into graduated bucket. Purge at least three well volumes of water from the well. Measure and record field chemistry. Continue to purge, measuring field chemistry after every well volume purged, until appearance or field chemistry stabilizes.
- ❒ Note appearance of purge water, including colour, opacity (clear, cloudy, silty), sheen, presence of LNAPL, and odour. Note any other unusual features (particulate matter, effervescence (bubbling) of dissolved gas, etc.).
- ❒ Fill required sample bottles. If sampling for metals, attach 75-micron filter to discharge tube and filter metals sample. If sampling for VOCs, use low flow rate to ensure continuous stream of non-turbulent flow into sample bottles. Ensure no headspace is present in VOC vials.
- ❒ Replace well cap and flushmount casing cap.

4.0 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

The QA/QC program for this Phase II ESA is as follows:

- ❒ All non-dedicated sampling equipment (split spoons) will be decontaminated according to the SOPs listed above.
- ❒ All groundwater sampling equipment is dedicated (polyethylene and flexible peristaltic tubing is replaced for each well).
- ❒ Where groundwater samples are to be analyzed for VOCs, one laboratory-provided trip blank will be submitted for analysis with every laboratory submission.
- ❒ Approximately one (1) field duplicate will be submitted for every ten (10) samples submitted for laboratory analysis. A minimum of one (1) field duplicate per project will be submitted. Field duplicates will be submitted for soil and groundwater samples
- ❒ Where combo pens are used to measure field chemistry, they will be calibrated on an approximately monthly basis, according to frequency of use.

5.0 DATA QUALITY OBJECTIVES

The purpose of setting data quality objectives (DQOs) is to ensure that the level of uncertainty in data collected during the Phase II ESA is low enough that decision-making is not affected, and that the overall objectives of the investigation are met.

The quality of data is assessed by comparing field duplicates with original samples. If the relative percent difference (RPD) between the duplicate and the sample is within 20%, the data are considered to be of sufficient quality so as not to affect decision-making. The RPD is calculated as follows:

$$RPD = \left| \frac{x_1 - x_2}{(x_1 + x_2)/2} \right| \times 100\%$$

Where x_1 is the concentration of a given parameter in an original sample and x_2 is the concentration of that same parameter in the field duplicate sample.

For the purpose of calculating the RPD, it is desirable to select field duplicates from samples for which parameters are present in concentrations above laboratory detection limits, i.e. samples which are expected to be contaminated. If parameters are below laboratory detection limits for selected samples or duplicates, the RPD may be calculated using a concentration equal to one half the laboratory detection limit.

It is also important to consider data quality in the overall context of the project. For example, if the DQOs are not met for a given sample, yet the concentrations of contaminants in both the sample and the duplicate exceed the MOE site remediation standards by a large margin, the decision-making usefulness of the sample may not be considered to be impaired. The proximity of other samples which meet the DQOs must also be considered in developing the Phase II Conceptual Site Model; often there are enough data available to produce a reliable Phase II Conceptual Site Model even if DQOs are not met for certain individual samples.

These considerations are discussed in the body of the report.

6.0 PHYSICAL IMPEDIMENTS TO SAMPLING & ANALYSIS PLAN

Physical impediments to the Sampling and Analysis plan may include:

- ❒ The location of underground utilities
- ❒ Poor recovery of split-spoon soil samples
- ❒ Insufficient groundwater volume for groundwater samples
- ❒ Breakage of sampling containers following sampling or while in transit to the laboratory
- ❒ Elevated detection limits due to matrix interference (generally related to soil colour or presence of organic material)
- ❒ Elevated detection limits due to high concentrations of certain parameters, necessitating dilution of samples in laboratory
- ❒ Drill rig breakdowns
- ❒ Winter conditions
- ❒ Other site-specific impediments

Site-specific impediments to the Sampling and Analysis plan are discussed in the body of the Phase II ESA report.

SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment

551 Riverdale Avenue, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 369145.90 **NORTHING:** 5028252.20 **ELEVATION:** 59.24

PROJECT: Proposed Residential Development

ADVANCED BY: CME-55 Low Clearance Drill

REMARKS:

DATE: February 10, 2025

FILE NO. : PE6907

HOLE NO. : BH 1-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	RECOVERY (%)	N OR RQD	ANALYTICAL TESTS	GASTECH (ppm) / GASTECH (% LEL) / PID (ppm) / PID (% LEL)	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE							50 100 150 200 / 20 40 60 80		
ASPHALT 0.10m [59.14m]		0							59
FILL: Crushed stone, some sand, trace gravel 0.23m [59.01m]									
FILL: Brown silty sand, some gravel, trace crushed stone, brick and asphalt			AU 1				▲1.3		
		1	SS 2	50	12-16-16-16 32		▲2.0		58
			SS 3	31	15-32-50-/ 82/0.18		▲2.8		
2.13m [57.11m]		2							57
GLACIAL TILL: Dense, brown silty sand, with gravel, cobbles and boulders			SS 4	33	12-25-24-31 49		▲2.7		
2.97m [56.27m]		3							56
GLACIAL TILL: Compact, brown silty clay, with gravel, sand, cobbles and boulders			SS 5	67	1-8-13-14 21		▲1.0	3.56 m 2025-02-19	
		4							55
			SS 6	54	14-33-32-18 65		▲1.0	4.27m	
5.26m [53.98m]		5							54
GLACIAL TILL: Very dense, grey silty sand, with gravel, cobbles and boulders 5.79m [53.45m]			SS 7	54	26-27-50-/ 77/0.18		▲1.4	5.79m	
End of Borehole		6							53
Practical refusal to augering at 5.79 m depth									
(GWL at 3.56 m depth - February 19, 2025)		7							52
		8							

SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment

551 Riverdale Avenue, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 369146.12 **NORTHING:** 5028249.84 **ELEVATION:** 59.23

PROJECT: Proposed Residential Development

ADVANCED BY: CME-55 Low Clearance Drill

REMARKS:

DATE: February 10, 2025

FILE NO. : PE6907

HOLE NO. : BH 1A-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE: TYPE AND NO.	SAMPLE: RECOVERY (%)	SAMPLE: N OR RQD	SAMPLE: ANALYTICAL TESTS	GASTECH (ppm) / GASTECH (% LEL) 50 100 150 200 / PID (ppm) / PID (% LEL) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
ASPHALT 0.10m [59.13m]									59
FILL: Crushed stone, some sand, trace gravel 0.23m [59.00m]									
FILL: Brown silty sand, some gravel, trace crushed stone, brick and asphalt		1							58
2.13m [57.10m]		2							57
GLACIAL TILL: Dense, brown silty sand, with gravel, cobbles and boulders 2.62m [56.61m]									
End of Borehole Practical refusal to augering at 2.62 m depth		3 4 5 6 7 8							56 55 54 53 52

SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment

551 Riverdale Avenue, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 369125.02 **NORTHING:** 5028233.99 **ELEVATION:** 58.89

PROJECT: Proposed Residential Development

ADVANCED BY: CME-55 Low Clearance Drill

REMARKS:

DATE: February 10, 2025

FILE NO. : PE6907

HOLE NO. : BH 2-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE ANALYTICAL TESTS	GASTECH (ppm) / GASTECH (% LEL) / PID (ppm) / PID (% LEL)	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
ASPHALT 0.10m [58.79m]									
FILL: Brown silty sand, trace gravel and crushed stone 0.10m [58.79m]									
FILL: Brown silty sand, trace gravel and crushed stone		1	AU 1				▲3.7		58
			SS 2	42	14-27-27-26 54		▲2.4		
		2	SS 3	46	25-40-50-/ 90/0.18		▲2.7		57
2.13m [56.76m]									
GLACIAL TILL: Very dense, brown silty sand, with gravel, cobbles and boulders 2.51m [56.38m]			SS 4	51	24-50-/-/ 50/0.03		▲0.9		
End of Borehole		3							56
Practical refusal to augering at 2.51 m depth		4							55
		5							54
		6							53
		7							52
		8							51

SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment

551 Riverdale Avenue, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 369125.02 **NORTHING:** 5028233.99 **ELEVATION:** 58.89

PROJECT: Proposed Residential Development

ADVANCED BY: CME-55 Low Clearance Drill

REMARKS:

DATE: February 11, 2025

FILE NO. : PE6907

HOLE NO. : BH 2A-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE ANALYTICAL TESTS	GASTECH (ppm) / GASTECH (% LEL) / PID (ppm) / PID (% LEL)	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE		0							58.89
ASPHALT 0.10m [58.79m]									
FILL: Brown silty sand, trace gravel and crushed stone									
2.13m [56.76m]		2							57
GLACIAL TILL: Very dense to dense, brown silty sand, with gravel, cobbles and boulders			SS 5	38	12-14-18-13 32		▲ 1.0		
		4	SS 6	17	12-10-3-2 13		▲ 0.8		55
		5	SS 7	46	16-4-9-8 13		▲ 1.1		54
- Grey by 5.3 m depth			SS 8	54	3-12-16-14 28		▲ 0.3		
5.94m [52.95m]		6							53
End of Borehole									
(GWL at 3.11 m depth - February 19, 2025)		7							52
		8							51

3.11 m 2025-02-19

4.42m

5.94m

SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment

551 Riverdale Avenue, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 369133.80 **NORTHING:** 5028170.36 **ELEVATION:** 58.45

PROJECT: Proposed Residential Development

ADVANCED BY: CME-55 Low Clearance Drill

REMARKS:

DATE: February 10, 2025

FILE NO. : PE6907

HOLE NO. : BH 3-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE ANALYTICAL TESTS	GASTECH (ppm) / GASTECH (% LEL) / PID (ppm) / PID (% LEL)	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
ASPHALT 0.10m [58.35m]									
FILL: Brown silty sand, with gravel 0.15m [58.30m]									
FILL: Brown silty sand, some gravel, trace crushed stone and wood		1	AU 1				▲2.5		58
			SS 2	17	11-5-7-8 12		▲2.3		
1.83m [56.62m]									57
Compact, brown **CLAYEY SILT**		2	SS 3	33	7-7-7-6 14		▲2.8 ▲2.2		
2.21m [56.24m]									56
Comapct, brown **SILTY SAND**			SS 4	42	10-10-8-12 18		▲1.7	2.78 m 2025-02-19	
2.97m [55.48m]		3						2.92m	
GLACIAL TILL: Very dense to dense, brown silty sand, with gravel, cobbles and boulders			SS 5	25	15-26-26-14 52		▲1.8		55
		4	SS 6	38	6-17-23-22 40		▲3.1		
4.45m [54.00m]								4.45m	4
End of Borehole		5							
Practical refusal to augering at 4.45 m depth									53
(GWL at 2.78 m depth - February 19, 2025)		6							
									52
		7							
									51
		8							

SYMBOLS AND TERMS

SOIL DESCRIPTION

Behavioural properties, such as structure and strength, take precedence over particle gradation in describing soils. Terminology describing soil structure are as follows:

Desiccated	-	having visible signs of weathering by oxidation of clay minerals, shrinkage cracks, etc.
Fissured	-	having cracks, and hence a blocky structure.
Varved	-	composed of regular alternating layers of silt and clay.
Stratified	-	composed of alternating layers of different soil types, e.g. silt and sand or silt and clay.
Well-Graded	-	Having wide range in grain sizes and substantial amounts of all intermediate particle sizes (see Grain Size Distribution).
Uniformly-Graded	-	Predominantly of one grain size (see Grain Size Distribution).

The standard terminology to describe the relative strength of cohesionless soils is the compactness condition, usually inferred from the results of the Standard Penetration Test (SPT) 'N' value. The SPT N value is the number of blows of a 63.5 kg hammer, falling 760 mm, required to drive a 51 mm O.D. split spoon sampler 300 mm into the soil after an initial penetration of 150 mm. An SPT N value of "P" denotes that the split-spoon sampler was pushed 300 mm into the soil without the use of a falling hammer.

Compactness Condition	'N' Value	Relative Density %
Very Loose	<4	<15
Loose	4-10	15-35
Compact	10-30	35-65
Dense	30-50	65-85
Very Dense	>50	>85

The standard terminology to describe the strength of cohesive soils is the consistency, which is based on the undisturbed undrained shear strength as measured by the in situ or laboratory shear vane tests, unconfined compression tests, or occasionally by the Standard Penetration Test (SPT). Note that the typical correlations of undrained shear strength to SPT N value (tabulated below) tend to underestimate the consistency for sensitive silty clays, so Paterson reviews the applicable split spoon samples in the laboratory to provide a more representative consistency value based on tactile examination.

Consistency	Undrained Shear Strength (kPa)	'N' Value
Very Soft	<12	<2
Soft	12-25	2-4
Firm	25-50	4-8
Stiff	50-100	8-15
Very Stiff	100-200	15-30
Hard	>200	>30

SYMBOLS AND TERMS (continued)

SOIL DESCRIPTION (continued)

Cohesive soils can also be classified according to their "sensitivity". The sensitivity, S_t, is the ratio between the undisturbed undrained shear strength and the remoulded undrained shear strength of the soil. The classes of sensitivity may be defined as follows:

Low Sensitivity:	$S_t < 2$
Medium Sensitivity:	$2 < S_t < 4$
Sensitive:	$4 < S_t < 8$
Extra Sensitive:	$8 < S_t < 16$
Quick Clay:	$S_t > 16$

ROCK DESCRIPTION

The structural description of the bedrock mass is based on the Rock Quality Designation (RQD).

The RQD classification is based on a modified core recovery percentage in which all pieces of sound core over 100 mm long are counted as recovery. The smaller pieces are considered to be a result of closely-spaced discontinuities (resulting from shearing, jointing, faulting, or weathering) in the rock mass and are not counted. RQD is ideally determined from NQ or larger size core. However, it can be used on smaller core sizes, such as BQ, if the bulk of the fractures caused by drilling stresses (called "mechanical breaks") are easily distinguishable from the normal in situ fractures.

RQD %	**ROCK QUALITY**
90-100	Excellent, intact, very sound
75-90	Good, massive, moderately jointed or sound
50-75	Fair, blocky and seamy, fractured
25-50	Poor, shattered and very seamy or blocky, severely fractured
0-25	Very poor, crushed, very severely fractured

SAMPLE TYPES

SS	-	Split spoon sample (obtained in conjunction with the performing of the Standard Penetration Test (SPT))
TW	-	Thin wall tube or Shelby tube, generally recovered using a piston sampler
G	-	"Grab" sample from test pit or surface materials
AU	-	Auger sample or bulk sample
WS	-	Wash sample
RC	-	Rock core sample (Core bit size BQ, NQ, HQ, etc.). Rock core samples are obtained with the use of standard diamond drilling bits.

SYMBOLS AND TERMS (continued)

PLASTICITY LIMITS AND GRAIN SIZE DISTRIBUTION

WC%	-	Natural water content or water content of sample, %
LL	-	Liquid Limit, % (water content above which soil behaves as a liquid)
PL	-	Plastic Limit, % (water content above which soil behaves plastically)
PI	-	Plasticity Index, % (difference between LL and PL)
Dxx	-	Grain size at which xx% of the soil, by weight, is of finer grain sizes These grain size descriptions are not used below 0.075 mm grain size
D10	-	Grain size at which 10% of the soil is finer (effective grain size)
D60	-	Grain size at which 60% of the soil is finer
Cc	-	Concavity coefficient = $(D30)^2 / (D10 \times D60)$
Cu	-	Uniformity coefficient = D60 / D10

Cc and Cu are used to assess the grading of sands and gravels:
Well-graded gravels have: $1 < Cc < 3$ and $Cu > 4$
Well-graded sands have: $1 < Cc < 3$ and $Cu > 6$
Sands and gravels not meeting the above requirements are poorly-graded or uniformly-graded.
Cc and Cu are not applicable for the description of soils with more than 10% silt and clay (more than 10% finer than 0.075 mm or the #200 sieve)

CONSOLIDATION TEST

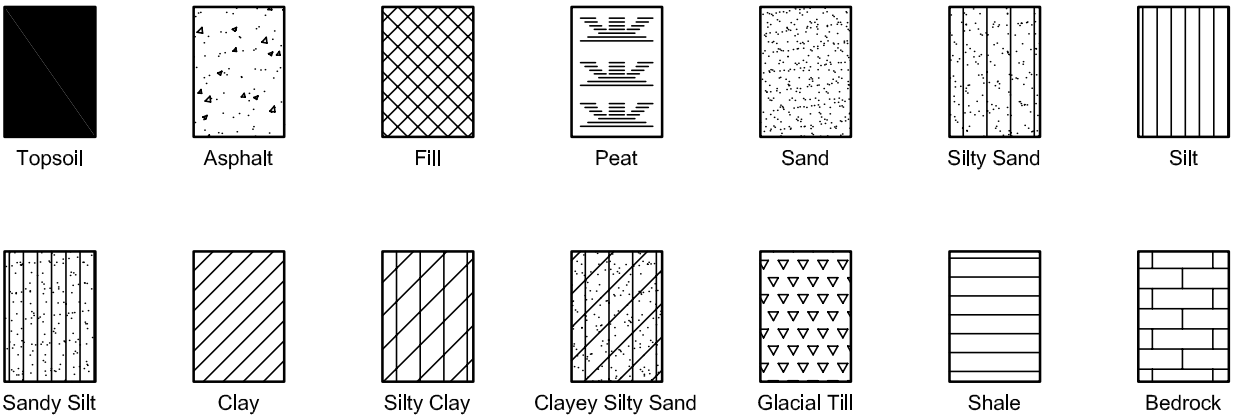
p'_o	-	Present effective overburden pressure at sample depth
p'_c	-	Preconsolidation pressure of (maximum past pressure on) sample
Ccr	-	Recompression index (in effect at pressures below p'_c)
Cc	-	Compression index (in effect at pressures above p'_c)
OC Ratio		Overconsolidaton ratio = p'_c / p'_o
Void Ratio		Initial sample void ratio = volume of voids / volume of solids
Wo	-	Initial water content (at start of consolidation test)

PERMEABILITY TEST

k	-	Coefficient of permeability or hydraulic conductivity is a measure of the ability of water to flow through the sample. The value of k is measured at a specified unit weight for (remoulded) cohesionless soil samples, because its value will vary with the unit weight or density of the sample during the test.

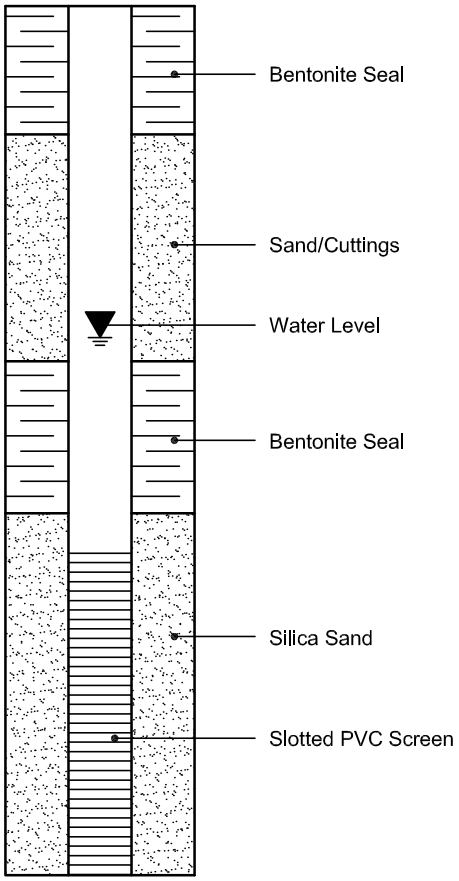
SYMBOLS AND TERMS (continued)

STRATA PLOT

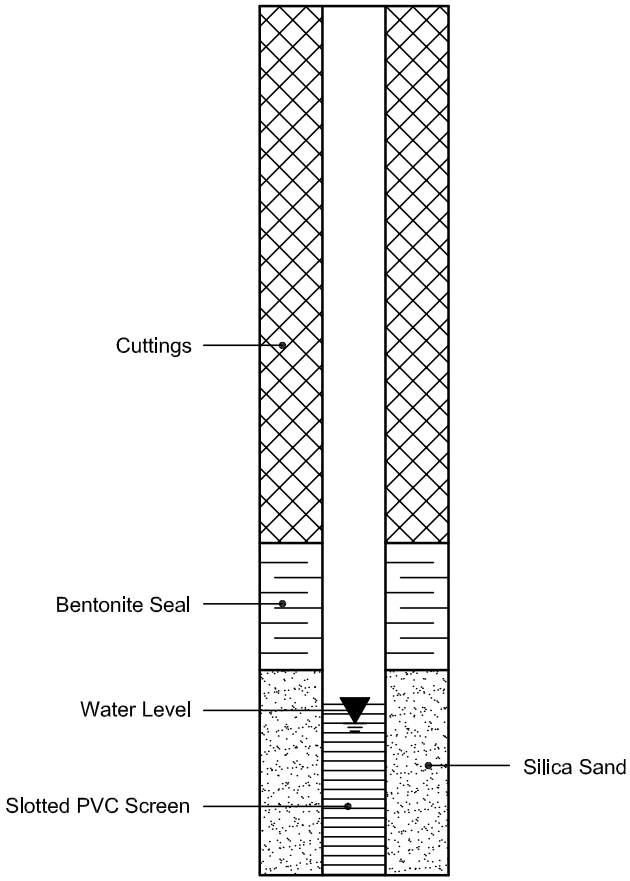


MONITORING WELL AND PIEZOMETER CONSTRUCTION

MONITORING WELL CONSTRUCTION



PIEZOMETER CONSTRUCTION



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Certificate of Analysis

Paterson Group Consulting Engineers (Ottawa)
9 Auriga Drive
Ottawa, ON K2E 7T9
Attn: Joshua Dempsey

Report Date: 4-Mar-2025
Order Date: 12-Feb-2025

Client PO: 62397
Project: PE6907
Custody:

Revised Report

Order #: 2507321

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

Paracel ID	Client ID
2507321-01	BH1-25-AU1
2507321-02	BH1-25-SS2
2507321-03	BH1-25-SS6
2507321-04	BH2-25-AU1
2507321-05	BH2-25-SS3
2507321-06	BH2A-25-SS7
2507321-07	BH3-25-AU1
2507321-08	BH3-25-SS6
2507321-09	DUP1-25

Approved By:

Mark Foto, M.Sc.
Laboratory Director

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
BTEX by P&T GC-MS	EPA 8260 - P&T GC-MS	13-Feb-25	13-Feb-25
Conductivity	MOE E3138 - probe @25 °C, water ext	14-Feb-25	14-Feb-25
pH, soil	EPA 150.1 - pH probe @ 25 °C, CaCl buffered ext.	3-Mar-25	3-Mar-25
PHC F1	CWS Tier 1 - P&T GC-FID	13-Feb-25	13-Feb-25
PHC F4G (gravimetric)	CWS Tier 1 - Extraction Gravimetric	19-Feb-25	19-Feb-25
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	14-Feb-25	19-Feb-25
REG 153: Metals by ICP/MS, soil	EPA 6020 - Digestion - ICP-MS	13-Feb-25	14-Feb-25
REG 153: PAHs by GC-MS	EPA 8270 - GC-MS, extraction	13-Feb-25	14-Feb-25
REG 153: VOCs by P&T GC/MS	EPA 8260 - P&T GC-MS	13-Feb-25	13-Feb-25
SAR	Calculated	13-Feb-25	14-Feb-25
Solids, %	CWS Tier 1 - Gravimetric	13-Feb-25	14-Feb-25

Certificate of Analysis

Report Date: 04-Mar-2025

Client: **Paterson Group Consulting Engineers (Ottawa)**

Order Date: 12-Feb-2025

Client PO: **62397**

Project Description: PE6907

	Client ID:	BH1-25-AU1	BH1-25-SS2	BH1-25-SS6	BH2-25-AU1	-	-
	Sample Date:	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00		
	Sample ID:	2507321-01	2507321-02	2507321-03	2507321-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	94.1	93.1	88.6	90.5	-	-
General Inorganics							
SAR	0.01 N/A	1.27	1.76	-	7.68	-	-
Conductivity	5 uS/cm	1690	358	-	1120	-	-
pH	0.05 pH Units	-	7.39	-	-	-	-
Metals							
Antimony	1.0 ug/g	<1.0	<1.0	-	<1.0	-	-
Arsenic	1.0 ug/g	4.9	5.5	-	8.0	-	-
Barium	1.0 ug/g	92.9	156	-	132	-	-
Beryllium	0.5 ug/g	<0.5	0.5	-	0.9	-	-
Boron	5.0 ug/g	8.9	9.2	-	14.2	-	-
Cadmium	0.5 ug/g	<0.5	<0.5	-	<0.5	-	-
Chromium	5.0 ug/g	19.2	31.2	-	42.2	-	-
Cobalt	1.0 ug/g	6.7	14.0	-	12.9	-	-
Copper	5.0 ug/g	18.4	25.1	-	35.3	-	-
Lead	1.0 ug/g	18.0	8.9	-	16.6	-	-
Molybdenum	1.0 ug/g	2.6	1.3	-	2.5	-	-
Nickel	5.0 ug/g	19.6	37.3	-	40.5	-	-
Selenium	1.0 ug/g	<1.0	<1.0	-	<1.0	-	-
Silver	0.3 ug/g	<0.3	<0.3	-	<0.3	-	-
Thallium	1.0 ug/g	<1.0	<1.0	-	<1.0	-	-
Uranium	1.0 ug/g	<1.0	<1.0	-	1.2	-	-
Vanadium	10.0 ug/g	42.8	40.0	-	46.3	-	-
Zinc	20.0 ug/g	33.8	43.7	-	62.6	-	-
Volatiles							

Certificate of Analysis

Report Date: 04-Mar-2025

Client: **Paterson Group Consulting Engineers (Ottawa)**

Order Date: 12-Feb-2025

Client PO: **62397**

Project Description: **PE6907**

	Client ID:	BH1-25-AU1	BH1-25-SS2	BH1-25-SS6	BH2-25-AU1	-	-
	Sample Date:	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00		
	Sample ID:	2507321-01	2507321-02	2507321-03	2507321-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Volatiles							
Acetone	0.50 ug/g	-	-	<0.50	-	-	-
Benzene	0.02 ug/g	-	-	<0.02	-	-	-
Bromodichloromethane	0.05 ug/g	-	-	<0.05	-	-	-
Bromoform	0.05 ug/g	-	-	<0.05	-	-	-
Bromomethane	0.05 ug/g	-	-	<0.05	-	-	-
Carbon Tetrachloride	0.05 ug/g	-	-	<0.05	-	-	-
Chlorobenzene	0.05 ug/g	-	-	<0.05	-	-	-
Chloroform	0.05 ug/g	-	-	<0.05	-	-	-
Dibromochloromethane	0.05 ug/g	-	-	<0.05	-	-	-
Dichlorodifluoromethane	0.05 ug/g	-	-	<0.05	-	-	-
1,2-Dichlorobenzene	0.05 ug/g	-	-	<0.05	-	-	-
1,3-Dichlorobenzene	0.05 ug/g	-	-	<0.05	-	-	-
1,4-Dichlorobenzene	0.05 ug/g	-	-	<0.05	-	-	-
1,1-Dichloroethane	0.05 ug/g	-	-	<0.05	-	-	-
1,2-Dichloroethane	0.05 ug/g	-	-	<0.05	-	-	-
1,1-Dichloroethylene	0.05 ug/g	-	-	<0.05	-	-	-
cis-1,2-Dichloroethylene	0.05 ug/g	-	-	0.09	-	-	-
trans-1,2-Dichloroethylene	0.05 ug/g	-	-	<0.05	-	-	-
1,2-Dichloropropane	0.05 ug/g	-	-	<0.05	-	-	-
cis-1,3-Dichloropropylene	0.05 ug/g	-	-	<0.05	-	-	-
trans-1,3-Dichloropropylene	0.05 ug/g	-	-	<0.05	-	-	-
1,3-Dichloropropene, total	0.05 ug/g	-	-	<0.05	-	-	-
Ethylene dibromide (dibromoethane,	0.05 ug/g	-	-	<0.05	-	-	-
Ethylbenzene	0.05 ug/g	-	-	<0.05	-	-	-
Hexane	0.05 ug/g	-	-	0.78	-	-	-

	Client ID:	BH1-25-AU1	BH1-25-SS2	BH1-25-SS6	BH2-25-AU1	-	-
	Sample Date:	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00		
	Sample ID:	2507321-01	2507321-02	2507321-03	2507321-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Volatiles							
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g	-	-	<0.50	-	-	-
Methyl Isobutyl Ketone	0.50 ug/g	-	-	<0.50	-	-	-
Methyl tert-butyl ether	0.05 ug/g	-	-	<0.05	-	-	-
Methylene Chloride	0.05 ug/g	-	-	<0.05	-	-	-
Styrene	0.05 ug/g	-	-	<0.05	-	-	-
1,1,1,2-Tetrachloroethane	0.05 ug/g	-	-	<0.05	-	-	-
1,1,2,2-Tetrachloroethane	0.05 ug/g	-	-	<0.05	-	-	-
Tetrachloroethylene	0.05 ug/g	-	-	<0.05	-	-	-
Toluene	0.05 ug/g	-	-	0.17	-	-	-
1,1,1-Trichloroethane	0.05 ug/g	-	-	<0.05	-	-	-
1,1,2-Trichloroethane	0.05 ug/g	-	-	<0.05	-	-	-
Trichloroethylene	0.05 ug/g	-	-	<0.05	-	-	-
Trichlorofluoromethane	0.05 ug/g	-	-	<0.05	-	-	-
Vinyl chloride	0.02 ug/g	-	-	<0.02	-	-	-
m,p-Xylenes	0.05 ug/g	-	-	0.54	-	-	-
o-Xylene	0.05 ug/g	-	-	0.15	-	-	-
Xylenes, total	0.05 ug/g	-	-	0.70	-	-	-
4-Bromofluorobenzene	Surrogate	-	-	104%	-	-	-
Dibromofluoromethane	Surrogate	-	-	99.5%	-	-	-
Toluene-d8	Surrogate	-	-	111%	-	-	-
Benzene	0.02 ug/g	<0.02	<0.02	-	<0.02	-	-
Ethylbenzene	0.05 ug/g	<0.05	<0.05	-	<0.05	-	-
Toluene	0.05 ug/g	<0.05	<0.05	-	<0.05	-	-
m,p-Xylenes	0.05 ug/g	<0.05	<0.05	-	<0.05	-	-
o-Xylene	0.05 ug/g	<0.05	<0.05	-	<0.05	-	-

Certificate of Analysis

Report Date: 04-Mar-2025

Client: **Paterson Group Consulting Engineers (Ottawa)**

Order Date: 12-Feb-2025

Client PO: **62397**

Project Description: **PE6907**

	Client ID:	BH1-25-AU1	BH1-25-SS2	BH1-25-SS6	BH2-25-AU1	-	-
	Sample Date:	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00		
	Sample ID:	2507321-01	2507321-02	2507321-03	2507321-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Volatiles							
Xylenes, total	0.05 ug/g	<0.05	<0.05	-	<0.05	-	-
Toluene-d8	Surrogate	106%	109%	-	103%	-	-
Hydrocarbons							
F1 PHCs (C6-C10)	7 ug/g	<7	<7	-	<7	-	-
F2 PHCs (C10-C16)	4 ug/g	<40 [1]	<4	-	6	-	-
F3 PHCs (C16-C34)	8 ug/g	769	<8	-	55	-	-
F4 PHCs (C34-C50)	6 ug/g	2120 [3]	<6	-	168 [3]	-	-
F4G PHCs (gravimetric)	50 ug/g	3590	-	-	486	-	-
Semi-Volatiles							
Acenaphthene	0.02 ug/g	<0.40 [2]	<0.02	-	<0.02	-	-
Acenaphthylene	0.02 ug/g	<0.40 [2]	<0.02	-	<0.02	-	-
Anthracene	0.02 ug/g	<0.40 [2]	<0.02	-	<0.02	-	-
Benzo [a] anthracene	0.02 ug/g	<0.40 [2]	<0.02	-	<0.02	-	-
Benzo [a] pyrene	0.02 ug/g	<0.40 [2]	<0.02	-	<0.02	-	-
Benzo [b] fluoranthene	0.02 ug/g	<0.40 [2]	<0.02	-	<0.02	-	-
Benzo [g,h,i] perylene	0.02 ug/g	<0.40 [2]	<0.02	-	<0.02	-	-
Benzo [k] fluoranthene	0.02 ug/g	<0.40 [2]	<0.02	-	<0.02	-	-
Chrysene	0.02 ug/g	<0.40 [2]	<0.02	-	0.02	-	-
Dibenzo [a,h] anthracene	0.02 ug/g	<0.40 [2]	<0.02	-	<0.02	-	-
Fluoranthene	0.02 ug/g	<0.40 [2]	<0.02	-	0.02	-	-
Fluorene	0.02 ug/g	<0.40 [2]	<0.02	-	<0.02	-	-
Indeno [1,2,3-cd] pyrene	0.02 ug/g	<0.40 [2]	<0.02	-	<0.02	-	-
1-Methylnaphthalene	0.02 ug/g	<0.40 [2]	<0.02	-	<0.02	-	-
2-Methylnaphthalene	0.02 ug/g	<0.40 [2]	<0.02	-	<0.02	-	-
Methylnaphthalene (1&2)	0.04 ug/g	<0.80 [2]	<0.04	-	<0.04	-	-

	Client ID:	BH1-25-AU1	BH1-25-SS2	BH1-25-SS6	BH2-25-AU1	-	-
	Sample Date:	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00		
	Sample ID:	2507321-01	2507321-02	2507321-03	2507321-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Semi-Volatiles							
Naphthalene	0.01 ug/g	<0.20 [2]	<0.01	-	<0.01	-	-
Phenanthrene	0.02 ug/g	<0.40 [2]	<0.02	-	<0.02	-	-
Pyrene	0.02 ug/g	<0.40 [2]	<0.02	-	<0.02	-	-
2-Fluorobiphenyl	Surrogate	130% [2]	135%	-	128%	-	-
Terphenyl-d14	Surrogate	133% [2]	137%	-	128%	-	-

	Client ID:	BH2-25-SS3	BH2A-25-SS7	BH3-25-AU1	BH3-25-SS6	-	-
	Sample Date:	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00		
	Sample ID:	2507321-05	2507321-06	2507321-07	2507321-08		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	93.8	89.0	89.5	86.9	-	-
General Inorganics							
SAR	0.01 N/A	1.19	-	6.80	-	-	-
Conductivity	5 uS/cm	600	-	1650	-	-	-
pH	0.05 pH Units	-	7.74	-	-	-	-
Metals							
Antimony	1.0 ug/g	<1.0	-	<1.0	-	-	-
Arsenic	1.0 ug/g	4.9	-	5.9	-	-	-
Barium	1.0 ug/g	78.5	-	149	-	-	-
Beryllium	0.5 ug/g	<0.5	-	0.7	-	-	-
Boron	5.0 ug/g	11.1	-	15.3	-	-	-
Cadmium	0.5 ug/g	<0.5	-	<0.5	-	-	-
Chromium	5.0 ug/g	19.4	-	33.1	-	-	-
Cobalt	1.0 ug/g	9.0	-	10.1	-	-	-
Copper	5.0 ug/g	23.6	-	34.6	-	-	-
Lead	1.0 ug/g	6.1	-	49.6	-	-	-
Molybdenum	1.0 ug/g	1.6	-	1.6	-	-	-
Nickel	5.0 ug/g	25.4	-	27.1	-	-	-
Selenium	1.0 ug/g	<1.0	-	1.0	-	-	-
Silver	0.3 ug/g	<0.3	-	<0.3	-	-	-
Thallium	1.0 ug/g	<1.0	-	<1.0	-	-	-
Uranium	1.0 ug/g	<1.0	-	<1.0	-	-	-
Vanadium	10.0 ug/g	43.0	-	48.3	-	-	-
Zinc	20.0 ug/g	28.7	-	66.2	-	-	-
Volatiles							

	Client ID:	BH2-25-SS3	BH2A-25-SS7	BH3-25-AU1	BH3-25-SS6	-	-
	Sample Date:	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00		
	Sample ID:	2507321-05	2507321-06	2507321-07	2507321-08		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Volatiles							
Acetone	0.50 ug/g	-	<0.50	-	<0.50	-	-
Benzene	0.02 ug/g	-	<0.02	-	<0.02	-	-
Bromodichloromethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
Bromoform	0.05 ug/g	-	<0.05	-	<0.05	-	-
Bromomethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
Carbon Tetrachloride	0.05 ug/g	-	<0.05	-	<0.05	-	-
Chlorobenzene	0.05 ug/g	-	<0.05	-	<0.05	-	-
Chloroform	0.05 ug/g	-	<0.05	-	<0.05	-	-
Dibromochloromethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
Dichlorodifluoromethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,2-Dichlorobenzene	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,3-Dichlorobenzene	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,4-Dichlorobenzene	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,1-Dichloroethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,2-Dichloroethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,1-Dichloroethylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
cis-1,2-Dichloroethylene	0.05 ug/g	-	0.86	-	<0.05	-	-
trans-1,2-Dichloroethylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,2-Dichloropropane	0.05 ug/g	-	<0.05	-	<0.05	-	-
cis-1,3-Dichloropropylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
trans-1,3-Dichloropropylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,3-Dichloropropene, total	0.05 ug/g	-	<0.05	-	<0.05	-	-
Ethylbenzene	0.05 ug/g	-	<0.05	-	<0.05	-	-
Ethylene dibromide (dibromoethane,	0.05 ug/g	-	<0.05	-	<0.05	-	-
Hexane	0.05 ug/g	-	<0.05	-	<0.05	-	-

	Client ID:	BH2-25-SS3	BH2A-25-SS7	BH3-25-AU1	BH3-25-SS6	-	-
	Sample Date:	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00		
	Sample ID:	2507321-05	2507321-06	2507321-07	2507321-08		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Volatiles							
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g	-	<0.50	-	<0.50	-	-
Methyl Isobutyl Ketone	0.50 ug/g	-	<0.50	-	<0.50	-	-
Methyl tert-butyl ether	0.05 ug/g	-	<0.05	-	<0.05	-	-
Methylene Chloride	0.05 ug/g	-	<0.05	-	<0.05	-	-
Styrene	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,1,1,2-Tetrachloroethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,1,2,2-Tetrachloroethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
Tetrachloroethylene	0.05 ug/g	-	<0.05	-	1.89	-	-
Toluene	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,1,1-Trichloroethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,1,2-Trichloroethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
Trichloroethylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
Trichlorofluoromethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
Vinyl chloride	0.02 ug/g	-	<0.02	-	<0.02	-	-
m,p-Xylenes	0.05 ug/g	-	<0.05	-	0.09	-	-
o-Xylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
Xylenes, total	0.05 ug/g	-	<0.05	-	0.09	-	-
Toluene-d8	Surrogate	-	109%	-	112%	-	-
Dibromofluoromethane	Surrogate	-	105%	-	104%	-	-
4-Bromofluorobenzene	Surrogate	-	106%	-	109%	-	-
Benzene	0.02 ug/g	<0.02	-	<0.02	-	-	-
Ethylbenzene	0.05 ug/g	<0.05	-	<0.05	-	-	-
Toluene	0.05 ug/g	<0.05	-	<0.05	-	-	-
m,p-Xylenes	0.05 ug/g	<0.05	-	<0.05	-	-	-
o-Xylene	0.05 ug/g	<0.05	-	<0.05	-	-	-

	Client ID:	BH2-25-SS3	BH2A-25-SS7	BH3-25-AU1	BH3-25-SS6	-	-
	Sample Date:	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00		
	Sample ID:	2507321-05	2507321-06	2507321-07	2507321-08		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Volatiles							
Xylenes, total	0.05 ug/g	<0.05	-	<0.05	-	-	-
Toluene-d8	Surrogate	106%	-	109%	-	-	-
Hydrocarbons							
F1 PHCs (C6-C10)	7 ug/g	<7	-	<7	<7	-	-
F2 PHCs (C10-C16)	4 ug/g	<4	-	<4	<4	-	-
F3 PHCs (C16-C34)	8 ug/g	<8	-	153	<8	-	-
F4 PHCs (C34-C50)	6 ug/g	28	-	570 [3]	<6	-	-
F4G PHCs (gravimetric)	50 ug/g	-	-	1290	-	-	-
Semi-Volatiles							
Acenaphthene	0.02 ug/g	<0.02	-	<0.20 [2]	-	-	-
Acenaphthylene	0.02 ug/g	<0.02	-	<0.20 [2]	-	-	-
Anthracene	0.02 ug/g	<0.02	-	<0.20 [2]	-	-	-
Benzo [a] anthracene	0.02 ug/g	<0.02	-	<0.20 [2]	-	-	-
Benzo [a] pyrene	0.02 ug/g	<0.02	-	<0.20 [2]	-	-	-
Benzo [b] fluoranthene	0.02 ug/g	<0.02	-	<0.20 [2]	-	-	-
Benzo [g,h,i] perylene	0.02 ug/g	<0.02	-	<0.20 [2]	-	-	-
Benzo [k] fluoranthene	0.02 ug/g	<0.02	-	<0.20 [2]	-	-	-
Chrysene	0.02 ug/g	<0.02	-	<0.20 [2]	-	-	-
Dibenzo [a,h] anthracene	0.02 ug/g	<0.02	-	<0.20 [2]	-	-	-
Fluoranthene	0.02 ug/g	<0.02	-	<0.20 [2]	-	-	-
Fluorene	0.02 ug/g	<0.02	-	<0.20 [2]	-	-	-
Indeno [1,2,3-cd] pyrene	0.02 ug/g	<0.02	-	<0.20 [2]	-	-	-
1-Methylnaphthalene	0.02 ug/g	<0.02	-	<0.20 [2]	-	-	-
2-Methylnaphthalene	0.02 ug/g	<0.02	-	<0.20 [2]	-	-	-
Methylnaphthalene (1&2)	0.04 ug/g	<0.04	-	<0.40 [2]	-	-	-

	Client ID:	BH2-25-SS3	BH2A-25-SS7	BH3-25-AU1	BH3-25-SS6	-	-
	Sample Date:	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00	10-Feb-25 09:00		
	Sample ID:	2507321-05	2507321-06	2507321-07	2507321-08		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Semi-Volatiles							
Naphthalene	0.01 ug/g	<0.01	-	<0.10 [2]	-	-	-
Phenanthrene	0.02 ug/g	<0.02	-	<0.20 [2]	-	-	-
Pyrene	0.02 ug/g	<0.02	-	<0.20 [2]	-	-	-
2-Fluorobiphenyl	Surrogate	138%	-	123% [2]	-	-	-
Terphenyl-d14	Surrogate	135%	-	132% [2]	-	-	-

	Client ID:	DUP1-25				-	-
	Sample Date:	10-Feb-25 09:00					
	Sample ID:	2507321-09					
	Matrix:	Soil					
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	94.3	-	-	-	-	-
General Inorganics							
SAR	0.01 N/A	1.42	-	-	-	-	-
Conductivity	5 uS/cm	1300	-	-	-	-	-
Metals							
Antimony	1.0 ug/g	<1.0	-	-	-	-	-
Arsenic	1.0 ug/g	5.6	-	-	-	-	-
Barium	1.0 ug/g	102	-	-	-	-	-
Beryllium	0.5 ug/g	0.5	-	-	-	-	-
Boron	5.0 ug/g	13.0	-	-	-	-	-
Cadmium	0.5 ug/g	<0.5	-	-	-	-	-
Chromium	5.0 ug/g	23.1	-	-	-	-	-
Cobalt	1.0 ug/g	7.6	-	-	-	-	-
Copper	5.0 ug/g	21.5	-	-	-	-	-
Lead	1.0 ug/g	20.5	-	-	-	-	-
Molybdenum	1.0 ug/g	2.4	-	-	-	-	-
Nickel	5.0 ug/g	22.5	-	-	-	-	-
Selenium	1.0 ug/g	<1.0	-	-	-	-	-
Silver	0.3 ug/g	<0.3	-	-	-	-	-
Thallium	1.0 ug/g	<1.0	-	-	-	-	-
Uranium	1.0 ug/g	<1.0	-	-	-	-	-
Vanadium	10.0 ug/g	50.8	-	-	-	-	-
Zinc	20.0 ug/g	41.2	-	-	-	-	-
Volatiles							
Benzene	0.02 ug/g	<0.02	-	-	-	-	-

	Client ID:	DUP1-25				-	-
	Sample Date:	10-Feb-25 09:00					
	Sample ID:	2507321-09					
	Matrix:	Soil					
	MDL/Units						
Volatiles							
Ethylbenzene	0.05 ug/g	<0.05	-	-	-	-	-
Toluene	0.05 ug/g	<0.05	-	-	-	-	-
m,p-Xylenes	0.05 ug/g	<0.05	-	-	-	-	-
o-Xylene	0.05 ug/g	<0.05	-	-	-	-	-
Xylenes, total	0.05 ug/g	<0.05	-	-	-	-	-
Toluene-d8	Surrogate	106%	-	-	-	-	-
Hydrocarbons							
F1 PHCs (C6-C10)	7 ug/g	<7	-	-	-	-	-
F2 PHCs (C10-C16)	4 ug/g	<40 [1]	-	-	-	-	-
F3 PHCs (C16-C34)	8 ug/g	678	-	-	-	-	-
F4 PHCs (C34-C50)	6 ug/g	2090 [3]	-	-	-	-	-
F4G PHCs (gravimetric)	50 ug/g	4340	-	-	-	-	-
Semi-Volatiles							
Acenaphthene	0.02 ug/g	<0.40 [2]	-	-	-	-	-
Acenaphthylene	0.02 ug/g	<0.40 [2]	-	-	-	-	-
Anthracene	0.02 ug/g	<0.40 [2]	-	-	-	-	-
Benzo [a] anthracene	0.02 ug/g	<0.40 [2]	-	-	-	-	-
Benzo [a] pyrene	0.02 ug/g	<0.40 [2]	-	-	-	-	-
Benzo [b] fluoranthene	0.02 ug/g	<0.40 [2]	-	-	-	-	-
Benzo [g,h,i] perylene	0.02 ug/g	<0.40 [2]	-	-	-	-	-
Benzo [k] fluoranthene	0.02 ug/g	<0.40 [2]	-	-	-	-	-
Chrysene	0.02 ug/g	<0.40 [2]	-	-	-	-	-
Dibenzo [a,h] anthracene	0.02 ug/g	<0.40 [2]	-	-	-	-	-
Fluoranthene	0.02 ug/g	<0.40 [2]	-	-	-	-	-
Fluorene	0.02 ug/g	<0.40 [2]	-	-	-	-	-

	Client ID:	DUP1-25				-	-
	Sample Date:	10-Feb-25 09:00					
	Sample ID:	2507321-09					
	Matrix:	Soil					
	MDL/Units						
Semi-Volatiles							
Indeno [1,2,3-cd] pyrene	0.02 ug/g	<0.40 [2]	-	-	-	-	-
1-Methylnaphthalene	0.02 ug/g	<0.40 [2]	-	-	-	-	-
2-Methylnaphthalene	0.02 ug/g	<0.40 [2]	-	-	-	-	-
Methylnaphthalene (1&2)	0.04 ug/g	<0.80 [2]	-	-	-	-	-
Naphthalene	0.01 ug/g	<0.20 [2]	-	-	-	-	-
Phenanthrene	0.02 ug/g	<0.40 [2]	-	-	-	-	-
Pyrene	0.02 ug/g	<0.40 [2]	-	-	-	-	-
2-Fluorobiphenyl	Surrogate	130% [2]	-	-	-	-	-
Terphenyl-d14	Surrogate	134% [2]	-	-	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics								
Conductivity	ND	5	uS/cm					
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					
F4G PHCs (gravimetric)	ND	50	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					
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					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
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	*1.69*		*%*	*127*	*50-140*			
Surrogate: Terphenyl-d14	*1.72*		*%*	*129*	*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	%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	*7.88*		*%*	*98.5*	*50-140*			
Surrogate: Dibromofluoromethane	*7.07*		*%*	*88.3*	*50-140*			
Surrogate: Toluene-d8	*8.46*		*%*	*106*	*50-140*			
Benzene	ND	0.02	ug/g					
Ethylbenzene	ND	0.05	ug/g					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
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	*8.46*		*%*	*106*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
SAR	0.18	0.01	N/A	0.20			10.5	30	
Conductivity	245	5	uS/cm	252			3.0	5	
pH	7.73	0.05	pH Units	7.75			0.3	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)	ND	8	ug/g	ND			NC	30	
F4 PHCs (C34-C50)	ND	6	ug/g	ND			NC	30	
F4G PHCs (gravimetric)	349	50	ug/g	349			0.0	30	
Metals									
Antimony	ND	1.0	ug/g	ND			NC	30	
Arsenic	4.0	1.0	ug/g	3.9			2.4	30	
Barium	456	1.0	ug/g	451			1.2	30	
Beryllium	1.1	0.5	ug/g	1.1			1.8	30	
Boron	5.1	5.0	ug/g	ND			NC	30	
Cadmium	ND	0.5	ug/g	ND			NC	30	
Chromium	143	5.0	ug/g	142			1.3	30	
Cobalt	26.8	1.0	ug/g	26.5			1.2	30	
Copper	63.5	5.0	ug/g	63.5			0.0	30	
Lead	7.4	1.0	ug/g	7.6			3.1	30	
Molybdenum	ND	1.0	ug/g	ND			NC	30	
Nickel	74.4	5.0	ug/g	74.6			0.2	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	125	10.0	ug/g	122			2.7	30	
Zinc	147	20.0	ug/g	147			0.6	30	
Physical Characteristics									
% Solids	94.0	0.1	% by Wt.	93.9			0.2	25	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Semi-Volatiles									
Acenaphthene	ND	0.40	ug/g	ND			NC	40	GEN09
Acenaphthylene	ND	0.40	ug/g	ND			NC	40	GEN09
Anthracene	ND	0.40	ug/g	ND			NC	40	GEN09
Benzo [a] anthracene	ND	0.40	ug/g	ND			NC	40	GEN09
Benzo [a] pyrene	ND	0.40	ug/g	ND			NC	40	GEN09
Benzo [b] fluoranthene	ND	0.40	ug/g	ND			NC	40	GEN09
Benzo [g,h,i] perylene	ND	0.40	ug/g	ND			NC	40	GEN09
Benzo [k] fluoranthene	ND	0.40	ug/g	ND			NC	40	GEN09
Chrysene	ND	0.40	ug/g	ND			NC	40	GEN09
Dibenzo [a,h] anthracene	ND	0.40	ug/g	ND			NC	40	GEN09
Fluoranthene	ND	0.40	ug/g	ND			NC	40	GEN09
Fluorene	ND	0.40	ug/g	ND			NC	40	GEN09
Indeno [1,2,3-cd] pyrene	ND	0.40	ug/g	ND			NC	40	GEN09
1-Methylnaphthalene	ND	0.40	ug/g	ND			NC	40	GEN09
2-Methylnaphthalene	ND	0.40	ug/g	ND			NC	40	GEN09
Naphthalene	ND	0.20	ug/g	ND			NC	40	GEN09
Phenanthrene	ND	0.40	ug/g	ND			NC	40	GEN09
Pyrene	ND	0.40	ug/g	ND			NC	40	GEN09
Surrogate: 2-Fluorobiphenyl	*1.87*		*%*		*132*	*50-140*			*GEN09*
Surrogate: Terphenyl-d14	*1.96*		*%*		*139*	*50-140*			*GEN09*
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	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
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	
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	0.124	0.05	ug/g	0.103			18.3	50	
o-Xylene	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
Surrogate: 4-Bromofluorobenzene	*9.92*		*%*		*107*	*50-140*			
Surrogate: Dibromofluoromethane	*9.90*		*%*		*106*	*50-140*			
Surrogate: Toluene-d8	*10.3*		*%*		*111*	*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	0.124	0.05	ug/g	0.103			18.3	50	
o-Xylene	ND	0.05	ug/g	ND			NC	50	
Surrogate: Toluene-d8	*10.3*		*%*		*111*	*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)	198	7	ug/g	ND	98.9	85-115			
F2 PHCs (C10-C16)	78	4	ug/g	ND	91.8	60-140			
F3 PHCs (C16-C34)	222	8	ug/g	ND	107	60-140			
F4 PHCs (C34-C50)	142	6	ug/g	ND	108	60-140			
F4G PHCs (gravimetric)	1040	50	ug/g	ND	104	80-120			
Metals									
Arsenic	49.2	1.0	ug/g	1.6	95.3	70-130			
Barium	235	1.0	ug/g	180	110	70-130			
Beryllium	52.4	0.5	ug/g	ND	104	70-130			
Boron	48.1	5.0	ug/g	ND	92.3	70-130			
Cadmium	49.8	0.5	ug/g	ND	99.5	70-130			
Chromium	114	5.0	ug/g	56.6	114	70-130			
Cobalt	62.0	1.0	ug/g	10.6	103	70-130			
Copper	74.0	5.0	ug/g	25.4	97.2	70-130			
Lead	49.4	1.0	ug/g	3.1	92.7	70-130			
Molybdenum	49.2	1.0	ug/g	ND	98.0	70-130			
Nickel	80.2	5.0	ug/g	29.8	101	70-130			
Selenium	47.5	1.0	ug/g	ND	94.5	70-130			
Silver	36.5	0.3	ug/g	ND	73.0	70-130			
Thallium	46.4	1.0	ug/g	ND	92.3	70-130			
Uranium	49.0	1.0	ug/g	ND	97.3	70-130			
Vanadium	105	10.0	ug/g	48.7	112	70-130			
Zinc	111	20.0	ug/g	58.6	104	70-130			
Semi-Volatiles									
Acenaphthene	0.186	0.02	ug/g	ND	111	50-140			
Acenaphthylene	0.180	0.02	ug/g	ND	108	50-140			
Anthracene	0.180	0.02	ug/g	ND	108	50-140			
Benzo [a] anthracene	0.179	0.02	ug/g	ND	108	50-140			
Benzo [a] pyrene	0.176	0.02	ug/g	ND	106	50-140			
Benzo [b] fluoranthene	0.186	0.02	ug/g	ND	112	50-140			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzo [g,h,i] perylene	0.176	0.02	ug/g	ND	105	50-140			
Benzo [k] fluoranthene	0.177	0.02	ug/g	ND	106	50-140			
Chrysene	0.211	0.02	ug/g	ND	127	50-140			
Dibenzo [a,h] anthracene	0.187	0.02	ug/g	ND	112	50-140			
Fluoranthene	0.211	0.02	ug/g	ND	127	50-140			
Fluorene	0.187	0.02	ug/g	ND	112	50-140			
Indeno [1,2,3-cd] pyrene	0.169	0.02	ug/g	ND	102	50-140			
1-Methylnaphthalene	0.170	0.02	ug/g	ND	102	50-140			
2-Methylnaphthalene	0.187	0.02	ug/g	ND	112	50-140			
Naphthalene	0.178	0.01	ug/g	ND	107	50-140			
Phenanthrene	0.199	0.02	ug/g	ND	120	50-140			
Pyrene	0.180	0.02	ug/g	ND	108	50-140			
Surrogate: 2-Fluorobiphenyl	*1.71*		*%*		*128*	*50-140*			
Surrogate: Terphenyl-d14	*1.74*		*%*		*131*	*50-140*			
Volatiles									
Acetone	10.6	0.50	ug/g	ND	106	50-140			
Benzene	4.98	0.02	ug/g	ND	124	60-130			
Bromodichloromethane	4.19	0.05	ug/g	ND	105	60-130			
Bromoform	4.10	0.05	ug/g	ND	102	60-130			
Bromomethane	4.84	0.05	ug/g	ND	121	50-140			
Carbon Tetrachloride	3.96	0.05	ug/g	ND	99.1	60-130			
Chlorobenzene	4.31	0.05	ug/g	ND	108	60-130			
Chloroform	4.17	0.05	ug/g	ND	104	60-130			
Dibromochloromethane	3.97	0.05	ug/g	ND	99.2	60-130			
Dichlorodifluoromethane	4.40	0.05	ug/g	ND	110	50-140			
1,2-Dichlorobenzene	4.65	0.05	ug/g	ND	116	60-130			
1,3-Dichlorobenzene	4.66	0.05	ug/g	ND	116	60-130			
1,4-Dichlorobenzene	4.58	0.05	ug/g	ND	115	60-130			
1,1-Dichloroethane	4.48	0.05	ug/g	ND	112	60-130			
1,2-Dichloroethane	3.97	0.05	ug/g	ND	99.1	60-130			
1,1-Dichloroethylene	4.30	0.05	ug/g	ND	107	60-130			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
cis-1,2-Dichloroethylene	4.17	0.05	ug/g	ND	104	60-130			
trans-1,2-Dichloroethylene	3.97	0.05	ug/g	ND	99.1	60-130			
1,2-Dichloropropane	4.30	0.05	ug/g	ND	108	60-130			
cis-1,3-Dichloropropylene	3.96	0.05	ug/g	ND	98.9	60-130			
trans-1,3-Dichloropropylene	4.03	0.05	ug/g	ND	101	60-130			
Ethylbenzene	4.75	0.05	ug/g	ND	119	60-130			
Ethylene dibromide (dibromoethane, 1,2-)	3.27	0.05	ug/g	ND	81.7	60-130			
Hexane	4.76	0.05	ug/g	ND	119	60-130			
Methyl Ethyl Ketone (2-Butanone)	11.2	0.50	ug/g	ND	112	50-140			
Methyl Isobutyl Ketone	11.4	0.50	ug/g	ND	114	50-140			
Methyl tert-butyl ether	10.8	0.05	ug/g	ND	108	50-140			
Methylene Chloride	4.73	0.05	ug/g	ND	118	60-130			
Styrene	4.36	0.05	ug/g	ND	109	60-130			
1,1,1,2-Tetrachloroethane	3.61	0.05	ug/g	ND	90.3	60-130			
1,1,2,2-Tetrachloroethane	3.04	0.05	ug/g	ND	75.9	60-130			
Tetrachloroethylene	4.05	0.05	ug/g	ND	101	60-130			
Toluene	4.64	0.05	ug/g	ND	116	60-130			
1,1,1-Trichloroethane	3.44	0.05	ug/g	ND	86.0	60-130			
1,1,2-Trichloroethane	4.09	0.05	ug/g	ND	102	60-130			
Trichloroethylene	3.95	0.05	ug/g	ND	98.6	60-130			
Trichlorofluoromethane	4.14	0.05	ug/g	ND	104	50-140			
Vinyl chloride	4.02	0.02	ug/g	ND	101	50-140			
m,p-Xylenes	9.45	0.05	ug/g	ND	118	60-130			
o-Xylene	4.78	0.05	ug/g	ND	120	60-130			
Surrogate: 4-Bromofluorobenzene	*7.86*		*%*		*98.2*	*50-140*			
Surrogate: Dibromofluoromethane	*7.11*		*%*		*88.9*	*50-140*			
Surrogate: Toluene-d8	*8.11*		*%*		*101*	*50-140*			
Benzene	4.98	0.02	ug/g	ND	124	60-130			
Ethylbenzene	4.75	0.05	ug/g	ND	119	60-130			
Toluene	4.64	0.05	ug/g	ND	116	60-130			
m,p-Xylenes	9.45	0.05	ug/g	ND	118	60-130			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
o-Xylene	4.78	0.05	ug/g	ND	120	60-130			
Surrogate: Toluene-d8	*8.11*		*%*		*101*	*50-140*			

Qualifier Notes:

Sample Qualifiers :

1: Elevated reporting limit due to dilution required because of high target analyte concentration.

Applies to Samples: BH1-25-AU1, DUP1-25

2: Elevated reporting limits due to the nature of the sample matrix.

3: GC-FID signal did not return to baseline by C50

Applies to Samples: BH1-25-AU1, BH2-25-AU1, BH3-25-AU1, DUP1-25

QC Qualifiers:

GEN09 Elevated reporting limits due to the nature of the sample matrix.

Sample Data Revisions:

None

Certificate of Analysis

Report Date: 04-Mar-2025

Client: **Paterson Group Consulting Engineers (Ottawa)**

Order Date: 12-Feb-2025

Client PO: 62397

Project Description: PE6907

Work Order Revisions / Comments:

Revision 1 - Revised report includes addl pH analysis, per client request.

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 unlesss otherwise noted.

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.

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Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2507321	

Client Name:	Paterson Group	Project Ref:	PE6907
Contact Name:	Joshua Dempsey	Quote #:	
Address:	9 Auriga Drive Ottawa, Ontario	PO #:	62397
Telephone:	613-226-7381	E-mail:	jdempsey@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 ☐ Agri/Other ☐ Med/Fine
☐ Table 2 ☐ Res/Park ☐ Coarse
☐ Table 3 ☐ Ind/Comm
☐ 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	Field Filtered	Sample Taken: Date	Sample Taken: Time	PHCs F1-F4+BTEX	VOCs	PAHs	Metals by ICP	Hg	CrVI	B (HWS)	EC/SAR			
1	BH1-25-AU1	S		2		February 10, 2025		X		X	X				X			
2	BH1-25-SS2	S		2		February 10, 2025		X		X	X				X			
3	BH1-25-SS6	S		2		February 10, 2025			X									
4	BH2-25-AU1	S		2		February 10, 2025		X		X	X				X			
5	BH2-25-SS3	S		2		February 10, 2025		X		X	X				X			
6	BH2A-25-SS7	S		2		February 10, 2025			X									
7	BH3-25-AU1	S		2		February 10, 2025		X		X	X				X			
8	BH3-25-SS6	S		2		February 10, 2025		X	X									
9	DUP1 -25	S		2				X		X	X				X			
10																		

Comments:

Method of Delivery: Paracel Courier

Relinquished By (Sign):	Received at Depot:	Received at Lab: JM	Verified By:
Relinquished By (Print): Joshua Dempsey	Date/Time:	Date/Time: Feb 12/25 1640	Date/Time: Feb 13 910
Date/Time: February 12, 2025	Temperature: °C	Temperature: 9.0	pH Verified: ☐ By:

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Certificate of Analysis

Paterson Group Consulting Engineers (Ottawa)
9 Auriga Drive
Ottawa, ON K2E 7T9
Attn: Mark Bujaki

Client PO: 62429
Project: PE6907
Custody:

Report Date: 24-Feb-2025
Order Date: 19-Feb-2025

Order #: 2508158

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

Paracel ID	Client ID
2508158-01	BH1A-25-GW1
2508158-02	BH2A-25-GW1
2508158-03	DUP1

Approved By:

Mark Foto, M.Sc.
Laboratory Director

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
PHC F1	CWS Tier 1 - P&T GC-FID	20-Feb-25	20-Feb-25
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	20-Feb-25	21-Feb-25
REG 153: VOCs by P&T GC/MS	EPA 624 - P&T GC-MS	20-Feb-25	20-Feb-25

	Client ID:	BH1A-25-GW1	BH2A-25-GW1	DUP1	-	-	-
	Sample Date:	19-Feb-25 09:00	19-Feb-25 09:00	19-Feb-25 09:00	-		
	Sample ID:	2508158-01	2508158-02	2508158-03	-		
	Matrix:	Ground Water	Ground Water	Ground Water	-		
	MDL/Units						
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	2.2	<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	167	<0.5	-	-	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	0.8	<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,	0.2 ug/L	<0.2	<0.2	<0.2	-	-	-
Hexane	1.0 ug/L	<1.0	<1.0	<1.0	-	-	-

Certificate of Analysis

Report Date: 24-Feb-2025

Client: **Paterson Group Consulting Engineers (Ottawa)**

Order Date: 19-Feb-2025

Client PO: **62429**

Project Description: **PE6907**

	Client ID:	BH1A-25-GW1	BH2A-25-GW1	DUP1	-	-	-
	Sample Date:	19-Feb-25 09:00	19-Feb-25 09:00	19-Feb-25 09:00	-		
	Sample ID:	2508158-01	2508158-02	2508158-03	-		
	Matrix:	Ground Water	Ground Water	Ground Water	-		
	MDL/Units						
Volatiles							
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	148	<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	-	-	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-	-	-
Trichloroethylene	0.5 ug/L	<0.5	16.8	<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	-	-	-
Toluene-d8	Surrogate	92.3%	91.6%	92.8%	-	-	-
4-Bromofluorobenzene	Surrogate	94.0%	94.4%	94.0%	-	-	-
Dibromofluoromethane	Surrogate	99.0%	102%	95.8%	-	-	-
Hydrocarbons							
F1 PHCs (C6-C10)	25 ug/L	<25	58	<25	-	-	-
F2 PHCs (C10-C16)	100 ug/L	<100	<100	<100	-	-	-
F3 PHCs (C16-C34)	100 ug/L	<100	<100	<100	-	-	-
F4 PHCs (C34-C50)	100 ug/L	<100	<100	<100	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%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					
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					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
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	*70.9*		*%*	*88.6*	*50-140*			
Surrogate: Dibromofluoromethane	*60.5*		*%*	*75.6*	*50-140*			
Surrogate: Toluene-d8	*76.0*		*%*	*95.1*	*50-140*			

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			NC	30	
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	2.97			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	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
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	*72.3*		*%*		*90.4*	*50-140*			
Surrogate: Dibromofluoromethane	*64.8*		*%*		*81.0*	*50-140*			
Surrogate: Toluene-d8	*75.6*		*%*		*94.5*	*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)	1880	25	ug/L	ND	109	85-115			
F2 PHCs (C10-C16)	1610	100	ug/L	ND	100	60-140			
F3 PHCs (C16-C34)	4550	100	ug/L	ND	116	60-140			
F4 PHCs (C34-C50)	2480	100	ug/L	ND	100	60-140			
Volatiles									
Acetone	116	5.0	ug/L	ND	116	50-140			
Benzene	43.1	0.5	ug/L	ND	108	60-130			
Bromodichloromethane	40.6	0.5	ug/L	ND	101	60-130			
Bromoform	37.0	0.5	ug/L	ND	92.6	60-130			
Bromomethane	40.8	0.5	ug/L	ND	102	50-140			
Carbon Tetrachloride	40.4	0.2	ug/L	ND	101	60-130			
Chlorobenzene	38.0	0.5	ug/L	ND	95.0	60-130			
Chloroform	36.8	0.5	ug/L	ND	92.0	60-130			
Dibromochloromethane	39.8	0.5	ug/L	ND	99.6	60-130			
Dichlorodifluoromethane	30.5	1.0	ug/L	ND	76.3	50-140			
1,2-Dichlorobenzene	41.6	0.5	ug/L	ND	104	60-130			
1,3-Dichlorobenzene	40.1	0.5	ug/L	ND	100	60-130			
1,4-Dichlorobenzene	41.3	0.5	ug/L	ND	103	60-130			
1,1-Dichloroethane	40.6	0.5	ug/L	ND	102	60-130			
1,2-Dichloroethane	39.9	0.5	ug/L	ND	99.8	60-130			
1,1-Dichloroethylene	35.4	0.5	ug/L	ND	88.6	60-130			
cis-1,2-Dichloroethylene	37.7	0.5	ug/L	ND	94.2	60-130			
trans-1,2-Dichloroethylene	34.8	0.5	ug/L	ND	86.9	60-130			
1,2-Dichloropropane	39.6	0.5	ug/L	ND	99.0	60-130			
cis-1,3-Dichloropropylene	33.5	0.5	ug/L	ND	83.8	60-130			
trans-1,3-Dichloropropylene	35.4	0.5	ug/L	ND	88.6	60-130			
Ethylbenzene	39.9	0.5	ug/L	ND	99.8	60-130			
Ethylene dibromide (dibromoethane, 1,2-)	37.5	0.2	ug/L	ND	93.7	60-130			
Hexane	38.4	1.0	ug/L	ND	96.1	60-130			
Methyl Ethyl Ketone (2-Butanone)	70.3	5.0	ug/L	ND	70.3	50-140			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Methyl Isobutyl Ketone	109	5.0	ug/L	ND	109	50-140			
Methyl tert-butyl ether	102	2.0	ug/L	ND	102	50-140			
Methylene Chloride	41.4	5.0	ug/L	ND	104	60-130			
Styrene	36.4	0.5	ug/L	ND	91.0	60-130			
1,1,1,2-Tetrachloroethane	37.6	0.5	ug/L	ND	94.0	60-130			
1,1,2,2-Tetrachloroethane	37.3	0.5	ug/L	ND	93.3	60-130			
Tetrachloroethylene	39.7	0.5	ug/L	ND	99.4	60-130			
Toluene	39.9	0.5	ug/L	ND	99.6	60-130			
1,1,1-Trichloroethane	41.5	0.5	ug/L	ND	104	60-130			
1,1,2-Trichloroethane	41.8	0.5	ug/L	ND	104	60-130			
Trichloroethylene	42.1	0.5	ug/L	ND	105	60-130			
Trichlorofluoromethane	34.4	1.0	ug/L	ND	86.0	60-130			
Vinyl chloride	36.1	0.5	ug/L	ND	90.3	50-140			
m,p-Xylenes	83.1	0.5	ug/L	ND	104	60-130			
o-Xylene	42.5	0.5	ug/L	ND	106	60-130			
Surrogate: 4-Bromofluorobenzene	*75.6*		*%*		*94.4*	*50-140*			
Surrogate: Dibromofluoromethane	*92.2*		*%*		*115*	*50-140*			
Surrogate: Toluene-d8	*74.2*		*%*		*92.7*	*50-140*			

Certificate of Analysis

Report Date: 24-Feb-2025

Client: **Paterson Group Consulting Engineers (Ottawa)**

Order Date: 19-Feb-2025

Client PO: **62429**

Project Description: PE6907

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

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: 2508158

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2508158	

Client Name: Paterson Group	Project Ref: PE6907	Page 1 of 1
Contact Name: Mark Bujaki	Quote #:	Turnaround Time
Address: 9 Auriga Drive	PO #: 62429	☐ 1 day ☐ 3 day
	E-mail: MBujaki@patersongroup.ca	☐ 2 day ☒ Regular
Telephone: 613-226-7381	JDempsey@patersongroup.ca	Date Required:

☒ REG 153/04 ☐ REG 406/19	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						PHCs F1-F4+BTEX	VOCs	PAHs	Metals by ICP	Hg	CrVI	B (HWS)	PHCs F_1 - F_{21}				
☐ 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												
1	BH1A -25 -GW1	GW		3	Feb 19/25			X						X				
2	BH2A -25 - GW1	GW		3	Feb 19/25			X						X				
3	DUP1	GW		3	Feb 19/25			X						X				
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Comments:			Method of Delivery: Paracel Courier
Relinquished By (Sign): Owen BL	Received By Driver/Depot:	Received at Lab: Pat	Verified By: SB
Relinquished By (Print): Mark Bujaki	Date/Time:	Date/Time: Feb 19/25 16:05	Date/Time: Feb 19, 2025 4:21 pm
Date/Time: Feb 19th 2025	Temperature: °C	Temperature: 16.0	pH Verified: ☐ By:

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Certificate of Analysis

Paterson Group Consulting Engineers (Ottawa)
9 Auriga Drive
Ottawa, ON K2E 7T9
Attn: Mark Bujaki

Client PO: 62541
Project: PE6907
Custody:

Report Date: 12-Mar-2025
Order Date: 6-Mar-2025

Order #: 2510454

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

Paracel ID	Client ID
2510454-01	BH3-25-GW1

Approved By:

Mark Foto, M.Sc.
Laboratory Director

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
PHC F1	CWS Tier 1 - P&T GC-FID	10-Mar-25	11-Mar-25
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	7-Mar-25	7-Mar-25
REG 153: VOCs by P&T GC-MS	EPA 624 - P&T GC-MS	11-Mar-25	11-Mar-25

Certificate of Analysis

Report Date: 12-Mar-2025

Client: **Paterson Group Consulting Engineers (Ottawa)**

Order Date: 6-Mar-2025

Client PO: **62541**

Project Description: **PE6907**

	Client ID:	BH3-25-GW1	-	-	-		
	Sample Date:	06-Mar-25 09:00	-	-	-	-	-
	Sample ID:	2510454-01	-	-	-		
	Matrix:	Ground Water	-	-	-		
	MDL/Units						
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	6.1	-	-	-	-	-
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	53.3	-	-	-	-	-
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,	0.2 ug/L	<0.2	-	-	-	-	-
Hexane	1.0 ug/L	<1.0	-	-	-	-	-

Certificate of Analysis

Report Date: 12-Mar-2025

Client: **Paterson Group Consulting Engineers (Ottawa)**

Order Date: 6-Mar-2025

Client PO: **62541**

Project Description: **PE6907**

	Client ID:	BH3-25-GW1	-	-	-		
	Sample Date:	06-Mar-25 09:00	-	-	-	-	-
	Sample ID:	2510454-01	-	-	-		
	Matrix:	Ground Water	-	-	-		
	MDL/Units						
Volatiles							
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	639	-	-	-	-	-
Toluene	0.5 ug/L	3.3	-	-	-	-	-
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	21.0	-	-	-	-	-
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	0.05 ug/L	0.5	-	-	-	-	-
Toluene-d8	Surrogate	85.9%	-	-	-	-	-
4-Bromofluorobenzene	Surrogate	118%	-	-	-	-	-
Dibromofluoromethane	Surrogate	89.5%	-	-	-	-	-
Hydrocarbons							
F1 PHCs (C6-C10)	25 ug/L	<125 [1]	-	-	-	-	-
F2 PHCs (C10-C16)	100 ug/L	<100	-	-	-	-	-
F3 PHCs (C16-C34)	100 ug/L	<100	-	-	-	-	-
F4 PHCs (C34-C50)	100 ug/L	<100	-	-	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%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					
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					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
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	0.05	ug/L					
Surrogate: 4-Bromofluorobenzene	*86.1*		*%*	*107*	*50-140*			
Surrogate: Dibromofluoromethane	*65.8*		*%*	*81.9*	*50-140*			
Surrogate: Toluene-d8	*77.9*		*%*	*97.0*	*50-140*			

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			NC	30	
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	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
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	*82.2*		*%*		*102*	*50-140*			
Surrogate: Dibromofluoromethane	*67.5*		*%*		*84.0*	*50-140*			
Surrogate: Toluene-d8	*78.9*		*%*		*98.2*	*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)	620	25	ug/L	ND	87.7	0-200			
F2 PHCs (C10-C16)	1600	100	ug/L	ND	99.9	60-140			
F3 PHCs (C16-C34)	4220	100	ug/L	ND	108	60-140			
F4 PHCs (C34-C50)	2410	100	ug/L	ND	97.1	60-140			
Volatiles									
Acetone	112	5.0	ug/L	ND	112	50-140			
Benzene	37.6	0.5	ug/L	ND	93.0	50-140			
Bromodichloromethane	42.7	0.5	ug/L	ND	106	50-140			
Bromoform	49.5	0.5	ug/L	ND	124	50-140			
Bromomethane	51.0	0.5	ug/L	ND	126	50-140			
Carbon Tetrachloride	43.3	0.2	ug/L	ND	107	50-140			
Chlorobenzene	43.8	0.5	ug/L	ND	109	50-140			
Chloroform	44.7	0.5	ug/L	ND	112	50-140			
Dibromochloromethane	47.1	0.5	ug/L	ND	118	50-140			
Dichlorodifluoromethane	52.1	1.0	ug/L	ND	128	50-140			
1,2-Dichlorobenzene	47.5	0.5	ug/L	ND	118	50-140			
1,3-Dichlorobenzene	48.3	0.5	ug/L	ND	121	50-140			
1,4-Dichlorobenzene	43.9	0.5	ug/L	ND	109	50-140			
1,1-Dichloroethane	43.1	0.5	ug/L	ND	107	50-140			
1,2-Dichloroethane	43.5	0.5	ug/L	ND	108	50-140			
1,1-Dichloroethylene	39.9	0.5	ug/L	ND	99.3	50-140			
cis-1,2-Dichloroethylene	42.7	0.5	ug/L	ND	106	50-140			
trans-1,2-Dichloroethylene	39.6	0.5	ug/L	ND	98.1	50-140			
1,2-Dichloropropane	41.4	0.5	ug/L	ND	104	50-140			
cis-1,3-Dichloropropylene	43.6	0.5	ug/L	ND	109	50-140			
trans-1,3-Dichloropropylene	46.4	0.5	ug/L	ND	115	50-140			
Ethylbenzene	38.9	0.5	ug/L	ND	96.3	50-140			
Ethylene dibromide (dibromoethane, 1,2-)	46.3	0.2	ug/L	ND	115	50-140			
Hexane	29.8	1.0	ug/L	ND	74.5	50-140			
Methyl Ethyl Ketone (2-Butanone)	127	5.0	ug/L	ND	127	50-140			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Methyl Isobutyl Ketone	125	5.0	ug/L	ND	125	50-140			
Methyl tert-butyl ether	103	2.0	ug/L	ND	103	50-140			
Methylene Chloride	39.8	5.0	ug/L	ND	99.5	50-140			
Styrene	47.5	0.5	ug/L	ND	118	50-140			
1,1,1,2-Tetrachloroethane	43.4	0.5	ug/L	ND	107	50-140			
1,1,2,2-Tetrachloroethane	43.3	0.5	ug/L	ND	108	50-140			
Tetrachloroethylene	47.1	0.5	ug/L	ND	117	50-140			
Toluene	38.4	0.5	ug/L	ND	95.0	50-140			
1,1,1-Trichloroethane	43.3	0.5	ug/L	ND	108	50-140			
1,1,2-Trichloroethane	43.1	0.5	ug/L	ND	108	50-140			
Trichloroethylene	41.9	0.5	ug/L	ND	104	50-140			
Trichlorofluoromethane	43.1	1.0	ug/L	ND	107	50-140			
Vinyl chloride	54.6	0.5	ug/L	ND	135	50-140			
m,p-Xylenes	77.4	0.5	ug/L	ND	95.8	50-140			
o-Xylene	37.6	0.5	ug/L	ND	93.2	50-140			
Surrogate: 4-Bromofluorobenzene	*90.1*		*%*		*112*	*50-140*			
Surrogate: Dibromofluoromethane	*90.7*		*%*		*113*	*50-140*			
Surrogate: Toluene-d8	*69.1*		*%*		*86.1*	*50-140*			

Qualifier Notes:

Sample Qualifiers :

1: Elevated reporting limit because of dilution required due to the presence of high levels of non-target analytes.
Applies to Samples: BH3-25-GW1

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

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: 2510454

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2510454	

Client Name: Paterson Group
Contact Name: Mark Bjaki
Address: 9 Auriga drive
Telephone: 613 226 7381

Project Ref: PE6907
Quote #:
PO #: 62541
E-mail: mbjaki@patersongroup.ca
J Dempsey@patersongroup.ca

Page 1 of 1

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
☐ Table 2 ☐ Ind/Comm ☐ Coarse
☐ Table 3 ☐ Agri/Other
☐ Table
For RSC: ☐ Yes ☐ No
☐ 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)	PHCs				
1	BH3-25-Gw1	GW		3	March 6 2025			X						X				
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Comments:

Method of Delivery: Paracel Courier

Relinquished By (Sign):	Received By Driver/Depot:	Received at Lab:	Verified By:
		SD	SD
Relinquished By (Print): Mark Bjaki	Date/Time:	Date/Time: Mar 6, 2025 4:00p	Date/Time: Mar 6, 2025 4:20pm
Date/Time: March 6 2025	Temperature: °C	Temperature: 9.4	pH Verified: ☐ By:

APPENDIX 2

TABLE 1: TEST HOLE SUMMARY

TABLE 2: SOIL TESTING SUMMARY

TABLE 3: GROUNDWATER TESTING SUMMARY

TABLE 4: SOIL ANALYTICAL TEST RESULTS

TABLE 4A: MAXIMUM CONCENTRATIONS – SOIL

TABLE 5: GROUNDWATER ANALYTICAL TEST RESULTS

TABLE 5A: MAXIMUM CONCENTRATIONS – GROUNDWATER

TABLE 6: QA/QC CALCULATIONS

TABLE 7: GROUNDWATER LEVELS

TABLE 8: STABILIZED WATER QUALITY PARAMETERS

Test Hole ID	Date of Construction	Well Diameter (mm)	Ground Surface Elevation (masl)	Test Hole Depth (m)	Test Hole Bottom Elevation (masl)	Well Screen Length (m)	Well Screen Interval (mbgs)	Well Screen Interval (masl)	Geologic Media Intercepted by Well Screen
BH1-25	10-Feb-2025	50	59.24	5.79	53.45	1.52	4.27 - 5.79	54.97 - 53.45	Glacial Till
BH1A-25	10-Feb-2025		59.23	2.62	56.61		-	-	
BH2-25	10-Feb-2025		58.89	2.51	56.38		-	-	
BH2A-25	11-Feb-2025	50	58.89	5.94	52.95	1.52	4.42 - 5.94	54.47 - 52.95	Glacial Till
BH3-25	10-Feb-2025	50	58.45	4.45	54.00	1.52	2.93 - 4.45	55.52 - 54	Glacial Till

Sample ID and Laboratory ID	Sample Depth (mbgs)	Sampling Date	Rationale	PID Vapour Reading (ppm)	Parameter Groups Analyzed							
					PHCs	BTEX	VOCs	PAHs	Metals	EC	SAR	pH
BH1-25-AU1 2507321-01	0.23-0.61	10-Feb-2025	Assess potential impacts in the soil resulting from the presence of unknown fill material and application of road salt (APEC 1, APEC 2)	1.3	✓	✓		✓	✓	✓	✓	
BH1-25-SS2 2507321-02	0.76-1.37	10-Feb-2025	Assess potential impacts in the soil resulting from the presence of unknown fill material and application of road salt (APEC 1, APEC 2)	2	✓	✓		✓	✓	✓	✓	✓
BH1-25-SS6 2507321-03	4.57-5.18	10-Feb-2025	Assess potential impacts in the native soil for vertical delineation purposes.	1.9			✓					
BH2-25-AU1 2507321-04	0.10-0.61	10-Feb-2025	Assess potential impacts in the soil resulting from the presence of unknown fill material and application of road salt (APEC 1, APEC 2)	3.7	✓	✓		✓	✓	✓	✓	
BH2-25-SS3 2507321-05	1.52-1.85	10-Feb-2025	Assess potential impacts in the soil resulting from the presence of unknown fill material and application of road salt (APEC 1, APEC 2)	2.7	✓	✓		✓	✓	✓	✓	
BH2A-25-SS7 2507321-06	4.57-5.18	10-Feb-2025	Assess potential impacts in the native soil for vertical delineation purposes.	1.1			✓					✓
BH3-25-AU1 2507321-07	0.15-0.61	10-Feb-2025	Assess potential impacts in the soil resulting from the presence of unknown fill material and application of road salt (APEC 1, APEC 2)	2.5	✓	✓		✓	✓	✓	✓	
BH3-25-SS6 2507321-08	3.81-4.42	10-Feb-2025	Assess potential impacts in the native soil for vertical delineation purposes.	1.8	✓		✓					
DUP1-25 2507321-09	0.23-0.61	10-Feb-2025	Duplicate soil sample (BH1-25-AU1) for QA/QC purposes.	1.3	✓	✓		✓	✓	✓	✓	

Sample ID and Laboratory ID	Sample Depth (mbgs)	Sampling Date	Rationale	Parameter Groups Analyzed	
				PHCs	VOCs
BH1A-25-GW1 2508158-01	4.27 - 5.79	19-Feb-2025	To assess potential groundwater impacts from the former off-site dry cleaning operation to the northwest (APEC 3).	✓	✓
BH2A-25-GW1 2508158-02	4.42 - 5.94	19-Feb-2025	To assess potential groundwater impacts from the former off-site dry cleaning operation to the northwest (APEC 3).	✓	✓
DUP1 2508158-03	4.27 - 5.79	19-Feb-2025	Duplicate groundwater sample (BH2A-25-GW1) for QA/QC purposes.	✓	✓
BH3-25-GW1 2510454-01	2.93 - 4.45	6-Mar-2025	To assess potential groundwater impacts from the former off-site retail fuel outlet and existing automotive service garage to the west (APEC 4).	✓	✓

Parameter	Units	Regulation	BH1-25-AU1 2507321-01	BH1-25-SS2 2507321-02	BH1-25-SS6 2507321-03	BH2-25-AU1 2507321-04	BH2-25-SS3 2507321-05	BH2A-25-SS7 2507321-06	BH3-25-AU1 2507321-07	BH3-25-SS6 2507321-08	DUP1-25 2507321-09
Sample Depth (m)		Reg 153/04 - Table 9 Residential,	0.23-0.61	0.76-1.37	4.57-5.18	0.10-0.61	1.52-1.85	4.57-5.18	0.15-0.61	3.81-4.42	0.23-0.61
Sample Date		Non-potable	10-Feb-2025	10-Feb-2025	10-Feb-2025	10-Feb-2025	10-Feb-2025	10-Feb-2025	10-Feb-2025	10-Feb-2025	10-Feb-2025
Physical Characteristics											
% Solids	% by Wt.		94.1	93.1	88.6	90.5	93.8	89	89.5	86.9	94.3
General Inorganics											
SAR	N/A	5.0	1.27	1.76	N/A	7.68	1.19	N/A	6.8	N/A	1.42
Conductivity	uS/cm	700	1690	358	N/A	1120	600	N/A	1650	N/A	1300
pH	N/A	5-9 (surf); 5-11 (subsurf)	N/A	7.39	N/A	N/A	N/A	7.74	N/A	N/A	N/A
Metals											
Antimony	ug/g dry	1.3	ND (1.0)	ND (1.0)	N/A	ND (1.0)	ND (1.0)	N/A	ND (1.0)	N/A	ND (1.0)
Arsenic	ug/g dry	18	4.9	5.5	N/A	8	4.9	N/A	5.9	N/A	5.6
Barium	ug/g dry	220	92.9	156	N/A	132	78.5	N/A	149	N/A	102
Beryllium	ug/g dry	2.5	ND (0.5)	0.5	N/A	0.9	ND (0.5)	N/A	0.7	N/A	0.5
Boron	ug/g dry	36	8.9	9.2	N/A	14.2	11.1	N/A	15.3	N/A	13
Cadmium	ug/g dry	1.2	ND (0.5)	ND (0.5)	N/A	ND (0.5)	ND (0.5)	N/A	ND (0.5)	N/A	ND (0.5)
Chromium	ug/g dry	70	19.2	31.2	N/A	42.2	19.4	N/A	33.1	N/A	23.1
Cobalt	ug/g dry	22	6.7	14	N/A	12.9	9	N/A	10.1	N/A	7.6
Copper	ug/g dry	92	18.4	25.1	N/A	35.3	23.6	N/A	34.6	N/A	21.5
Lead	ug/g dry	120	18	8.9	N/A	16.6	6.1	N/A	49.6	N/A	20.5
Molybdenum	ug/g dry	2.0	2.6	1.3	N/A	2.5	1.6	N/A	1.6	N/A	2.4
Nickel	ug/g dry	82	19.6	37.3	N/A	40.5	25.4	N/A	27.1	N/A	22.5
Selenium	ug/g dry	1.5	ND (1.0)	ND (1.0)	N/A	ND (1.0)	ND (1.0)	N/A	1	N/A	ND (1.0)
Silver	ug/g dry	0.5	ND (0.3)	ND (0.3)	N/A	ND (0.3)	ND (0.3)	N/A	ND (0.3)	N/A	ND (0.3)
Thallium	ug/g dry	1.0	ND (1.0)	ND (1.0)	N/A	ND (1.0)	ND (1.0)	N/A	ND (1.0)	N/A	ND (1.0)
Uranium	ug/g dry	2.5	ND (1.0)	ND (1.0)	N/A	1.2	ND (1.0)	N/A	ND (1.0)	N/A	ND (1.0)
Vanadium	ug/g dry	86	42.8	40	N/A	46.3	43	N/A	48.3	N/A	50.8
Zinc	ug/g dry	290	33.8	43.7	N/A	62.6	28.7	N/A	66.2	N/A	41.2
Volatiles											
Acetone	ug/g dry	0.5	N/A	N/A	ND (0.50)	N/A	N/A	ND (0.50)	N/A	ND (0.50)	N/A
Benzene	ug/g dry	0.02	N/A	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	N/A
Bromodichloromethane	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
Bromoform	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
Bromomethane	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
Carbon Tetrachloride	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
Chlorobenzene	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
Chloroform	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
Dibromochloromethane	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
Dichlorodifluoromethane	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
1,2-Dichlorobenzene	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
1,3-Dichlorobenzene	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
1,4-Dichlorobenzene	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
1,1-Dichloroethane	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
1,2-Dichloroethane	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
1,1-Dichloroethylene	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
cis-1,2-Dichloroethylene	ug/g dry	0.05	N/A	N/A	0.09	N/A	N/A	0.86	N/A	ND (0.05)	N/A
trans-1,2-Dichloroethylene	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
1,2-Dichloropropane	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
cis-1,3-Dichloropropylene	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
trans-1,3-Dichloropropylene	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
1,3-Dichloropropene, total	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
Ethylbenzene	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
Ethylene dibromide (dibromoethane, 1,2	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
Hexane	ug/g dry	0.05	N/A	N/A	0.78	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
Methyl Ethyl Ketone (2-Butanone)	ug/g dry	0.5	N/A	N/A	ND (0.50)	N/A	N/A	ND (0.50)	N/A	ND (0.50)	N/A
Methyl Isobutyl Ketone	ug/g dry	0.5	N/A	N/A	ND (0.50)	N/A	N/A	ND (0.50)	N/A	ND (0.50)	N/A
Methyl tert-butyl ether	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
Methylene Chloride	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
Styrene	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
1,1,1,2-Tetrachloroethane	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
1,1,2,2-Tetrachloroethane	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
Tetrachloroethylene	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	1.89	N/A
Toluene	ug/g dry	0.2	N/A	N/A	0.17	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
1,1,1-Trichloroethane	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
1,1,2-Trichloroethane	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
Trichloroethylene	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
Trichlorofluoromethane	ug/g dry	0.25	N/A	N/A	ND (0.05)	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
Vinyl Chloride	ug/g dry	0.02	N/A	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	N/A
m/p-Xylene	ug/g dry	0.05	N/A	N/A	0.54	N/A	N/A	ND (0.05)	N/A	0.09	N/A
o-Xylene	ug/g dry	0.05	N/A	N/A	0.15	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A
Xylenes, total	ug/g dry	0.05	N/A	N/A	0.7	N/A	N/A	ND (0.05)	N/A	0.09	N/A
BTEX											
Benzene	ug/g dry	0.02	ND (0.02)	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)
Ethylbenzene	ug/g dry	0.05	ND (0.05)	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)
Toluene	ug/g dry	0.2	ND (0.05)	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)
m/p-Xylene	ug/g dry	0.05	ND (0.05)	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)
o-Xylene	ug/g dry	0.05	ND (0.05)	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)
Xylenes, total	ug/g dry	0.05	ND (0.05)	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)
Hydrocarbons											
F1 PHCs (C6-C10)	ug/g dry	25	ND (7)	ND (7)	N/A	ND (7)	ND (7)	N/A	ND (7)	ND (7)	ND (7)
F2 PHCs (C10-C16)	ug/g dry	10	ND (40)	ND (4)	N/A	6	ND (4)	N/A	ND (4)	ND (4)	ND (40)
F3 PHCs (C16-C34)	ug/g dry	240	769	ND (8)	N/A	55	ND (8)	N/A	153	ND (8)	678
F4 PHCs (C34-C50)	ug/g dry	120	2120	ND (6)	N/A	168	28	N/A	570	ND (6)	2090
F4G PHCs (gravimetric)	ug/g dry	120	3590	N/A	N/A	486	N/A	N/A	1290	N/A	4340
Semi-Volatiles											
Acenaphthene	ug/g dry	0.072	ND (0.40)	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A	ND (0.20)	N/A	ND (0.40)
Acenaphthylene	ug/g dry	0.093	ND (0.40)	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A	ND (0.20)	N/A	ND (0.40)
Anthracene	ug/g dry	0.22	ND (0.40)	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A	ND (0.20)	N/A	ND (0.40)
Benzo[a]anthracene	ug/g dry	0.36	ND (0.40)	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A	ND (0.20)	N/A	ND (0.40)
Benzo[a]pyrene	ug/g dry	0.3	ND (0.40)	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A	ND (0.20)	N/A	ND (0.40)
Benzo[b]fluoranthene	ug/g dry	0.47	ND (0.40)	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A	ND (0.20)	N/A	ND (0.40)
Benzo[g,h,i]perylene	ug/g dry	0.68	ND (0.40)	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A	ND (0.20)	N/A	ND (0.40)
Benzo[k]fluoranthene	ug/g dry	0.48	ND (0.40)	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A	ND (0.20)	N/A	ND (0.40)
Chrysene	ug/g dry	2.8	ND (0.40)	ND (0.02)	N/A	0.02	ND (0.02)	N/A	ND (0.20)	N/A	ND (0.40)
Dibenzo[a,h]anthracene	ug/g dry	0.1	ND (0.40)	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A	ND (0.20)	N/A	ND (0.40)
Fluoranthene	ug/g dry	0.69	ND (0.40)	ND (0.02)	N/A	0.02	ND (0.02)	N/A	ND (0.20)	N/A	ND (0.40)
Fluorene	ug/g dry	0.19	ND (0.40)	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A	ND (0.20)	N/A	ND (0.40)
Indeno [1,2,3-cd] pyrene	ug/g dry	0.23	ND (0.40)	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A	ND (0.20)	N/A	ND (0.40)
1-Methylnaphthalene	ug/g dry	0.59	ND (0.40)	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A	ND (0.20)	N/A	ND (0.40)
2-Methylnaphthalene	ug/g dry	0.59	ND (0.40)	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A	ND (0.20)	N/A	ND (0.40)
Methylnaphthalene (1&2)	ug/g dry	0.59	ND (0.80)	ND (0.04)	N/A	ND (0.04)	ND (0.04)	N/A	ND (0.40)	N/A	ND (0.80)
Naphthalene	ug/g dry	0.09	ND (0.20)	ND (0.01)	N/A	ND (0.01)	ND (0.01)	N/A	ND (0.10)	N/A	ND (0.20)
Phenanthrene	ug/g dry	0.69	ND (0.40)	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A	ND (0.20)	N/A	ND (0.40)
Pyrene	ug/g dry	1.0	ND (0.40)	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A	ND (0.20)	N/A	ND (0.40)

2.00 Result exceeds Reg 153/04 - Table 9 Residential, Non-potable Standards
ND (0.2) MDL exceeds Reg 153/04 - Table 9 Residential, Non-potable Standards
ND (0.2) No concentrations identified above the MDL
N/A Parameter not analysed
NV No value given for indicated parameter

Parameter	Sample ID / Depth (m)	Units	Reg 153/04 - Table 9 Residential, Non-potable Standards	Concentration
SAR	BH2-25-AU1 2507321-04 - 0.10-0.61	N/A	5.0	7.68
Conductivity	BH1-25-AU1 2507321-01 - 0.23-0.61	uS/cm	700	1690
pH	BH2A-25-SS7 2507321-06 - 4.57-5.18	N/A	5-9 (surf); 5-11 (subsurf)	7.74
Antimony	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	1.3	ND (1.0)
Arsenic	BH2-25-AU1 2507321-04 - 0.10-0.61	ug/g dry	18	8
Barium	BH1-25-SS2 2507321-02 - 0.76-1.37	ug/g dry	220	156
Beryllium	BH2-25-AU1 2507321-04 - 0.10-0.61	ug/g dry	2.5	0.9
Boron	BH3-25-AU1 2507321-07 - 0.15-0.61	ug/g dry	36	15.3
Cadmium	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	1.2	ND (0.5)
Chromium	BH2-25-AU1 2507321-04 - 0.10-0.61	ug/g dry	70	42.2
Cobalt	BH1-25-SS2 2507321-02 - 0.76-1.37	ug/g dry	22	14
Copper	BH2-25-AU1 2507321-04 - 0.10-0.61	ug/g dry	92	35.3
Lead	BH3-25-AU1 2507321-07 - 0.15-0.61	ug/g dry	120	49.6
Molybdenum	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	2.0	2.6
Nickel	BH2-25-AU1 2507321-04 - 0.10-0.61	ug/g dry	82	40.5
Selenium	BH3-25-AU1 2507321-07 - 0.15-0.61	ug/g dry	1.5	ND (1.0)
Silver	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	0.5	ND (0.3)
Thallium	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	1.0	ND (1.0)
Uranium	BH2-25-AU1 2507321-04 - 0.10-0.61	ug/g dry	2.5	1.2
Vanadium	DUP1-25 2507321-09 - 0.23-0.61	ug/g dry	86	50.8
Zinc	BH3-25-AU1 2507321-07 - 0.15-0.61	ug/g dry	290	66.2
Acetone	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.5	ND (0.50)
Benzene	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.02	ND (0.02)
Bromodichloromethane	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
Bromoform	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
Bromomethane	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
Carbon Tetrachloride	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
Chlorobenzene	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
Chloroform	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
Dibromochloromethane	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
Dichlorodifluoromethane	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
1,2-Dichlorobenzene	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
1,3-Dichlorobenzene	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
1,4-Dichlorobenzene	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
1,1-Dichloroethane	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
1,2-Dichloroethane	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
1,1-Dichloroethylene	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
cis-1,2-Dichloroethylene	BH2A-25-SS7 2507321-06 - 4.57-5.18	ug/g dry	0.05	0.86
trans-1,2-Dichloroethylene	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
1,2-Dichloropropane	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
cis-1,3-Dichloropropylene	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
trans-1,3-Dichloropropylene	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
1,3-Dichloropropene, total	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
Ethylbenzene	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
Ethylene dibromide (dibromoethane, 1,2-)	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
Hexane	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	0.78
Methyl Ethyl Ketone (2-Butanone)	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.5	ND (0.50)
Methyl Isobutyl Ketone	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.5	ND (0.50)
Methyl tert-butyl ether	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
Methylene Chloride	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
Styrene	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
1,1,1,2-Tetrachloroethane	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
1,1,2,2-Tetrachloroethane	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
Tetrachloroethylene	BH3-25-SS6 2507321-08 - 3.81-4.42	ug/g dry	0.05	1.89
Toluene	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.2	0.17
1,1,1-Trichloroethane	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
1,1,2-Trichloroethane	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
Trichloroethylene	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	ND (0.05)
Trichlorofluoromethane	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.25	ND (0.05)
Vinyl Chloride	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.02	ND (0.02)
m/p-Xylene	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	0.54
o-Xylene	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	0.15
Xylenes, total	BH1-25-SS6 2507321-03 - 4.57-5.18	ug/g dry	0.05	0.7
F1 PHCs (C6-C10)	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	25	ND (7)
F2 PHCs (C10-C16)	BH2-25-AU1 2507321-04 - 0.10-0.61	ug/g dry	10	ND (40)
F3 PHCs (C16-C34)	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	240	769
F4G PHCs (gravimetric)	DUP1-25 2507321-09 - 0.23-0.61	ug/g dry	120	4340
Acenaphthene	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	0.072	ND (0.40)
Acenaphthylene	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	0.093	ND (0.40)
Anthracene	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	0.22	ND (0.40)
Benzo[a]anthracene	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	0.36	ND (0.40)
Benzo[a]pyrene	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	0.3	ND (0.40)
Benzo[b]fluoranthene	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	0.47	ND (0.40)
Benzo[g,h,i]perylene	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	0.68	ND (0.40)
Benzo[k]fluoranthene	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	0.48	ND (0.40)
Chrysene	BH2-25-AU1 2507321-04 - 0.10-0.61	ug/g dry	2.8	ND (0.40)
Dibenzo[a,h]anthracene	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	0.1	ND (0.40)
Fluoranthene	BH2-25-AU1 2507321-04 - 0.10-0.61	ug/g dry	0.69	ND (0.40)
Fluorene	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	0.19	ND (0.40)
Indeno [1,2,3-cd] pyrene	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	0.23	ND (0.40)
1-Methylnaphthalene	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	0.59	ND (0.40)
2-Methylnaphthalene	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	0.59	ND (0.40)
Methylnaphthalene (1&2)	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	0.59	ND (0.80)
Naphthalene	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	0.09	ND (0.20)
Phenanthrene	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	0.69	ND (0.40)
Pyrene	BH1-25-AU1 2507321-01 - 0.23-0.61	ug/g dry	1.0	ND (0.40)

Note: ND (x) = parameter analysed was reported non-detect
ND (x) = parameter analysed was reported with increased method dection limit (MDL) that exceeds the site selected standards

Parameter	Units	Regulation	BH1A-25-GW1 2508158-01	BH2A-25-GW1 2508158-02	DUP1 2508158-03	BH3-25-GW1 2510454-01
Sample Depth (m)		Reg 153/04 - Table 9 Groundwater	4.27 - 5.79	4.42 - 5.94	4.27 - 5.79	2.93 - 4.45
Sample Date			19-Feb-2025	19-Feb-2025	19-Feb-2025	6-Mar-2025
Volatiles						
Acetone	ug/L	100000	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Benzene	ug/L	44	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bromodichloromethane	ug/L	67000	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bromoform	ug/L	380	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bromomethane	ug/L	5.6	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Carbon Tetrachloride	ug/L	0.79	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Chlorobenzene	ug/L	500	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Chloroform	ug/L	2.4	ND (0.5)	2.2	ND (0.5)	6.1
Dibromochloromethane	ug/L	65000	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Dichlorodifluoromethane	ug/L	3500	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2-Dichlorobenzene	ug/L	4600	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,3-Dichlorobenzene	ug/L	7600	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,4-Dichlorobenzene	ug/L	8.0	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,1-Dichloroethane	ug/L	320	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,2-Dichloroethane	ug/L	1.6	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,1-Dichloroethylene	ug/L	1.6	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
cis-1,2-Dichloroethylene	ug/L	1.6	ND (0.5)	167	ND (0.5)	53.3
trans-1,2-Dichloroethylene	ug/L	1.6	ND (0.5)	0.8	ND (0.5)	ND (0.5)
1,2-Dichloropropane	ug/L	16	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
cis-1,3-Dichloropropylene	ug/L	5.2	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
trans-1,3-Dichloropropylene	ug/L	5.2	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,3-Dichloropropene, total	ug/L	5.2	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ethylbenzene	ug/L	1800	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ethylene dibromide (dibromoethane,	ug/L	0.25	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Hexane	ug/L	51	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Methyl Ethyl Ketone (2-Butanone)	ug/L	470000	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Methyl Isobutyl Ketone	ug/L	140000	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Methyl tert-butyl ether	ug/L	190	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Methylene Chloride	ug/L	610	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Styrene	ug/L	1300	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,1,1,2-Tetrachloroethane	ug/L	3.3	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,1,2,2-Tetrachloroethane	ug/L	3.2	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Tetrachloroethylene	ug/L	1.6	ND (0.5)	148	ND (0.5)	639
Toluene	ug/L	14000	ND (0.5)	ND (0.5)	ND (0.5)	3.3
1,1,1-Trichloroethane	ug/L	640	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,1,2-Trichloroethane	ug/L	4.7	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Trichloroethylene	ug/L	1.6	ND (0.5)	16.8	ND (0.5)	21
Trichlorofluoromethane	ug/L	2000	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Vinyl Chloride	ug/L	0.5	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
m/p-Xylene	ug/L	3300	ND (0.5)	ND (0.5)	ND (0.5)	0.5
o-Xylene	ug/L	3300	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Xylenes, total	ug/L	3300	ND (0.5)	ND (0.5)	ND (0.5)	0.5
Hydrocarbons						
F1 PHCs (C6-C10)	ug/L	420	ND (25)	58	ND (25)	ND (125)
F2 PHCs (C10-C16)	ug/L	150	ND (100)	ND (100)	ND (100)	ND (100)
F3 PHCs (C16-C34)	ug/L	500	ND (100)	ND (100)	ND (100)	ND (100)
F4 PHCs (C34-C50)	ug/L	500	ND (100)	ND (100)	ND (100)	ND (100)

2.00	Result exceeds Reg 153/04 - Table 9 Groundwater Standards
ND (0.2)	MDL exceeds Reg 153/04 - Table 9 Groundwater Standards
ND (0.2)	No concentrations identified above the MDL
N/A	Parameter not analysed
NV	No value given for indicated parameter

Parameter	Sample ID / Screen Interval (m)	Units	Reg 153/04 - Table 9 Groundwater Standards	Concentration
Acetone	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	100000	ND (5.0)
Benzene	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	44	ND (0.5)
Bromodichloromethane	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	67000	ND (0.5)
Bromoform	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	380	ND (0.5)
Bromomethane	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	5.6	ND (0.5)
Carbon Tetrachloride	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	0.79	ND (0.2)
Chlorobenzene	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	500	ND (0.5)
Chloroform	BH3-25-GW1 2510454-01 - 2.93 - 4.45	ug/L	2.4	6.1
Dibromochloromethane	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	65000	ND (0.5)
Dichlorodifluoromethane	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	3500	ND (1.0)
1,2-Dichlorobenzene	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	4600	ND (0.5)
1,3-Dichlorobenzene	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	7600	ND (0.5)
1,4-Dichlorobenzene	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	8.0	ND (0.5)
1,1-Dichloroethane	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	320	ND (0.5)
1,2-Dichloroethane	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	1.6	ND (0.5)
1,1-Dichloroethylene	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	1.6	ND (0.5)
cis-1,2-Dichloroethylene	BH2A-25-GW1 2508158-02 - 4.42 - 5.94	ug/L	1.6	167
trans-1,2-Dichloroethylene	BH2A-25-GW1 2508158-02 - 4.42 - 5.94	ug/L	1.6	0.8
1,2-Dichloropropane	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	16	ND (0.5)
cis-1,3-Dichloropropylene	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	5.2	ND (0.5)
trans-1,3-Dichloropropylene	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	5.2	ND (0.5)
1,3-Dichloropropene, total	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	5.2	ND (0.5)
Ethylbenzene	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	1800	ND (0.5)
Ethylene dibromide (dibromoe	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	0.25	ND (0.2)
Hexane	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	51	ND (1.0)
Methyl Ethyl Ketone (2-Butano	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	470000	ND (5.0)
Methyl Isobutyl Ketone	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	140000	ND (5.0)
Methyl tert-butyl ether	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	190	ND (2.0)
Methylene Chloride	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	610	ND (5.0)
Styrene	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	1300	ND (0.5)
1,1,1,2-Tetrachloroethane	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	3.3	ND (0.5)
1,1,2,2-Tetrachloroethane	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	3.2	ND (0.5)
Tetrachloroethylene	BH3-25-GW1 2510454-01 - 2.93 - 4.45	ug/L	1.6	639
Toluene	BH3-25-GW1 2510454-01 - 2.93 - 4.45	ug/L	14000	3.3
1,1,1-Trichloroethane	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	640	ND (0.5)
1,1,2-Trichloroethane	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	4.7	ND (0.5)
Trichloroethylene	BH3-25-GW1 2510454-01 - 2.93 - 4.45	ug/L	1.6	21
Trichlorofluoromethane	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	2000	ND (1.0)
Vinyl Chloride	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	0.5	ND (0.5)
m/p-Xylene	BH3-25-GW1 2510454-01 - 2.93 - 4.45	ug/L	3300	ND (0.5)
o-Xylene	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	3300	ND (0.5)
Xylenes, total	BH3-25-GW1 2510454-01 - 2.93 - 4.45	ug/L	3300	ND (0.5)
F1 PHCs (C6-C10)	BH2A-25-GW1 2508158-02 - 4.42 - 5.94	ug/L	420	ND (125)
F2 PHCs (C10-C16)	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	150	ND (100)
F3 PHCs (C16-C34)	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	500	ND (100)
F4 PHCs (C34-C50)	BH1A-25-GW1 2508158-01 - 4.27 - 5.79	ug/L	500	ND (100)
Note: ND (x) = parameter analysed was reported non-detect.				

Parameter	MDL	BH1-25-AU1 2507321-01	DUP1-25 (dup of BH1-25-AU1) 2507321-09	RPD (%)	QA/QC Result
General Inorganics					
SAR	0.01	1.27	1.42	11.2%	Within the acceptable range
Conductivity	5	1690	1300	26.1%	Outside the acceptable range
BTEX					
Benzene	0.002	ND (0.002)	ND (0.002)	0.0%	Within the acceptable range
Ethylbenzene	0.002	ND (0.002)	ND (0.002)	0.0%	Within the acceptable range
Toluene	0.002	ND (0.002)	ND (0.002)	0.0%	Within the acceptable range
m/p-Xylene	0.002	ND (0.002)	ND (0.002)	0.0%	Within the acceptable range
o-Xylene	0.002	ND (0.002)	ND (0.002)	0.0%	Within the acceptable range
Xylenes, total	0.002	ND (0.002)	ND (0.002)	0.0%	Within the acceptable range
Hydrocarbons					
F1 PHCs (C6-C10)	7	ND (7)	ND (7)	0.0%	Within the acceptable range
F2 PHCs (C10-C16)	4	ND (40)	ND (40)	0.0%	Within the acceptable range
F3 PHCs (C16-C34)	8	769.0	678.0	12.6%	Within the acceptable range
F4 PHCs (C34-C50)	6	2120	2090	1.4%	Within the acceptable range
F4G PHCs (gravimetric)	50	3590	4340	18.9%	Within the acceptable range
Semi-Volatiles					
Acenaphthene	0.02	ND (0.40)	ND (0.40)	0.0%	Within the acceptable range
Acenaphthylene	0.02	ND (0.40)	ND (0.40)	0.0%	Within the acceptable range
Anthracene	0.02	ND (0.40)	ND (0.40)	0.0%	Within the acceptable range
Benzo[a]anthracene	0.02	ND (0.40)	ND (0.40)	0.0%	Within the acceptable range
Benzo[a]pyrene	0.02	ND (0.40)	ND (0.40)	0.0%	Within the acceptable range
Benzo[b]fluoranthene	0.02	ND (0.40)	ND (0.40)	0.0%	Within the acceptable range
Benzo[g,h,i]perylene	0.02	ND (0.40)	ND (0.40)	0.0%	Within the acceptable range
Benzo[k]fluoranthene	0.02	ND (0.40)	ND (0.40)	0.0%	Within the acceptable range
Chrysene	0.02	ND (0.40)	ND (0.40)	0.0%	Within the acceptable range
Dibenzo[a,h]anthracene	0.02	ND (0.40)	ND (0.40)	0.0%	Within the acceptable range
Fluoranthene	0.02	ND (0.40)	ND (0.40)	0.0%	Within the acceptable range
Fluorene	0.02	ND (0.40)	ND (0.40)	0.0%	Within the acceptable range
Indeno [1,2,3-cd] pyrene	0.02	ND (0.40)	ND (0.40)	0.0%	Within the acceptable range
1-Methylnaphthalene	0.02	ND (0.40)	ND (0.40)	0.0%	Within the acceptable range
2-Methylnaphthalene	0.02	ND (0.40)	ND (0.40)	0.0%	Within the acceptable range
Methylnaphthalene (1&2)	0.04	ND (0.40)	ND (0.40)	0.0%	Within the acceptable range
Naphthalene	0.01	ND (0.40)	ND (0.40)	0.0%	Within the acceptable range
Phenanthrene	0.02	ND (0.40)	ND (0.40)	0.0%	Within the acceptable range
Pyrene	0.02	ND (0.40)	ND (0.40)	0.0%	Within the acceptable range

Parameter	MDL	BH1A-25-GW1 2508158-01	DUP1 (dup of BH1A-25-GW1) 2508158-03	RPD (%)	QA/QC Result
Volatiles					
Acetone	5	ND (5.0)	ND (5.0)	0.0%	Within the acceptable range
Benzene	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
Bromodichloromethane	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
Bromoform	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
Bromomethane	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
Carbon Tetrachloride	0.2	ND (0.2)	ND (0.2)	0.0%	Within the acceptable range
Chlorobenzene	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
Chloroform	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
Dibromochloromethane	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
Dichlorodifluoromethane	1	ND (1.0)	ND (1.0)	0.0%	Within the acceptable range
1,2-Dichlorobenzene	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
1,3-Dichlorobenzene	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
1,4-Dichlorobenzene	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
1,1-Dichloroethane	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
1,2-Dichloroethane	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
1,1-Dichloroethylene	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
cis-1,2-Dichloroethylene	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
trans-1,2-Dichloroethylene	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
1,2-Dichloropropane	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
cis-1,3-Dichloropropylene	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
trans-1,3-Dichloropropylene	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
1,3-Dichloropropene, total	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
Ethylbenzene	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
Ethylene dibromide (dibromoethane, 1,2-)	0.2	ND (0.2)	ND (0.2)	0.0%	Within the acceptable range
Hexane	1	ND (1.0)	ND (1.0)	0.0%	Within the acceptable range
Methyl Ethyl Ketone (2-Butanone)	5	ND (5.0)	ND (5.0)	0.0%	Within the acceptable range
Methyl Isobutyl Ketone	5	ND (5.0)	ND (5.0)	0.0%	Within the acceptable range
Methyl tert-butyl ether	2	ND (2.0)	ND (2.0)	0.0%	Within the acceptable range
Methylene Chloride	5	ND (5.0)	ND (5.0)	0.0%	Within the acceptable range
Styrene	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
1,1,1,2-Tetrachloroethane	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
1,1,2,2-Tetrachloroethane	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
Tetrachloroethylene	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
Toluene	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
1,1,1-Trichloroethane	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
1,1,2-Trichloroethane	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
Trichloroethylene	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
Trichlorofluoromethane	1	ND (1.0)	ND (1.0)	0.0%	Within the acceptable range
Vinyl Chloride	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
m/p-Xylene	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
o-Xylene	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
Xylenes, total	0.5	ND (0.5)	ND (0.5)	0.0%	Within the acceptable range
Hydrocarbons					
F1 PHCs (C6-C10)	25	ND (25)	ND (25)	0.0%	Within the acceptable range
F2 PHCs (C10-C16)	100.0	ND (100)	ND (100)	0.0%	Within the acceptable range
F3 PHCs (C16-C34)	100	ND (100)	ND (100)	0.0%	Within the acceptable range
F4 PHCs (C34-C50)	100.0	ND (100)	ND (100)	0.0%	Within the acceptable range

Test Hole ID	Ground Surface Elevation (masl)	Water Level Depth (mbgs)	Water Level Elevation (masl)	Date of Measurement
BH1-25	59.24	3.56	55.68	19-Feb-2025
BH2A-25	58.89	3.11	55.78	19-Feb-2025
BH3-25	58.45	2.78	55.67	6-Mar-2025

Test Hole ID	Temperature (˚C)	Conductivity (µS)	pH	Date of Measurement
BH1-25	5.8	2133	8.3	19-Feb-2025
BH2A-25	6.9	2840	7.7	19-Feb-2025
BH3-25	8.8	> 3999	8.4	6-Mar-2025