

Phase II – Environmental Site Assessment

1209 Michael Street North
Ottawa, Ontario

Prepared for Inside Edge Properties

Report: PE7253-2
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TABLE OF CONTENTS

	PAGE
EXECUTIVE SUMMARY	iii
1.0 INTRODUCTION	1
1.1 Site Description	1
1.2 Property Ownership	1
1.3 Applicable Site Condition Standards	2
2.0 BACKGROUND INFORMATION	2
2.1 Physical Setting	2
3.0 SCOPE OF INVESTIGATION	3
3.1 Overview of Site Investigation	3
3.2 Media Investigated	3
3.3 Phase I ESA Conceptual Site Model	4
3.4 Deviations from the Sampling and Analysis Plan	6
3.5 Physical Impediments	6
4.0 INVESTIGATION METHOD	7
4.1 Subsurface Investigation	7
4.2 Soil Sampling	7
4.3 Field Screening Measurements	8
4.4 Groundwater Monitoring Well Installation	8
4.5 Field Measurement of Water Quality Parameters	9
4.6 Groundwater Sampling	9
4.7 Analytical Testing	9
4.8 Residue Management	11
4.9 Elevation Surveying	11
4.10 Quality Assurance and Quality Control Measures	11
5.0 REVIEW AND EVALUATION	12
5.1 Geology	12
5.2 Groundwater Elevations, Flow Direction, and Hydraulic Gradient	12
5.3 Fine/Coarse Soil Texture	13
5.4 Field Screening	13
5.5 Soil Quality	13
5.6 Groundwater Quality	18
5.7 Quality Assurance and Quality Control Results	22
5.8 Phase II Conceptual Site Model	25
6.0 CONCLUSIONS	30
7.0 STATEMENT OF LIMITATIONS	33

List of Figures

Figure 1 – Key Plan

Drawing PE7253-1 – Site Plan

Drawing PE7253-2 – Surrounding Land Use Plan

Drawing PE7253-3 – Test Hole Location Plan

Drawing PE7253-4 – Analytical Testing Plan – Soil (PAHs)

Drawing PE7253-4A – Cross Section A-A' – Soil (PAHs)

Drawing PE7253-4B – Cross Section B-B' – Soil (PAHs)

Drawing PE7253-5 – Analytical Testing Plan – Soil (Metals)

Drawing PE7253-5A – Cross Section A-A' – Soil (Metals)

Drawing PE7253-5B – Cross Section B-B' – Soil (Metals)

Drawing PE7253-6 – Analytical Testing Plan – Soil (EC, SAR)

Drawing PE7253-6A – Cross Section A-A' – Soil (EC, SAR)

Drawing PE7253-6B – Cross Section B-B' – Soil (EC, SAR)

Drawing PE7253-7 – Analytical Testing Plan – Soil (EC, SAR)

Drawing PE7253-7A – Cross Section A-A' – Soil (VOCs, BTEX, PHCs)

Drawing PE7253-7B – Cross Section B-B' – Soil (VOCs, BTEX, PHCs)

Drawing PE7253-8 – Analytical Testing Plan – Groundwater

Drawing PE7253-8A – Cross Section A-A' – Groundwater

Drawing PE7253-8B – Cross Section B-B' – Groundwater

List of Appendices

Appendix 1 Sampling and Analysis Plan

Soil Profile and Test Data Sheets

Symbols and Terms

Laboratory Certificates of Analysis

EXECUTIVE SUMMARY

Assessment

A Phase II ESA was carried out for the property addressed 1209 Michael Street North, in the City of Ottawa, Ontario. The purpose of the Phase II ESA was to address the potentially contaminating activities (PCAs) that were identified during the Phase I ESA and were considered to result in areas of potential environmental concern (APECs) on the Phase II Property.

The subsurface investigation for this assessment was conducted on November 5, 2025, and consisted of drilling six boreholes (BH1-25 to BH6-25) across the Phase II Property. Upon completion, BH3-25 and BH4-25 were advanced into the bedrock unit to a depth of approximately 6.2 m below ground surface and instrumented with groundwater monitoring wells in order to access the water table. The remaining boreholes were terminated on practical refusal to augering on the inferred bedrock surface at depths ranging from approximately 0.8 m to 2.5 m below ground surface. A monitoring well (BH103-25), previously installed by Cambium Inc. as part of a concurrent geotechnical investigation, was also utilized as part of this investigation.

In general, the subsurface soil profile encountered at the borehole locations consists of a thin pavement structure (asphalt over engineered fill), underlain by glacial till and/or brown silty clay. Bedrock was encountered in BH3-25 and BH4-25 at depths of approximately 2.0 m and 1.5 m below ground surface, respectively.

Eight soil samples were submitted for laboratory analysis of BTEX, PHCs (F₁-F₄), VOCs, PAHs, Metals, EC, SAR, and/or pH parameters. The results indicate that the concentrations of barium in Samples BH1-25-SS1 and BH2-25-SS1, as well as the concentration of fluoranthene in Sample BH6-25-SS1 are in excess of the selected MECP Table 7 Coarse-Grained Residential Soil Standards. All remaining parameters in the soil samples analyzed comply with the Standards.

The EC and SAR levels detected in Samples BH5-25-SS1B and BH6-25-SS1 are in excess of the selected MECP Table 7 Coarse-Grained Residential Soil Standards. These elevated levels are the result of the application of road salt on the Phase II Property during snow and ice conditions and thus, as per Section 49.1 of O. Reg 153/04, does not represent a contaminant issue.

Three groundwater samples were submitted for laboratory analysis of PHCs (F₁-F₄), VOCs, PAHs, and/or Metal parameters. The results indicate that all detected parameter concentrations in the groundwater samples analyzed comply with the selected MECP Table 7 Non-Potable Groundwater Standards.

The concentration of sodium in Sample BH103-25-GW1 is in excess of the selected MECP Table 7 Non-Potable Groundwater Standards. The elevated sodium level is the result of the application of road salt on the Phase II Property during snow and ice conditions and thus, as per Section 49.1 of O. Reg 153/04, does not represent a contaminant issue.

Recommendations

Impacted Soil

Based on the findings of this assessment, the fill material encountered beneath the surficial layer of asphalt at BH1-25 and BH2-25, located within the western parking lot, as well as at BH6-25, located within the eastern parking lot, is contaminated with metals (barium) and PAHs (fluoranthene). As the Phase II Property is to be redeveloped in the future, it is our recommendation that the contaminated soil be remediated in conjunction with site excavation activities. At such a time, the contaminated soil will be excavated from the site and transported to a licensed waste disposal facility.

It is recommended that Paterson personnel be present on-site at the time of remedial activities to assist with the segregation of contaminated soil from clean soils, as well as to fulfill the confirmatory soil sampling requirements in accordance with Table 2 of O. Reg. 153/04.

Prior to the off-site disposal of impacted soil at a licensed waste disposal facility, a leachate analysis of a representative sample of contaminated soil must be conducted in accordance with O. Reg. 347/90 and O. Reg. 558/00.

Excess Soil

All excess soil generated during the proposed redevelopment of the Phase II Property must be handled in accordance with the requirements of O. Reg. 406/19: On-Site and Excess Soil Management. Additional excess soil testing and reporting requirements may be required prior to future site excavation activities, in accordance with O. Reg. 406/19.

Monitoring Wells

If the groundwater monitoring wells installed on-site are not going to be used in the future, or will be destroyed during future construction activities, then they must be decommissioned in accordance with O. Reg. 903/90 (Ontario Water Resources Act). Further information can be provided upon request in this regard. It is recommended that the monitoring wells be maintained for future sampling purposes. The monitoring wells will be registered with the MECP under this regulation.

1.0 INTRODUCTION

At the request of Inside Edge Properties, Paterson Group (Paterson) carried out a Phase II – Environmental Site Assessment (Phase II ESA) for the property addressed 1209 Michael Street North, in the City of Ottawa, Ontario (the Phase II Property).

The purpose of this Phase II ESA has been to address the areas of potential environmental concern (APECs) identified on the Phase II Property as a result of the findings of the Phase I ESA.

1.1 Site Description

Address: 1209 Michael Street North, Ottawa, Ontario.

Location: The Phase I Property is situated on the northeast side of the intersection of Michael Street North and Labelle Street, in the City of Ottawa, Ontario. Refer to Figure 1 – Key Plan, for the site location context.

Latitude and Longitude: 45° 25' 20.86" N, 75° 37' 55.79" W.

Site Description:

Configuration: Irregular.

Area: 5,425 m² (approximately).

Zoning: MC – Mixed-Use Centre Zone.

Current Use: The Phase I Property is utilized for commercial land use purposes and is currently occupied by a two-storey office building and associated vehicle parking lot.

Services: The Phase I Property is currently serviced with municipal sewer and water infrastructure.

1.2 Property Ownership

The Phase II Property is currently owned by Inside Edge Properties. Paterson was retained to complete this Phase II ESA by Mr. David Coyne of Inside Edge Properties, whose offices can be contacted via telephone at 613-226-9902.

1.3 Applicable Site Condition Standards

The site condition standards for the Phase II property were obtained from Table 7 of the document entitled, *“Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act”*, prepared by the Ministry of the Environment, Conservation and Parks (MECP), and dated April 15, 2011. The selected MECP standards are based on the following considerations:

- ☐ Shallow Soil Conditions.
- ☐ Coarse-Grained Soil Conditions.
- ☐ Non-Potable Groundwater Conditions.
- ☐ Residential Land Use.

The residential standards were selected based on the proposed future land use of the Phase II Property.

Grain size analysis was not conducted as part of this assessment, and as such, the coarse-grained soil standards were selected as a conservative approach.

2.0 BACKGROUND INFORMATION

2.1 Physical Setting

The western portion of the Phase II Property is currently occupied by a two-storey commercial office building, bordered to the north and east by an asphalt-covered vehicle parking lot. The eastern portion of the Phase II Property is largely paved with a separate asphalt-covered vehicle parking lot. A thin strip of landscaping transects the centre of the Phase II Property, separating the two parking lots.

The site topography is relatively flat, whereas the regional topography appears to slope down towards the west, in the general direction of the Rideau River. The Phase II Property is considered to be at grade with respect to the adjacent streets and surrounding properties.

Water drainage on the Phase II Property occurs primarily via sheet flow towards catch basins present within the exterior parking lot or on the adjacent streets. No ponded water, stressed vegetation, surficial staining, or any other indications of potential sub-surface contamination were observed on the Phase II Property at time of the site inspection.

A depiction of the Phase II Property is illustrated on Drawing PE7253-1 – Site Plan, in the Figures section of this report.

3.0 SCOPE OF INVESTIGATION

3.1 Overview of Site Investigation

The subsurface investigation was conducted on November 5, 2025, and consisted of drilling six boreholes (BH1-25 to BH6-25) across the Phase II Property. Upon completion, BH3-25 and BH4-25 were advanced into the bedrock unit to a depth of approximately 6.2 m below ground surface and instrumented with groundwater monitoring wells in order to access the water table. The remaining boreholes were terminated on practical refusal to augering on the inferred bedrock surface at depths ranging from approximately 0.8 m to 2.5 m below ground surface.

A monitoring well (BH103-25), previously installed by Cambium Inc. as part of a geotechnical investigation, was also utilized as part of this investigation.

3.2 Media Investigated

During the course of this subsurface investigation, soil and groundwater samples were obtained from the Phase II Property and submitted for laboratory analysis. The rationale for sampling and analyzing these media is based on the contaminants of potential concern identified in the Phase I ESA.

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

- ☐ Volatile Organic Compounds (VOCs)
- ☐ Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)
- ☐ Petroleum Hydrocarbons, fractions 1 – 4 (PHCs F₁-F₄)
- ☐ Polycyclic Aromatic Hydrocarbons (PAHs)
- ☐ Metals (including arsenic, antimony, and selenium)
- ☐ Mercury (Hg) and Hexavalent Chromium (CrVI)
- ☐ Electrical Conductivity (EC)
- ☐ Sodium Adsorption Ratio (SAR)

These CoPCs have the potential to be present in the soil matrix and/or the groundwater situated beneath the Phase II Property.

3.3 Phase I ESA Conceptual Site Model

Geological and Hydrogeological Setting

Based on the available mapping information, the bedrock beneath the Phase II Property generally consists of interbedded shale and limestone of the Carlsbad Formation, whereas the surficial geology consists of offshore marine sediments (clay and silt), with an overburden ranging from approximately 1 m to 3 m.

The groundwater table is anticipated to be encountered within the shale bedrock unit at a depth of approximately 2.0 m below ground surface and flow in a westerly direction towards the Rideau River.

Water Bodies and Areas of Natural and Scientific Interest

No water bodies are present on the Phase II Property.

The nearest water body with respect to the Phase I Property is the Rideau River, situated approximately 2.4 km to the west.

Drinking Water Wells

Given the widespread presence of municipal services, no potable drinking water wells are anticipated to exist within the Phase I Study Area.

Existing Buildings and Structures

The western portion of the Phase II Property is currently occupied by a two-storey commercial office building. The remainder of the site is largely paved with asphalt-covered vehicle parking lots.

Current and Future Property Use

The Phase II Property is currently utilized for commercial purposes.

It is our understanding that the Phase I Property may be redeveloped for residential purposes in the near future.

Due to a change in land use to a more sensitive type (commercial to residential) a record of site condition (RSC) will be required to be filed with the MECP.

Neighbouring Land Use

The surrounding lands within the Phase I Study Area consist largely of commercial offices, hotels, and retail businesses, as well as some residential apartments further to the north. Current land use is depicted on Drawing PE7253-2 – 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 report, three potentially contaminating activities (PCA), considered to result in areas of potential environmental concern (APEC), were identified on the Phase II Property.

APEC #1 – The potential presence of poor-quality fill material situated underneath the asphalt-covered vehicle parking lots throughout the majority of the Phase II Property.

APEC #2 – The use of road salt throughout the asphalt-covered vehicle parking lots occupying the majority of the Phase II Property.

APEC #3 – The historical operation of a former retail fuel outlet on the adjacent property to the north (1150 Cyrville Road).

Other off-site PCAs were identified on some properties situated within the Phase I Study Area, however, due to either their separation distances or their inferred cross-gradient orientation with respect to the known groundwater flow to the west, none of these off-site activities are considered to have the potential to impact the Phase II Property.

Contaminants of Potential Concern

The contaminants of potential concern (CoPCs) associated with the aforementioned APECs are considered to be:

- ☐ Volatile Organic Compounds (VOCs)
- ☐ Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)
- ☐ Petroleum Hydrocarbons, fractions 1 – 4 (PHCs F₁-F₄)
- ☐ Polycyclic Aromatic Hydrocarbons (PAHs)
- ☐ Metals (including arsenic, antimony, and selenium)
- ☐ Mercury (Hg) and Hexavalent Chromium (CrVI)

- ☐ Electrical Conductivity (EC)
- ☐ Sodium Adsorption Ratio (SAR)

These CPCs have the potential to be present in the soil matrix and/or the groundwater situated beneath the Phase I Property.

Assessment of Uncertainty and/or Absence of Information

The information available for review as part of the preparation of this Phase I ESA is considered to be sufficient to conclude that there are PCAs and APECs associated with the Phase II Property.

The presence of any PCAs were confirmed by a variety of independent sources, 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 the Sampling and Analysis Plan

No deviations from the Sampling and Analysis Plan were made during the course of this Phase II ESA.

3.5 Physical Impediments

No physical impediments were encountered during the course of the field drilling program.

4.0 INVESTIGATION METHOD

4.1 Subsurface Investigation

The subsurface investigation for this assessment was conducted on November 5, 2025, and consisted of drilling six boreholes (BH1-25 to BH6-25) across the Phase II Property. Upon completion, BH3-25 and BH4-25 were advanced into the bedrock unit to a depth of approximately 6.2 m below ground surface and instrumented with groundwater monitoring wells in order to access the water table. The remaining boreholes were terminated on practical refusal to augering on the inferred bedrock surface at depths ranging from approximately 0.8 m to 2.5 m below ground surface.

Another monitoring well (BH103-25), previously installed by Cambium Inc. as part of a concurrent geotechnical investigation, was also utilized as part of this investigation.

Under the full-time supervision of Paterson personnel, the boreholes were drilled using a low-clearance drill rig provided by George Downing Estate Drilling of Hawkesbury, Ontario. The locations of the boreholes are illustrated on “Drawing PE7253-3 – Test Hole Location Plan”, appended to this report.

4.2 Soil Sampling

Soil 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.

The samples were recovered using a stainless-steel split spoon, while wearing protective gloves (changed after each sample), and immediately placed into plastic bags. If significant contamination was encountered, the samples were instead placed into glass jars. Sampling equipment was routinely washed in soapy water and rinsed with clean water after each split spoon to prevent any cross contamination of the samples. The samples were also stored in coolers to reduce analyte volatilization during transportation.

A total of 18 soil samples were obtained from the boreholes by means of auger and split spoon sampling. The depths at which auger, split spoon, and rock core samples were obtained from the boreholes are shown as “**AU**”, “**SS**”, and “**RC**” respectively, on the Soil Profile and Test Data Sheets, appended to this report.

4.3 Field Screening Measurements

All soil samples collected were subjected to a preliminary screening procedure, which included visual screening for colour and evidence of metals, as well as soil vapour screening with a Photo Ionization Detector.

The recovered soil samples 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, ensuring consistency of readings between samples. To measure the soil vapours, the analyzer probe was inserted into the nominal headspace above the sample. The sample was then agitated and manipulated gently by hand as the measurement was taken. The peak reading registered within the first 15 seconds was recorded as the vapour measurement. The parts per million (ppm) scale was used to measure concentrations of organic vapours.

The results of the vapour survey are presented on the Soil Profile and Test Data Sheets, appended to this report.

4.4 Groundwater Monitoring Well Installation

Two groundwater monitoring wells were installed on the Phase II Property as part of this subsurface investigation. These monitoring wells were constructed using 32 mm diameter Schedule 40 threaded PVC risers and screens. A sand pack consisting of silica sand was placed around the screen with a bentonite seal placed above to minimize cross-contamination. A summary of the monitoring well construction details are listed below in Table 1 as well as on the Soil Profile and Test Data Sheets provided in Appendix 1.

Upon completion, the groundwater monitoring wells were developed using a dedicated inertial lift pump, with a minimum of three well volumes being removed from the wells at the time of installation, until the appearance of the water was noted to have stabilized. In addition, the ground surface elevations of each borehole were subsequently surveyed with respect to a known geodetic elevation.

The ground surface elevations of each borehole were surveyed with respect to a known geodetic elevation using GPS equipment.

Table 1 Monitoring Well Construction Details						
Well ID	Ground Surface Elevation (m ASL)	Total Depth (m BGS)	Screened Interval (m BGS)	Sand Pack (m BGS)	Bentonite Seal (m BGS)	Casing Type
BH3-25	70.91	6.25	3.20-6.25	2.90-6.25	1.96-2.90	Flushmount
BH4-25	71.28	6.20	3.15-6.20	2.74-6.20	1.52-2.74	Flushmount

4.5 Field Measurement of Water Quality Parameters

Groundwater depth measurement and field sampling was conducted on-site on November 14, 2025. Water quality parameters were not measured at the time of the sampling event.

4.6 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.

Standing water was purged from each monitoring well prior to the recovery of the groundwater samples using dedicated sampling equipment. The samples were then stored in coolers to reduce possible analyte volatilization during their transportation. Further details of our standard operating procedure for groundwater sampling are provided in the Sampling and Analysis Plan, appended to this report.

4.7 Analytical Testing

The following soil and groundwater samples were submitted for laboratory analysis:

Table 3									
Testing Parameters for Submitted Soil Samples									
Sample ID	Sample Depth & Stratigraphic Unit	Parameters Analyzed							Rationale
		PHCs	VOCs	Metals ¹	PAHs	EC	SAR	pH	
BH1-25-SS1	0.13 – 0.61 m Fill Material	X		X	X	X	X		To assess for potential soil impacts resulting from the presence of fill material of unknown quality.
BH2-25-SS1	0.10 – 0.61 m Fill Material	X		X	X	X	X	X	To assess for potential soil impacts resulting from the presence of fill material of unknown quality.
BH3-25-SS1B	0.07 – 0.61 m Fill Material			X	X	X	X		To assess for potential soil impacts resulting from the presence of fill material of unknown quality.
BH3-25-SS2	0.76 – 1.37 m Glacial Till	X	X					X	To assess for potential soil impacts resulting from the presence of a former off-site retail fuel outlet.
BH4-25-SS1	0.13 – 0.61 m Fill Material			X	X	X	X		To assess for potential soil impacts resulting from the presence of fill material of unknown quality.
BH4-25-SS2	0.76 – 1.37 m Silty Clay	X	X						To assess for potential soil impacts resulting from the presence of a former off-site retail fuel outlet.
BH5-25-SS1B	0.18 – 0.61 m Silty Clay	X	X	X	X	X	X		To assess for potential soil impacts resulting from the presence of fill material of unknown quality.
BH6-25-SS1	0.20 – 0.61 m Silty Clay	X		X	X	X	X		To assess for potential soil impacts resulting from the presence of fill material of unknown quality.
DUP-1 ²	0.76 – 1.37 m Silty Clay	X	X						For laboratory QA/QC purposes.
DUP-2 ³	0.10 – 0.61 m Fill Material			X	X				For laboratory QA/QC purposes.
1 – Includes Mercury (Hg) and Hexavalent Chromium (CrVI)									
2 – Duplicate sample of BH4-25-SS2									
3 – Duplicate sample of BH2-25-SS1									

Table 4						
Testing Parameters for Submitted Groundwater Samples						
Sample ID	Screened Interval & Stratigraphic Unit	Parameters Analyzed				Rationale
		PHCs	VOCs	Metals	PAHs	
BH3-25-GW1	3.20 – 6.25 m Bedrock	X	X			To assess for potential groundwater impacts resulting from the presence of a former off-site retail fuel outlet.
BH4-25-GW1	3.06 – 6.20 m Bedrock	X	X			To assess for potential groundwater impacts resulting from the presence of a former off-site retail fuel outlet.
BH103-25-GW1	5.55 – 8.60 m Bedrock			X	X	To assess for potential groundwater impacts resulting from the presence of fill material of unknown quality.
DUP-1 ¹	3.20 – 6.25 m Bedrock	X	X			For laboratory QA/QC purposes.
1 – Duplicate sample of BH3-25-GW1						

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) and is accredited and certified by the SCC/CALA for specific tests registered with the association.

4.8 Residue Management

All soil cuttings were removed from the site following the field program, while all purge water and equipment cleaning fluids were retained on-site.

4.9 Elevation Surveying

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

4.10 Quality Assurance and Quality Control Measures

A summary of the quality assurance and quality control (QA/QC) measures, undertaken as part of this assessment, is provided in the Sampling and Analysis Plan in Appendix 1.

5.0 REVIEW AND EVALUATION

5.1 Geology

In general, the subsurface soil profile encountered at the borehole locations consists of a thin pavement structure (asphalt over engineered fill), underlain by glacial till and/or brown silty clay. Bedrock was encountered in BH3-25 and BH4-25 at depths of approximately 2.0 m and 1.5 m below ground surface, respectively. Site geology details are provided in the Soil Profile and Test Data Sheets in Appendix 1.

5.2 Groundwater Elevations, Flow Direction, and Hydraulic Gradient

Groundwater levels beneath the Phase II Property were measured using an electronic water level meter on November 14, 2025. The groundwater levels are summarized below in Table 5.

Table 5 Groundwater Level Measurements				
Borehole Location	Ground Surface Elevation (m)	Water Level Depth (m below grade)	Water Level Elevation (m ASL)	Date of Measurement
BH3-25	70.91	2.82	68.09	November 14, 2025
BH4-25	71.28	3.06	68.22	
BH103-25	71.63	1.85	69.78	

The groundwater beneath the Phase II Property was encountered within the bedrock at depths ranging from approximately 1.9 m to 3.0 m below ground surface. No unusual visual or olfactory observations were identified within the recovered groundwater samples at the time of the field sampling event.

Utilizing the groundwater elevations recorded during the sampling event, groundwater contour mapping was completed as part of this assessment. According to the mapped contour data, illustrated on Drawing PE7253-3 – Test Hole Location Plan in the appendix, the groundwater flow was calculated to be in a northeastern direction, with a horizontal hydraulic gradient measured to be approximately 0.02 m/m.

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 based on visual observations. As a result, the coarse-grained soil standards were chosen as a conservative approach.

5.4 Field Screening

Field screening of the soil samples collected during the drilling program resulted in organic vapour readings ranging from 0.0 ppm to 5.5 ppm, indicating that there is a low potential for the presence of volatile substances.

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

As part of this assessment, eight soil samples were submitted for laboratory analysis of BTEX, PHCs (F₁-F₄), VOCs, PAHs, Metals, EC, SAR, and/or pH parameters. The results of the analytical testing are presented below in Tables 6 to 10, as well as on the laboratory certificates of analysis included in Appendix 1.

Table 6								
Analytical Test Results – Soil								
BTEX & PHCs (F ₁ -F ₄)								
Parameter	MDL (µg/g)	Soil Samples (ug/g)						MECP Table 7 Coarse-Grained Residential Soil Standards (µg/g)
		November 5, 2025						
		BH1-25- SS1	BH2-25- SS1	BH3-25- SS2	BH4-25- SS2	BH5-25- SS1B	BH6-25- SS1	
		Sample Depth (m bgs)						
		0.13-0.61 m	0.10-0.61 m	0.76-1.37 m	0.76-1.37 m	0.18-0.61 m	0.20-0.61 m	
Benzene	0.02	nd	nd	nd	nd	nd	nd	0.21
Ethylbenzene	0.05	nd	nd	nd	nd	nd	nd	2
Toluene	0.05	nd	nd	nd	nd	nd	nd	2.3
Xylenes	0.05	nd	nd	nd	nd	nd	nd	3.1
PHCs F ₁	7	nd	nd	nd	nd	nd	nd	55
PHCs F ₂	4	6	nd	nd	16	nd	nd	98
PHCs F ₃	8	152	21	nd	20	nd	nd	300
PHCs F ₄	6	335	8	nd	nd	nd	30	2,800
PHCs F _{4G} (gravimetric)	50	443	n/a	n/a	n/a	n/a	n/a	2,800
Notes:								
☐ MDL – Method Detection Limit								
☐ nd – not detected above the MDL								
☐ n/a – parameter not tested								
☐ <u>Bold and Underlined</u> – value exceeds selected MECP standards								

All detected BTEX and PHC concentrations in the soil samples analyzed comply with the selected MECP Table 7 Coarse-Grained Residential Soil Standards.

**Table 7
Analytical Test Results – Soil
VOCs**

Parameter	MDL (µg/g)	Soil Samples (µg/g)			MECP Table 7 Coarse-Grained Residential Soil Standards (µg/g)
		November 5, 2025			
		BH3-25-SS2	BH4-25-SS2	BH5-25-SS1B	
		Depth Interval (m BGS)			
		0.76-1.37 m	0.76-1.37 m	0.18-0.61 m	
Acetone	0.50	nd	nd	nd	16
Benzene	0.02	nd	nd	nd	0.21
Bromodichloromethane	0.05	nd	nd	nd	13
Bromoform	0.05	nd	nd	nd	0.27
Bromomethane	0.05	nd	nd	nd	0.05
Carbon Tetrachloride	0.05	nd	nd	nd	0.05
Chlorobenzene	0.05	nd	nd	nd	2.4
Chloroform	0.05	nd	nd	nd	0.05
Dibromochloromethane	0.05	nd	nd	nd	9.4
Dichlorodifluoromethane	0.05	nd	nd	nd	16
1,2-Dichlorobenzene	0.05	nd	nd	nd	3.4
1,3-Dichlorobenzene	0.05	nd	nd	nd	4.8
1,4-Dichlorobenzene	0.05	nd	nd	nd	0.083
1,1-Dichloroethane	0.05	nd	nd	nd	3.5
1,2-Dichloroethane	0.05	nd	nd	nd	0.05
1,1-Dichloroethylene	0.05	nd	nd	nd	0.05
cis-1,2-Dichloroethylene	0.05	nd	nd	nd	3.4
trans-1,2-Dichloroethylene	0.05	nd	nd	nd	0.084
1,2-Dichloropropane	0.05	nd	nd	nd	0.05
1,3-Dichloropropene	0.05	nd	nd	nd	0.05
Ethylbenzene	0.05	nd	nd	nd	2
Ethylene dibromide	0.05	nd	nd	nd	0.05
Hexane	0.05	nd	nd	nd	2.8
Methyl Ethyl Ketone	0.50	nd	nd	nd	16
Methyl Isobutyl Ketone	0.50	nd	nd	nd	1.7
Methyl tert-butyl ether	0.05	nd	nd	nd	0.75
Methylene Chloride	0.05	nd	nd	nd	0.1
Styrene	0.05	nd	nd	nd	0.7
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	0.058
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	0.05
Tetrachloroethylene	0.05	nd	nd	nd	0.28
Toluene	0.05	nd	nd	nd	2.3
1,1,1-Trichloroethane	0.05	nd	nd	nd	0.38
1,1,2-Trichloroethane	0.05	nd	nd	nd	0.05
Trichloroethylene	0.05	nd	nd	nd	0.061
Trichlorofluoromethane	0.05	nd	nd	nd	4
Vinyl Chloride	0.02	nd	nd	nd	0.02
Xylenes	0.05	nd	nd	nd	3.1

Notes:

- MDL – Method Detection Limit
- nd – not detected above the MDL
- **Bold and Underlined** – value exceeds selected MECP standards

No VOC parameter concentrations were detected in any of the soil samples analyzed. The results comply with the selected MECP Table 7 Coarse-Grained Residential Soil Standards.

Table 8
Analytical Test Results – Soil
PAHs

Parameter	MDL (µg/g)	Soil Samples (µg/g)						MECP Table 7 Coarse-Grained Residential Soil Standards (µg/g)
		November 5, 2025						
		BH1-25- SS1	BH2-25- SS1	BH3-25- SS1B	BH4-25- SS1	BH5-25- SS1B	BH6-25- SS1	
		Sample Depth (m bgs)						
		0.13-0.61	0.10-0.61	0.07-0.61	0.13-0.61	0.18-0.61	0.20-0.61	
Acenaphthene	0.02	nd	nd	nd	nd	nd	0.09	7.9
Acenaphthylene	0.02	nd	nd	nd	nd	nd	0.03	0.15
Anthracene	0.02	nd	nd	nd	nd	nd	0.15	0.67
Benzo[a]anthracene	0.02	nd	nd	nd	nd	0.03	0.32	0.5
Benzo[a]pyrene	0.02	nd	nd	nd	nd	nd	0.28	0.3
Benzo[b]fluoranthene	0.02	nd	nd	nd	nd	0.03	0.27	0.78
Benzo[g,h,i]perylene	0.02	nd	nd	nd	nd	nd	0.16	6.6
Benzo[k]fluoranthene	0.02	nd	nd	nd	nd	nd	0.16	0.78
Chrysene	0.02	nd	nd	nd	nd	0.03	0.32	7
Dibenzo[a,h]anthracene	0.02	nd	nd	nd	nd	nd	0.04	0.1
Fluoranthene	0.02	nd	nd	nd	nd	0.07	<u>0.98</u>	0.69
Fluorene	0.02	nd	nd	nd	nd	nd	0.14	62
Indeno [1,2,3-cd] pyrene	0.02	nd	nd	nd	nd	nd	0.15	0.38
1-Methylnaphthalene	0.02	nd	nd	nd	nd	nd	0.04	0.99
2-Methylnaphthalene	0.02	nd	nd	nd	nd	nd	0.05	0.99
Methylnaphthalene (1&2)	0.04	nd	nd	nd	nd	nd	0.09	0.99
Naphthalene	0.01	nd	nd	nd	nd	nd	0.13	0.6
Phenanthrene	0.02	nd	nd	nd	nd	0.08	1.13	6.2
Pyrene	0.02	nd	nd	nd	nd	0.05	0.73	78
Notes: ☐ MDL – Method Detection Limit ☐ nd – not detected above the MDL ☐ <u>Bold and Underlined</u> – value exceeds selected MECP standards								

The concentration of fluoranthene in Sample BH6-25-SS1 is in excess of the selected MECP Table 7 Coarse-Grained Residential Soil Standards. All remaining PAH parameters detected in the soil samples analyzed comply with the Standards.

Table 9
Analytical Test Results – Soil
Metals

Parameter	MDL (µg/g)	Soil Samples (µg/g)						MECP Table 7 Coarse-Grained Residential Soil Standards (µg/g)
		November 5, 2025						
		BH1-25- SS1	BH2-25- SS1	BH3-25- SS1B	BH4-25- SS1	BH5-25- SS1B	BH6-25- SS1	
		Sample Depth (m bgs)						
		0.13-0.61	0.10-0.61	0.07-0.61	0.13-0.61	0.18-0.61	0.20-0.61	
Antimony	1.0	nd	nd	nd	nd	nd	nd	7.5
Arsenic	1.0	1.4	1.3	nd	1.9	6.1	4.5	18
Barium	1.0	<u>436</u>	<u>936</u>	19.6	207	95.6	80.1	390
Beryllium	0.5	nd	nd	nd	nd	0.7	0.6	4
Boron	5.0	11.5	11.8	nd	12.6	7.1	5.6	120
Cadmium	0.5	nd	nd	nd	nd	nd	nd	1.2
Chromium (VI)	0.2	nd	nd	nd	nd	nd	nd	8
Chromium	5.0	8.6	9.6	14.8	13.0	31.5	28.0	160
Cobalt	1.0	3.1	3.6	2.9	4.4	11.2	8.3	22
Copper	5.0	6.6	7.3	nd	11.0	26.1	18.3	140
Lead	1.0	5.0	5.9	1.6	25.5	12.0	12.4	120
Mercury	0.1	nd	nd	nd	nd	nd	0.1	0.27
Molybdenum	1.0	nd	nd	nd	nd	2.3	1.3	6.9
Nickel	5.0	8.3	9.1	6.9	11.0	33.1	24.7	100
Selenium	1.0	nd	nd	nd	nd	nd	nd	2.4
Silver	0.3	0.7	0.7	0.5	0.6	0.8	0.8	20
Thallium	1.0	nd	nd	nd	nd	nd	nd	1
Uranium	1.0	nd	nd	nd	nd	1.3	nd	23
Vanadium	10.0	nd	nd	17.4	12.7	41.9	36.3	86
Zinc	20.0	nd	nd	nd	23.8	51.9	53.3	340

Notes:

☐ MDL – Method Detection Limit

☐ nd – not detected above the MDL

☐ **Bold and Underlined** – value exceeds selected MECP standards

The concentration of barium in Samples BH1-25-SS1 and BH2-25-SS1 is in excess of the selected MECP Table 7 Coarse-Grained Residential Soil Standards. All remaining metal parameters detected in the soil samples analyzed comply with the Standards.

Table 10
Analytical Test Results – Soil
Inorganic Parameters

Parameter	MDL (units)	Soil Samples (µg/g)							MECP Table 7 Coarse-Grained Residential Soil Standards (units)
		November 5, 2025							
		BH1-25- SS1	BH2-25- SS1	BH3-25- SS1B	BH3-25- SS2	BH4-25- SS1	BH5-25- SS1B	BH6-25- SS1	
		Sample Depth (m bgs)							
		0.13-0.61	0.10-0.61	0.07-0.61	0.76-1.37	0.13-0.61	0.18-0.61	0.20-0.61	
SAR	0.01 Units	1.32	2.03	0.12	nt	1.57	<u>10.3</u>	<u>18.2</u>	5
EC	5 µS/cm	252	354	137	nt	261	<u>1,990</u>	<u>3,240</u>	700
pH	0.05 Units	nt	7.91	nt	7.67	nt	nt	nt	5.00 – 11.00
Notes:									
☐ MDL – Method Detection Limit									
☐ nt – Not tested for this parameter									
☐ <u>Bold and Underlined</u> – value exceeds selected MECP standards									

The EC and SAR levels detected in Samples BH5-25-SS1B and BH6-25-SS1 are in excess of the selected MECP Table 7 Coarse-Grained Residential Soil Standards. These elevated EC and SAR levels detected at boreholes BH5-25 and BH6-25 are suspected to be the result of the application of road salt on the Phase II Property during snow and ice conditions and thus, as per Section 49.1 of O. Reg 153/04, does not represent a contaminant issue.

Table 11 Maximum Concentrations – Soil			
Parameter	Maximum Concentration (ug/g)	Sample ID	Depth Interval (m BGS)
PHCs F ₂	16	BH4-25-SS1	0.13-0.61 m
PHCs F ₃	152	BH1-25-SS1	0.13-0.61 m
PHCs F ₄	335	BH1-25-SS1	0.13-0.61 m
PHCs F _{4G} (gravimetric)	443	BH1-25-SS1	0.13-0.61 m
Acenaphthene	0.09	BH6-25-SS1	0.20-0.61 m
Acenaphthylene	0.03	BH6-25-SS1	0.20-0.61 m
Anthracene	0.15	BH6-25-SS1	0.20-0.61 m
Benzo[a]anthracene	0.32	BH6-25-SS1	0.20-0.61 m
Benzo[a]pyrene	0.28	BH6-25-SS1	0.20-0.61 m
Benzo[b]fluoranthene	0.27	BH6-25-SS1	0.20-0.61 m
Benzo[g,h,i]perylene	0.16	BH6-25-SS1	0.20-0.61 m
Benzo[k]fluoranthene	0.16	BH6-25-SS1	0.20-0.61 m
Chrysene	0.32	BH6-25-SS1	0.20-0.61 m
Dibenzo[a,h]anthracene	0.04	BH6-25-SS1	0.20-0.61 m
Fluoranthene	<u>0.98</u>	BH6-25-SS1	0.20-0.61 m
Fluorene	0.14	BH6-25-SS1	0.20-0.61 m
Indeno [1,2,3-cd] pyrene	0.15	BH6-25-SS1	0.20-0.61 m
1-Methylnaphthalene	0.04	BH6-25-SS1	0.20-0.61 m
2-Methylnaphthalene	0.05	BH6-25-SS1	0.20-0.61 m
Methylnaphthalene (1&2)	0.09	BH6-25-SS1	0.20-0.61 m
Naphthalene	0.13	BH6-25-SS1	0.20-0.61 m
Phenanthrene	1.13	BH6-25-SS1	0.20-0.61 m
Pyrene	0.73	BH6-25-SS1	0.20-0.61 m
Arsenic	6.1	BH5-25-SS1B	0.18-0.61 m
Barium	<u>936</u>	BH2-25-SS1	0.10-0.61 m
Beryllium	0.7	BH5-25-SS1B	0.18-0.61 m
Boron	12.6	BH4-25-SS1	0.13-0.61 m
Chromium	31.5	BH5-25-SS1B	0.18-0.61 m
Cobalt	11.2	BH5-25-SS1B	0.18-0.61 m
Copper	26.1	BH5-25-SS1B	0.18-0.61 m
Lead	25.5	BH4-25-SS1	0.13-0.61 m
Mercury	0.1	BH6-25-SS1	0.20-0.61 m
Molybdenum	2.3	BH5-25-SS1B	0.18-0.61 m
Nickel	33.1	BH5-25-SS1B	0.18-0.61 m
Silver	0.8	BH5-25-SS1B	0.18-0.61 m
Uranium	1.3	BH5-25-SS1B	0.18-0.61 m
Vanadium	41.9	BH5-25-SS1B	0.18-0.61 m
Zinc	53.3	BH6-25-SS1	0.20-0.61 m
Notes:			
☐ <u>Bold and Underlined</u> – value exceeds selected MECP standards			

All other parameter concentrations analyzed were below the laboratory method detection limits.

5.6 Groundwater Quality

As part of this assessment, three groundwater samples were submitted for laboratory analysis of PHCs (F₁-F₄), VOCs, PAHs, and/or Metal parameters. The results of the analytical testing are presented below in Tables 12 to 15, as well as on the laboratory certificates of analysis included in Appendix 1.

Table 12				
Analytical Test Results – Groundwater				
BTEX & PHCs (F ₁ -F ₄)				
Parameter	MDL (µg/L)	Groundwater Samples (ug/L)		MECP Table 7 Non-Potable Groundwater Standards (µg/L)
		November 14, 2025		
		BH3-25-GW1	BH4-25-GW1	
		Screening Interval (m bgs)		
		3.20 – 6.25 m	3.06 – 6.20 m	
Benzene	0.5	nd	nd	0.5
Ethylbenzene	0.5	nd	nd	54
Toluene	0.5	nd	nd	320
Xylenes	0.5	nd	nd	72
PHCs F ₁	25	nd	nd	420
PHCs F ₂	100	nd	nd	150
PHCs F ₃	100	nd	nd	500
PHCs F ₄	100	nd	nd	500
Notes:				
☐ MDL – Method Detection Limit				
☐ nd – not detected above the MDL				
☐ <u>Bold and Underlined</u> – value exceeds selected MECP standards				

No PHC parameter concentrations were detected above the laboratory method detection limits in any of the groundwater samples analyzed. The results comply with the MECP Table 7 Non-Potable Groundwater Standards.

Table 13
Analytical Test Results – Groundwater
VOCs

Parameter	MDL (µg/L)	Groundwater Samples (ug/L)		MECP Table 7 Non-Potable Groundwater Standards (µg/L)
		November 14, 2025		
		BH3-25-GW1	BH4-25-GW1	
		Screening Interval (m bgs)		
		3.20 – 6.25 m	3.06 – 6.20 m	
Acetone	5.0	nd	nd	100,000
Benzene	0.5	nd	nd	0.5
Bromodichloromethane	0.5	nd	nd	67,000
Bromoform	0.5	nd	nd	5
Bromomethane	0.5	nd	nd	0.89
Carbon Tetrachloride	0.2	nd	nd	0.2
Chlorobenzene	0.5	nd	nd	140
Chloroform	0.5	nd	nd	2
Dibromochloromethane	0.5	nd	nd	65,000
Dichlorodifluoromethane	1.0	nd	nd	3,500
1,2-Dichlorobenzene	0.5	nd	nd	150
1,3-Dichlorobenzene	0.5	nd	nd	7,600
1,4-Dichlorobenzene	0.5	nd	nd	0.5
1,1-Dichloroethane	0.5	nd	nd	11
1,2-Dichloroethane	0.5	nd	nd	0.5
1,1-Dichloroethylene	0.5	nd	nd	0.5
cis-1,2-Dichloroethylene	0.5	nd	nd	1.6
trans-1,2-Dichloroethylene	0.5	nd	nd	1.6
1,2-Dichloropropane	0.5	nd	nd	0.58
1,3-Dichloropropene, total	0.5	nd	nd	0.5
Ethylbenzene	0.5	nd	nd	54
Ethylene dibromide	0.2	nd	nd	0.2
Hexane	1.0	nd	nd	5
Methyl Ethyl Ketone	5.0	nd	nd	21,000
Methyl Isobutyl Ketone	5.0	nd	nd	5,200
Methyl tert-butyl ether	2.0	nd	nd	15
Methylene Chloride	5.0	nd	nd	26
Styrene	0.5	nd	nd	43
1,1,1,2-Tetrachloroethane	0.5	nd	nd	1.1
1,1,2,2-Tetrachloroethane	0.5	nd	nd	0.5
Tetrachloroethylene	0.5	nd	nd	0.5
Toluene	0.5	nd	nd	320
1,1,1-Trichloroethane	0.5	nd	nd	23
1,1,2-Trichloroethane	0.5	nd	nd	0.5
Trichloroethylene	0.5	nd	nd	0.5
Trichlorofluoromethane	1.0	nd	nd	2,000
Vinyl Chloride	0.5	nd	nd	0.5
Xylenes	0.5	nd	nd	72
Notes:				
☐ MDL – Method Detection Limit				
☐ nd – not detected above the MDL				
☐ Bold and Underlined – value exceeds selected MECP standards				

No VOC parameter concentrations were detected above the laboratory method detection limits in any of the groundwater samples analyzed. The results comply with the MECP Table 7 Non-Potable Groundwater Standards.

Table 14
Analytical Test Results – Groundwater
PAHs

Parameter	MDL (µg/L)	Groundwater Samples (ug/L)	MECP Table 7 Non-Potable Groundwater Standards (µg/L)
		November 14, 2025	
		BH103-25-GW1	
		Screening Interval (m bgs)	
		5.55 – 8.60 m	
Acenaphthene	0.05	nd	17
Acenaphthylene	0.05	nd	1
Anthracene	0.01	nd	1
Benzo[a]anthracene	0.01	nd	1.8
Benzo[a]pyrene	0.01	nd	0.81
Benzo[b]fluoranthene	0.05	nd	0.75
Benzo[g,h,i]perylene	0.05	nd	0.2
Benzo[k]fluoranthene	0.05	nd	0.4
Chrysene	0.05	nd	0.7
Dibenzo[a,h]anthracene	0.05	nd	0.4
Fluoranthene	0.01	nd	44
Fluorene	0.05	nd	290
Indeno [1,2,3-cd] pyrene	0.05	nd	0.2
1-Methylnaphthalene	0.05	nd	1,500
2-Methylnaphthalene	0.05	nd	1,500
Methylnaphthalene (1&2)	0.10	nd	1,500
Naphthalene	0.05	nd	7
Phenanthrene	0.05	nd	380
Pyrene	0.01	nd	5.7
Notes: ☐ MDL – Method Detection Limit ☐ nd – not detected above the MDL ☐ <u>Bold and Underlined</u> – value exceeds selected MECP standards			

No PAH parameter concentrations were detected above the laboratory method detection limits in any of the groundwater samples analyzed. The results comply with the MECP Table 7 Non-Potable Groundwater Standards.

Table 15
Analytical Test Results – Groundwater
Metals

Parameter	MDL (µg/L)	Groundwater Samples (ug/L)	MECP Table 7 Non-Potable Groundwater Standards (µg/L)
		November 14, 2025	
		BH103-25-GW1	
		Screening Interval (m bgs)	
		5.55 – 8.60 m	
Antimony	0.5	nd	16,000
Arsenic	1	nd	1,500
Barium	1	157	23,000
Beryllium	0.5	nd	53
Boron	10	150	36,000
Cadmium	0.1	nd	2.1
Chromium	1	nd	640
Cobalt	0.5	0.6	52
Copper	0.5	2.1	69
Lead	0.1	nd	20
Molybdenum	0.5	2.1	7300
Nickel	1	2	390
Selenium	1	nd	50
Silver	0.1	nd	1.2
Sodium	200	<u>3890000</u>	1,800,000
Thallium	0.1	nd	400
Uranium	0.1	0.6	330
Vanadium	0.5	nd	200
Zinc	5	12	890

Notes:

- ☐ MDL – Method Detection Limit
- ☐ nd – not detected above the MDL
- ☐ **Bold and Underlined** – value exceeds selected MECP standards

The concentration of sodium in Sample BH103-25-GW1 is in excess of the selected MECP Table 7 Non-Potable Groundwater Standards. All remaining parameters detected in the groundwater sample analyzed comply with the standards. The elevated sodium level is suspected to be the result of the application of road salt on the Phase II Property during snow and ice conditions and thus, as per Section 49.1 of O. Reg 153/04, does not represent a contaminant issue.

Table 16			
Maximum Concentrations – Groundwater			
Parameter	Maximum Concentration (ug/g)	Sample ID	Depth Interval (m BGS)
Barium	157	BH103-25-GW1	5.55 – 8.60 m
Boron	150	BH103-25-GW1	5.55 – 8.60 m
Cobalt	0.6	BH103-25-GW1	5.55 – 8.60 m
Copper	2.1	BH103-25-GW1	5.55 – 8.60 m
Molybdenum	2.1	BH103-25-GW1	5.55 – 8.60 m
Nickel	2	BH103-25-GW1	5.55 – 8.60 m
Sodium	<u>3890000</u>	BH103-25-GW1	5.55 – 8.60 m
Uranium	0.6	BH103-25-GW1	5.55 – 8.60 m
Zinc	12	BH103-25-GW1	5.55 – 8.60 m
Notes:			
☐ <u>Bold and Underlined</u> – value exceeds selected MECP standards			

All other parameter concentrations analyzed were below the laboratory method detection limits.

5.7 Quality Assurance and Quality Control Results

All samples submitted as part of this Phase II ESA were handled in accordance with the analytical protocols with respect to holding time, preservation method, storage requirement, and container type.

As per Subsection 47(3) of O. Reg. 153/04, as amended by the Environmental Protection Act, the certificates of analysis have been received for each sample submitted for laboratory analysis and have been appended to this report.

As per the Sampling and Analysis Plan, a duplicate soil sample was obtained from BH4-25-SS2 and submitted for laboratory analysis of PHC and VOC parameters. The relative percentage difference (RPD) calculations for the original and duplicate samples are provided below in Table 17.

Parameter	MDL (µg/g)	BH4-25-SS2	DUP-1	RPD (%)	QA/QC Result (Target: <20% RPD)
PHCs F ₁	7	nd	47	n/a	Does Not Meet Target
PHCs F ₂	4	16	41	87.7	Does Not Meet Target
PHCs F ₃	8	20	37	59.6	Does Not Meet Target
PHCs F ₄	6	nd	31	n/a	Does Not Meet Target
Acetone	0.50	nd	nd	0	Meets Target
Benzene	0.02	nd	nd	0	Meets Target
Bromodichloromethane	0.05	nd	nd	0	Meets Target
Bromoform	0.05	nd	nd	0	Meets Target
Bromomethane	0.05	nd	nd	0	Meets Target
Carbon Tetrachloride	0.05	nd	nd	0	Meets Target
Chlorobenzene	0.05	nd	nd	0	Meets Target
Chloroform	0.05	nd	nd	0	Meets Target
Dibromochloromethane	0.05	nd	nd	0	Meets Target
Dichlorodifluoromethane	0.05	nd	nd	0	Meets Target
1,2-Dichlorobenzene	0.05	nd	nd	0	Meets Target
1,3-Dichlorobenzene	0.05	nd	nd	0	Meets Target
1,4-Dichlorobenzene	0.05	nd	nd	0	Meets Target
1,1-Dichloroethane	0.05	nd	nd	0	Meets Target
1,2-Dichloroethane	0.05	nd	nd	0	Meets Target
1,1-Dichloroethylene	0.05	nd	nd	0	Meets Target
cis-1,2-Dichloroethylene	0.05	nd	nd	0	Meets Target
trans-1,2-Dichloroethylene	0.05	nd	nd	0	Meets Target
1,2-Dichloropropane	0.05	nd	nd	0	Meets Target
1,3-Dichloropropane	0.05	nd	nd	0	Meets Target
Ethylbenzene	0.05	nd	nd	0	Meets Target
Ethylene dibromide	0.05	nd	nd	0	Meets Target
Hexane	0.05	nd	nd	0	Meets Target
Methyl Ethyl Ketone	0.50	nd	nd	0	Meets Target
Methyl Isobutyl Ketone	0.50	nd	nd	0	Meets Target
Methyl tert-butyl ether	0.05	nd	nd	0	Meets Target
Methylene Chloride	0.05	nd	nd	0	Meets Target
Styrene	0.05	nd	nd	0	Meets Target
1,1,1,2-Tetrachloroethane	0.05	nd	nd	0	Meets Target
1,1,1,2-Tetrachloroethane	0.05	nd	nd	0	Meets Target
Tetrachloroethylene	0.05	nd	nd	0	Meets Target
Toluene	0.05	nd	nd	0	Meets Target
1,1,1-Trichloroethane	0.05	nd	nd	0	Meets Target
1,1,2-Trichloroethane	0.05	nd	nd	0	Meets Target
Trichloroethylene	0.05	nd	nd	0	Meets Target
Trichlorofluoromethane	0.05	nd	nd	0	Meets Target
Vinyl Chloride	0.02	nd	nd	0	Meets Target
Xylenes	0.05	nd	nd	0	Meets Target
Notes: ☐ MDL – Method Detection Limit ☐ nd – not detected above the MDL					

Some discrepancies were apparent with respect to the RPD values of the PHC parameters, however this may be attributed to the sensitivity of relatively low levels of PHCs detected between the original and duplicate samples. Since the majority of the RPD calculations between the original and duplicate samples fell within of the acceptable range of 20%, and 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.

A second duplicate soil sample was obtained from BH2-25-SS1 and submitted for laboratory analysis of PAH and Metal parameters. The relative percentage difference (RPD) calculations for the original and duplicate samples are provided below in Table 18.

Table 18 QA/QC Calculations – Soil					
Parameter	MDL (µg/g)	BH2-25-SS1	DUP-2	RPD (%)	QA/QC Result (Target: <20% RPD)
Acenaphthene	0.02	nd	nd	0	Meets Target
Acenaphthylene	0.02	nd	nd	0	Meets Target
Anthracene	0.02	nd	nd	0	Meets Target
Benzo[a]anthracene	0.02	nd	nd	0	Meets Target
Benzo[a]pyrene	0.02	nd	nd	0	Meets Target
Benzo[b]fluoranthene	0.02	nd	nd	0	Meets Target
Benzo[g,h,i]perylene	0.02	nd	nd	0	Meets Target
Benzo[k]fluoranthene	0.02	nd	nd	0	Meets Target
Chrysene	0.02	nd	nd	0	Meets Target
Dibenzo[a,h]anthracene	0.02	nd	nd	0	Meets Target
Fluoranthene	0.02	nd	nd	0	Meets Target
Fluorene	0.02	nd	nd	0	Meets Target
Indeno [1,2,3-cd] pyrene	0.02	nd	nd	0	Meets Target
1-Methylnaphthalene	0.02	nd	nd	0	Meets Target
2-Methylnaphthalene	0.02	nd	nd	0	Meets Target
Methylnaphthalene (1&2)	0.04	nd	nd	0	Meets Target
Naphthalene	0.01	nd	nd	0	Meets Target
Phenanthrene	0.02	nd	nd	0	Meets Target
Pyrene	0.02	nd	nd	0	Meets Target
Antimony	1.0	nd	nd	0	Meets Target
Arsenic	1.0	1.3	1.3	0	Meets Target
Barium	1.0	936	1,020	8.6	Meets Target
Beryllium	0.5	nd	nd	0	Meets Target
Boron	5.0	11.8	10.1	15.5	Meets Target
Cadmium	0.5	nd	nd	0	Meets Target
Chromium (VI)	0.2	nd	nd	0	Meets Target
Chromium	5.0	9.6	9.8	2.1	Meets Target
Cobalt	1.0	3.6	3.8	5.4	Meets Target
Copper	5.0	7.3	6.3	14.7	Meets Target
Lead	1.0	5.9	5.4	8.9	Meets Target
Mercury	0.1	nd	nd	0	Meets Target
Molybdenum	1.0	nd	nd	0	Meets Target
Nickel	5.0	9.1	9.2	1.1	Meets Target
Selenium	1.0	nd	nd	0	Meets Target
Silver	0.3	0.7	0.6	15.4	Meets Target
Thallium	1.0	nd	nd	0	Meets Target
Uranium	1.0	nd	nd	0	Meets Target
Vanadium	10.0	nd	nd	0	Meets Target
Zinc	20.0	nd	nd	0	Meets Target
Notes: ☐ MDL – Method Detection Limit ☐ nd – not detected above the MDL					

The relative percentage difference (RPD) calculations between the original and duplicate samples fell within of the acceptable range of 20%, and as a result, 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 BH3-25-GW1 and submitted for laboratory analysis of VOC and PHC parameters. No parameter concentrations were identified in both the original and duplicate samples, and as a result, the data quality objectives outlined in the Sampling and Analysis Plan, appended to this report, are considered to have been met.

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 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 described in Section 2.2 of this report, the following PCAs, as defined by Table 2 of O. Reg. 153/04, are considered to result in APECs on the Phase II Property:

Table 17 Areas of Potential Environmental Concern					
Area of Potential Environmental Concern	Location of APEC on Phase II Property	Potentially Contaminating Activity (Table 2 – O. Reg. 153/04)	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	Entirety of Phase I Property	<i>“Item 52: Importation of Fill Material of Unknown Quality”</i>	On-Site	BTEX PHCs Metals Hg CrVI PAHs	Soil
APEC 2 Application of Road Salt	Entirety of Phase I Property	<i>“Item N/A: Application of Road Salt for De-icing Purposes During Snow and Ice Conditions”</i>	On-Site	EC SAR	Soil
APEC 3 Former Retail Fuel Outlet	Northern Portion of Phase I Property	<i>“Item 28: Gasoline and Associated Products Storage in Fixed Tanks”</i>	Off-Site	BTEX VOCs PHCs PAHs	Soil and/or Groundwater

Contaminants of Potential Concern (CPCs)

The contaminants of potential concern (CPCs) associated with the aforementioned APECs are considered to be:

- ☐ Volatile Organic Compounds (VOCs)
- ☐ Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)
- ☐ Petroleum Hydrocarbons, fractions 1 – 4 (PHCs F₁-F₄)
- ☐ Polycyclic Aromatic Hydrocarbons (PAHs)
- ☐ Metals (including arsenic, antimony, and selenium)
- ☐ Mercury (Hg) and Hexavalent Chromium (CrVI)
- ☐ Electrical Conductivity (EC)
- ☐ Sodium Adsorption Ratio (SAR)

These CoPCs have the potential to be present in the soil matrix (and/or the groundwater situated beneath the Phase II Property).

Subsurface Structures and Utilities

Underground service locates were completed prior to the subsurface investigation, which identified underground water, sewer, hydro, and gas infrastructure beneath the Phase II Property.

Physical Setting

Site Stratigraphy

The stratigraphy of the Phase II Property generally consists of:

- ☐ Pavement Structure; consisting of a thin layer of asphalt over top of engineered fill material (brown silty sand with crushed stone) extending to depths ranging from approximately 0.6 m to 0.8 m to below ground surface.
- ☐ Glacial Till (BH1-25, BH2-25, and BH3-25 only); extending to depths ranging from approximately 1.9 m to 2.5 m below ground surface.
- ☐ Silty Clay (BH4-25, BH5-25, and BH6-25 only); extending to depths ranging from approximately 0.8 m to 1.5 m below ground surface.
- ☐ Shale Bedrock; extending to a depth of at least 6.2 m below ground surface (bottom of boreholes BH3-25 and BH4-25).

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

Hydrogeological Characteristics

The groundwater beneath the Phase II Property was encountered within the bedrock at depths ranging from approximately 1.9 m to 3.0 m below ground surface.

Based on the measured groundwater levels, the groundwater was calculated to flow in a northerly direction.

Approximate Depth to Bedrock

Bedrock, consisting of shale, was encountered in boreholes BH3-25 and BH4-25 at depths ranging from approximately 1.5 m to 2.0 m below ground surface. Practical refusal to augering on the inferred bedrock surface was measured in boreholes BH1-25, BH2-25, BH5-25, and BH6-25 at depths ranging from approximately 0.8 m to 2.5 m below ground surface.

Approximate Depth to Water Table

The groundwater beneath the Phase II Property was encountered within the bedrock at depths ranging from approximately 1.9 m to 3.0 m below ground surface.

Sections 41 and 43.1 of Ontario Regulation 153/04

Section 41 of the Regulation does not apply to the Phase II Property, as there are no bodies of water or areas of natural significance situated on or within 30 m of the Phase II Property. The Phase II Property is not considered to be environmentally sensitive.

Section 43.1 of the Regulation is considered to apply to the Phase II Property since the bedrock is situated at depths less than 2 m below ground surface. The Phase II Property is considered to be a shallow soil property.

Existing Buildings and Structures

The western portion of the Phase II Property is currently occupied by a two-storey commercial office building. No other buildings or structures are present on the Phase II Property.

Environmental Condition

Areas Where Contaminants are Present

The analytical test results obtained during this assessment indicate that the fill material beneath the surficial layer of asphalt at BH1-25 and BH2-25, located within the western parking lot, as well as at BH6-25, located within the eastern parking lot, is contaminated with metals (barium) and PAHs (fluoranthene).

EC and SAR levels detected in soil samples BH5-25-SS1B and BH6-25-SS1, as well as the concentration of sodium detected in groundwater sample BH103-25-GW1 are in excess of the selected MECP Table 7 Standards. These elevated levels are the result of the application of road salt on the Phase II Property during snow and ice conditions and thus, as per Section 49.1 of O. Reg 153/04, does not represent a contaminant issue.

Types of Contaminants

The analytical test results obtained during this assessment indicate that the concentrations of metals (barium) detected in the fill material at BH1-25 and BH2-25, as well as the concentration of PAHs (fluoranthene) detected in the fill material at BH6-25, exceed the selected MECP Table 7 Coarse-Grained Residential Soil Standards.

Contaminated Media

Based on the findings of this assessment, the fill material in the vicinity of BH1-25, BH2-25, and BH6-25 is contaminated with metals and/or PAHs.

What Is Known About Areas Where Contaminants Are Present

Based on what is known about the history of the Phase II Property, these contaminants are suspected to be the result of poor-quality fill material imported onto the site during its development.

Distribution and Migration of Contaminants

Based on the suspected origin of the contaminants likely resulting from the importation of poor-quality fill, it is anticipated that the contamination is contained within the fill material localized in the vicinity of BH1-25, BH2-25, and BH6-25. Furthermore, based on the low mobility of metal and PAH contaminants, as well as the clean groundwater results, the contamination is not suspected to have migrated into the water table.

Discharge of Contaminants

Based on the type of contaminants identified on the Phase II Property, it is likely that the contamination encountered is the result the importation of poor-quality fill material.

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 via the infiltration of precipitation, and the migration of contaminants via groundwater levels and/or flow, which may fluctuate seasonally.

Given the clean groundwater results obtained during this investigation, no downward migration of contaminants is suspected to have occurred on the Phase II Property.

Potential for Vapour Intrusion

Given that the Phase II Property will be redeveloped in the near future, all contaminated soil will be removed from the site in tandem with future excavation works. As a result, there is no potential for any future vapour intrusion on the Phase II Property.

6.0 CONCLUSIONS

Assessment

A Phase II ESA was carried out for the property addressed 1209 Michael Street North, in the City of Ottawa, Ontario. The purpose of the Phase II ESA was to address the potentially contaminating activities (PCAs) that were identified during the Phase I ESA and were considered to result in areas of potential environmental concern (APECs) on the Phase II Property.

The subsurface investigation for this assessment was conducted on November 5, 2025, and consisted of drilling six boreholes (BH1-25 to BH6-25) across the Phase II Property. Upon completion, BH3-25 and BH4-25 were advanced into the bedrock unit to a depth of approximately 6.2 m below ground surface and instrumented with groundwater monitoring wells in order to access the water table. The remaining boreholes were terminated on practical refusal to augering on the inferred bedrock surface at depths ranging from approximately 0.8 m to 2.5 m below ground surface. A monitoring well (BH103-25), previously installed by Cambium Inc. as part of a concurrent geotechnical investigation, was also utilized as part of this investigation.

In general, the subsurface soil profile encountered at the borehole locations consists of a thin pavement structure (asphalt over engineered fill), underlain by glacial till and/or brown silty clay. Bedrock was encountered in BH3-25 and BH4-25 at depths of approximately 2.0 m and 1.5 m below ground surface, respectively.

Eight soil samples were submitted for laboratory analysis of BTEX, PHCs (F₁-F₄), VOCs, PAHs, Metals, EC, SAR, and/or pH parameters. The results indicate that the concentrations of barium in Samples BH1-25-SS1 and BH2-25-SS1, as well as the concentration of fluoranthene in Sample BH6-25-SS1 are in excess of the selected MECP Table 7 Coarse-Grained Residential Soil Standards. All remaining parameters in the soil samples analyzed comply with the Standards.

The EC and SAR levels detected in Samples BH5-25-SS1B and BH6-25-SS1 are in excess of the selected MECP Table 7 Coarse-Grained Residential Soil Standards. These elevated levels are the result of the application of road salt on the Phase II Property during snow and ice conditions and thus, as per Section 49.1 of O. Reg 153/04, does not represent a contaminant issue.

Three groundwater samples were submitted for laboratory analysis of PHCs (F₁-F₄), VOCs, PAHs, and/or Metal parameters. The results indicate that all detected parameter concentrations in the groundwater samples analyzed comply with the selected MECP Table 7 Non-Potable Groundwater Standards.

The concentration of sodium in Sample BH103-25-GW1 is in excess of the selected MECP Table 7 Non-Potable Groundwater Standards. The elevated sodium level is the result of the application of road salt on the Phase II Property during snow and ice conditions and thus, as per Section 49.1 of O. Reg. 153/04, does not represent a contaminant issue.

Recommendations

Impacted Soil

Based on the findings of this assessment, the fill material encountered beneath the surficial layer of asphalt at BH1-25 and BH2-25, located within the western parking lot, as well as at BH6-25, located within the eastern parking lot, is contaminated with metals (barium) and PAHs (fluoranthene). As the Phase II Property is to be redeveloped in the future, it is our recommendation that the contaminated soil be remediated in conjunction with site excavation activities. At such a time, the contaminated soil will be excavated from the site and transported to a licensed waste disposal facility.

It is recommended that Paterson personnel be present on-site at the time of remedial activities to assist with the segregation of contaminated soil from clean soils, as well as to fulfill the confirmatory soil sampling requirements in accordance with Table 2 of O. Reg. 153/04.

Prior to the off-site disposal of impacted soil at a licensed waste disposal facility, a leachate analysis of a representative sample of contaminated soil must be conducted in accordance with O. Reg. 347/90 and O. Reg. 558/00.

Excess Soil

All excess soil generated during the proposed redevelopment of the Phase II Property must be handled in accordance with the requirements of O. Reg. 406/19: On-Site and Excess Soil Management. Additional excess soil testing and reporting requirements may be required prior to future site excavation activities, in accordance with O. Reg. 406/19.

Monitoring Wells

If the groundwater monitoring wells installed on-site are not going to be used in the future, or will be destroyed during future construction activities, then they must be decommissioned in accordance with O. Reg. 903/90 (Ontario Water Resources Act). Further information can be provided upon request in this regard. It is recommended that the monitoring wells be maintained for future sampling purposes. The monitoring wells will be registered with the MECP under this regulation.

7.0 STATEMENT OF LIMITATIONS

This Phase II – Environmental Site Assessment report has been prepared in general accordance with O.Reg. 153/04, as amended, and CSA Z769-00. 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 Phase II Property 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 Inside Edge Properties. Permission and notification from Inside Edge Properties and Paterson Group will be required prior to the release of this report to any other party.

Paterson Group Inc.



Nick Sullivan, B.Sc.



Michael Beaudoin, P.Eng., QP_{ESA}



Report Distribution:

- Inside Edge Properties
- Paterson Group Inc.

FIGURES

FIGURE 1 – KEY PLAN

DRAWING PE7253-1 – SITE PLAN

DRAWING PE7253-2 – SURROUNDING LAND USE PLAN

DRAWING PE7253-3 – TEST HOLE LOCATION PLAN

DRAWING PE7253-4 – ANALYTICAL TESTING PLAN – SOIL (PAHs)

DRAWING PE7253-4A – CROSS SECTION A-A' – SOIL (PAHs)

DRAWING PE7253-4B – CROSS SECTION B-B' – SOIL (PAHs)

DRAWING PE7253-5 – ANALYTICAL TESTING PLAN – SOIL (METALS)

DRAWING PE7253-5A – CROSS SECTION A-A' – SOIL (METALS)

DRAWING PE7253-5B – CROSS SECTION B-B' – SOIL (METALS)

DRAWING PE7253-6 – ANALYTICAL TESTING PLAN – SOIL (EC, SAR)

DRAWING PE7253-6A – CROSS SECTION A-A' – SOIL (EC, SAR)

DRAWING PE7253-6B – CROSS SECTION B-B' – SOIL (EC, SAR)

DRAWING PE7253-7 – ANALYTICAL TESTING PLAN – SOIL (EC, SAR)

DRAWING PE7253-7A – CROSS SECTION A-A' – SOIL (VOCs, BTEX, PHCs)

DRAWING PE7253-7B – CROSS SECTION B-B' – SOIL (VOCs, BTEX, PHCs)

DRAWING PE7253-8 – ANALYTICAL TESTING PLAN – GROUNDWATER

DRAWING PE7253-8A – CROSS SECTION A-A' – GROUNDWATER

DRAWING PE7253-8B – CROSS SECTION B-B' – GROUNDWATER

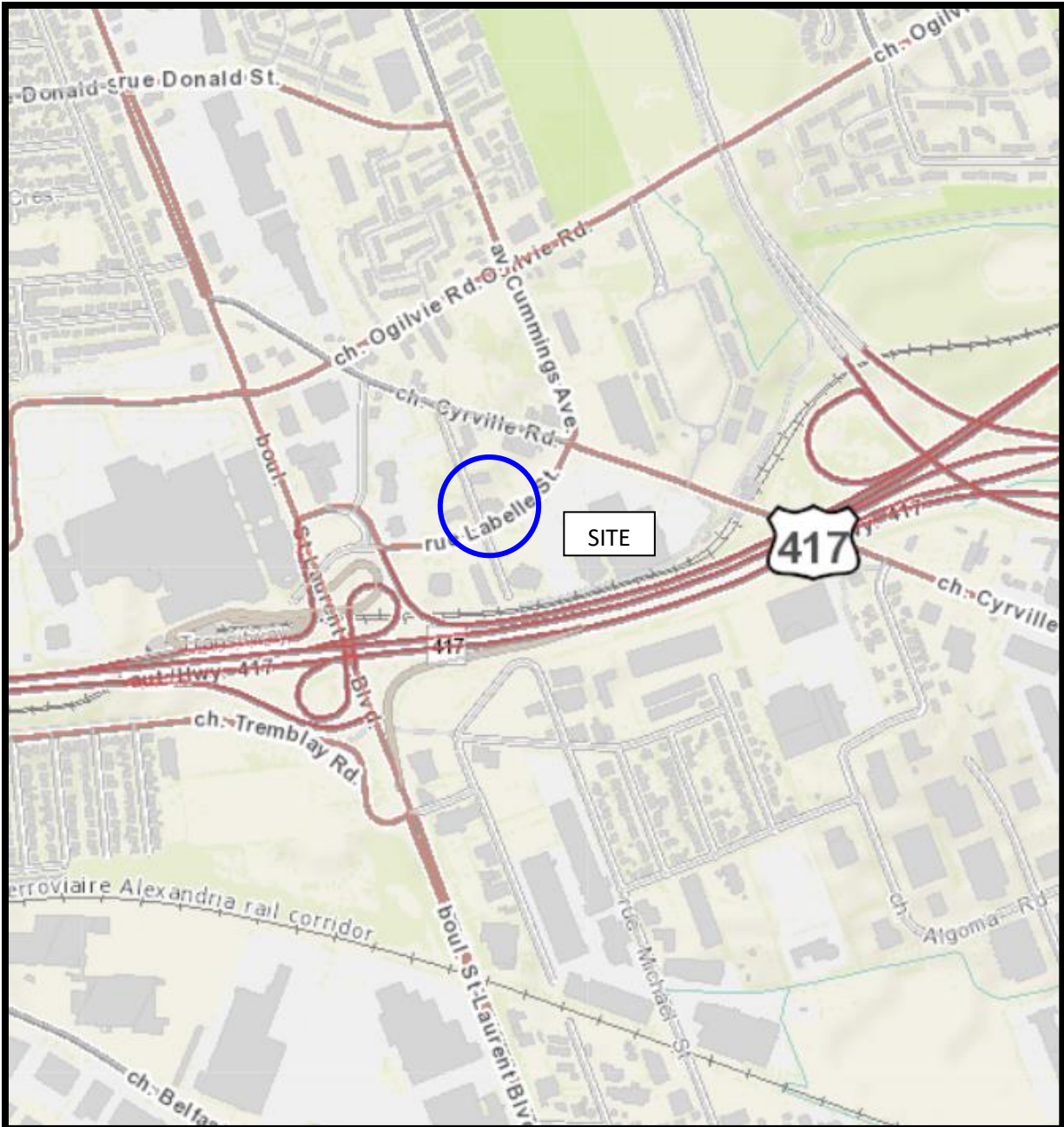
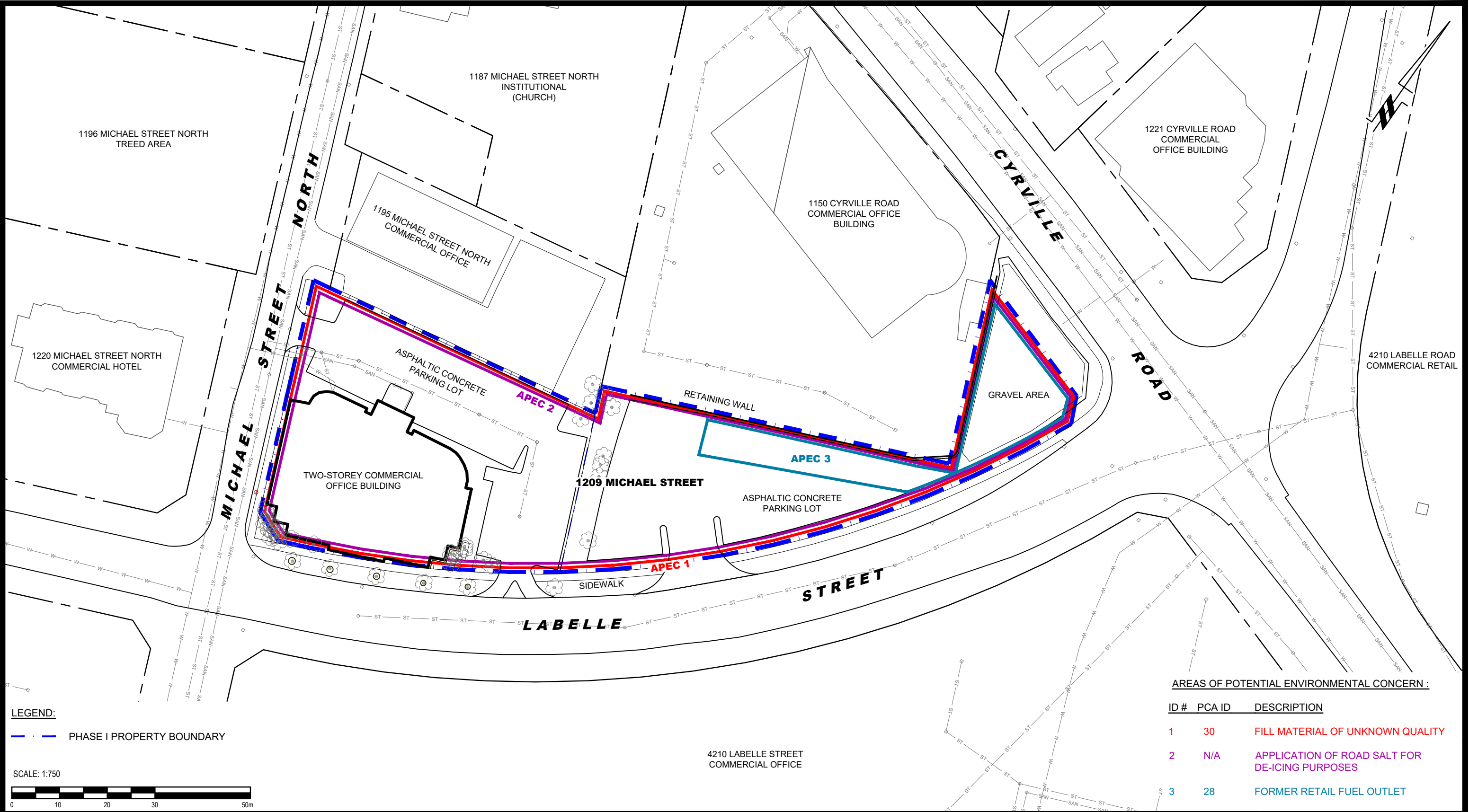


FIGURE 1
KEY PLAN



LEGEND:

— — — — — PHASE I PROPERTY BOUNDARY

SCALE: 1:750

AREAS OF POTENTIAL ENVIRONMENTAL CONCERN :

ID #	PCA ID	DESCRIPTION
1	30	FILL MATERIAL OF UNKNOWN QUALITY
2	N/A	APPLICATION OF ROAD SALT FOR DE-ICING PURPOSES
3	28	FORMER RETAIL FUEL OUTLET

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

NO.	REVISIONS	DATE	INITIAL

OTTAWA,
Title:

INSIDE EDGE PROPERTIES
PHASE I - ENVIRONMENTAL SITE ASSESSMENT
1209 MICHAEL STREET NORTH

ONTARIO

Scale:
1:750

Drawn by:
YA

Checked by:
NS

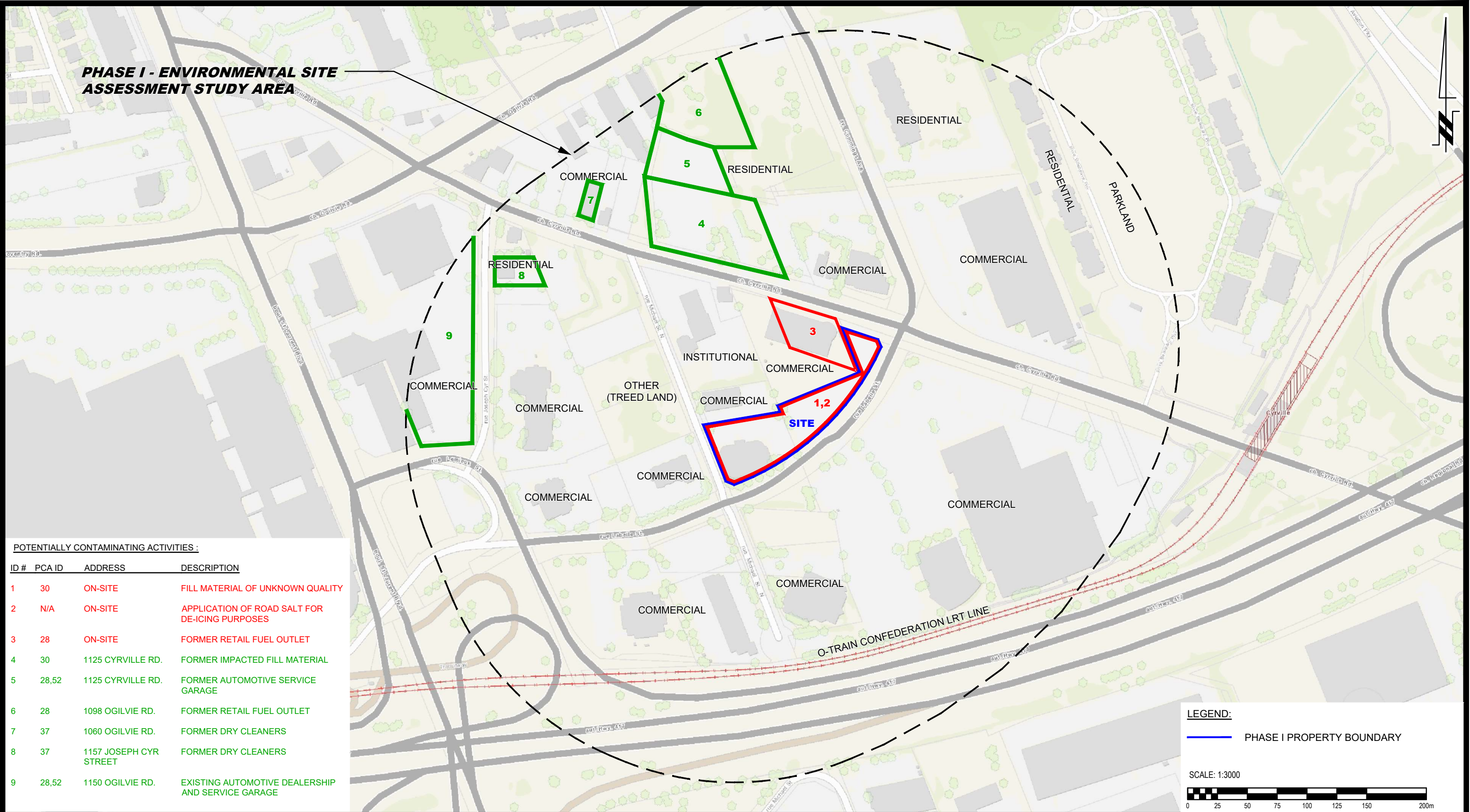
Approved by:
MB

Date:
12/2025

Report No.:
PE7253-1

Dwg. No.:
PE7253-1

Revision No.:



POTENTIALLY CONTAMINATING ACTIVITIES :

ID #	PCA ID	ADDRESS	DESCRIPTION
1	30	ON-SITE	FILL MATERIAL OF UNKNOWN QUALITY
2	N/A	ON-SITE	APPLICATION OF ROAD SALT FOR DE-ICING PURPOSES
3	28	ON-SITE	FORMER RETAIL FUEL OUTLET
4	30	1125 CYRVILLE RD.	FORMER IMPACTED FILL MATERIAL
5	28,52	1125 CYRVILLE RD.	FORMER AUTOMOTIVE SERVICE GARAGE
6	28	1098 OGILVIE RD.	FORMER RETAIL FUEL OUTLET
7	37	1060 OGILVIE RD.	FORMER DRY CLEANERS
8	37	1157 JOSEPH CYR STREET	FORMER DRY CLEANERS
9	28,52	1150 OGILVIE RD.	EXISTING AUTOMOTIVE DEALERSHIP AND SERVICE GARAGE

LEGEND:

— PHASE I PROPERTY BOUNDARY

SCALE: 1:3000

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INSIDE EDGE PROPERTIES

PHASE I - ENVIRONMENTAL SITE ASSESSMENT

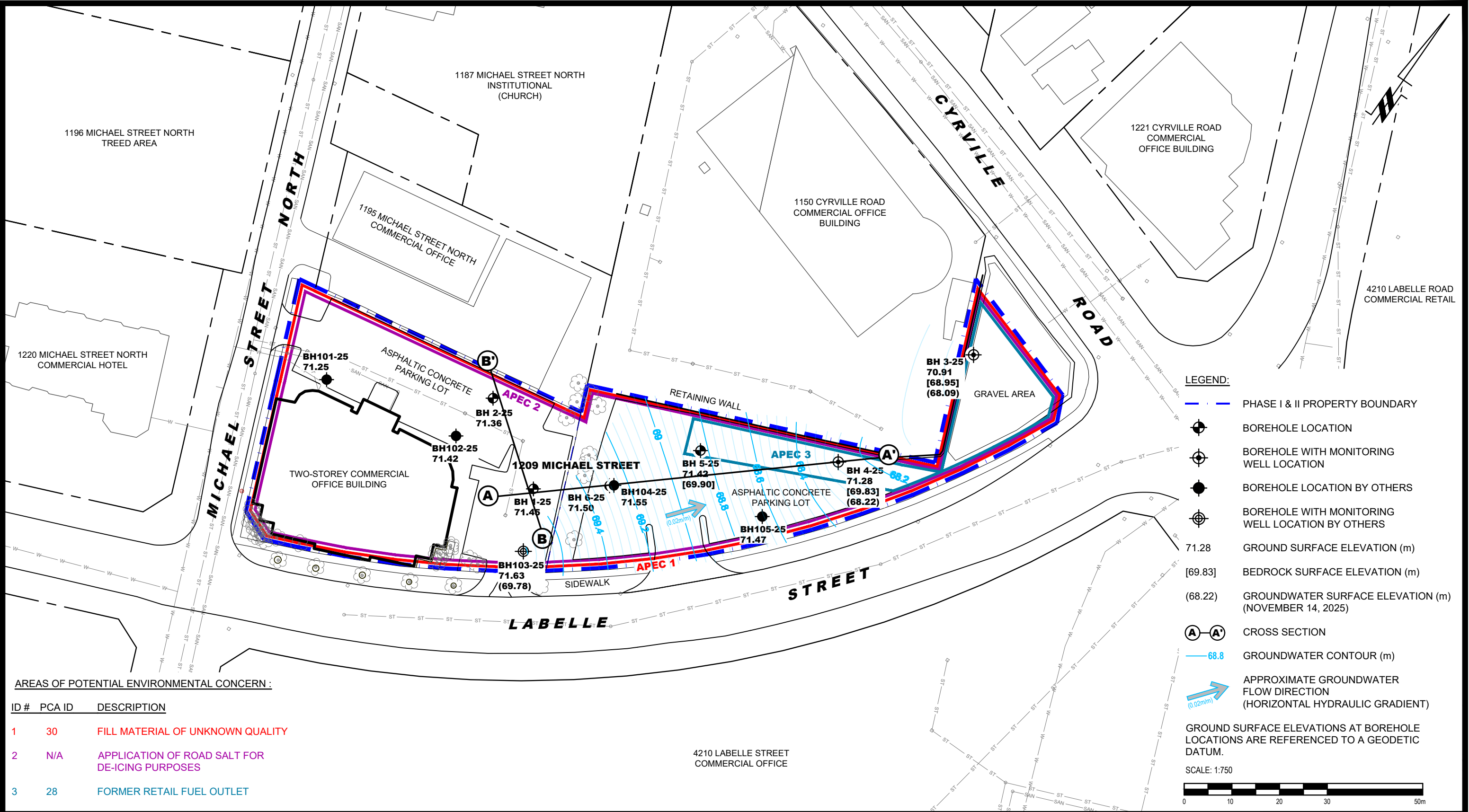
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OTTAWA, ONTARIO

Title:

SURROUNDING LAND USE PLAN

Scale:	1:3000	Date:	12/2025
Drawn by:	YA	Report No.:	PE7253-1
Checked by:	NS	Dwg. No.:	PE7253-2
Approved by:	MB	Revision No.:	



AREAS OF POTENTIAL ENVIRONMENTAL CONCERN :

ID #	PCA ID	DESCRIPTION
1	30	FILL MATERIAL OF UNKNOWN QUALITY
2	N/A	APPLICATION OF ROAD SALT FOR DE-ICING PURPOSES
3	28	FORMER RETAIL FUEL OUTLET



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OTTAWA,
Title:

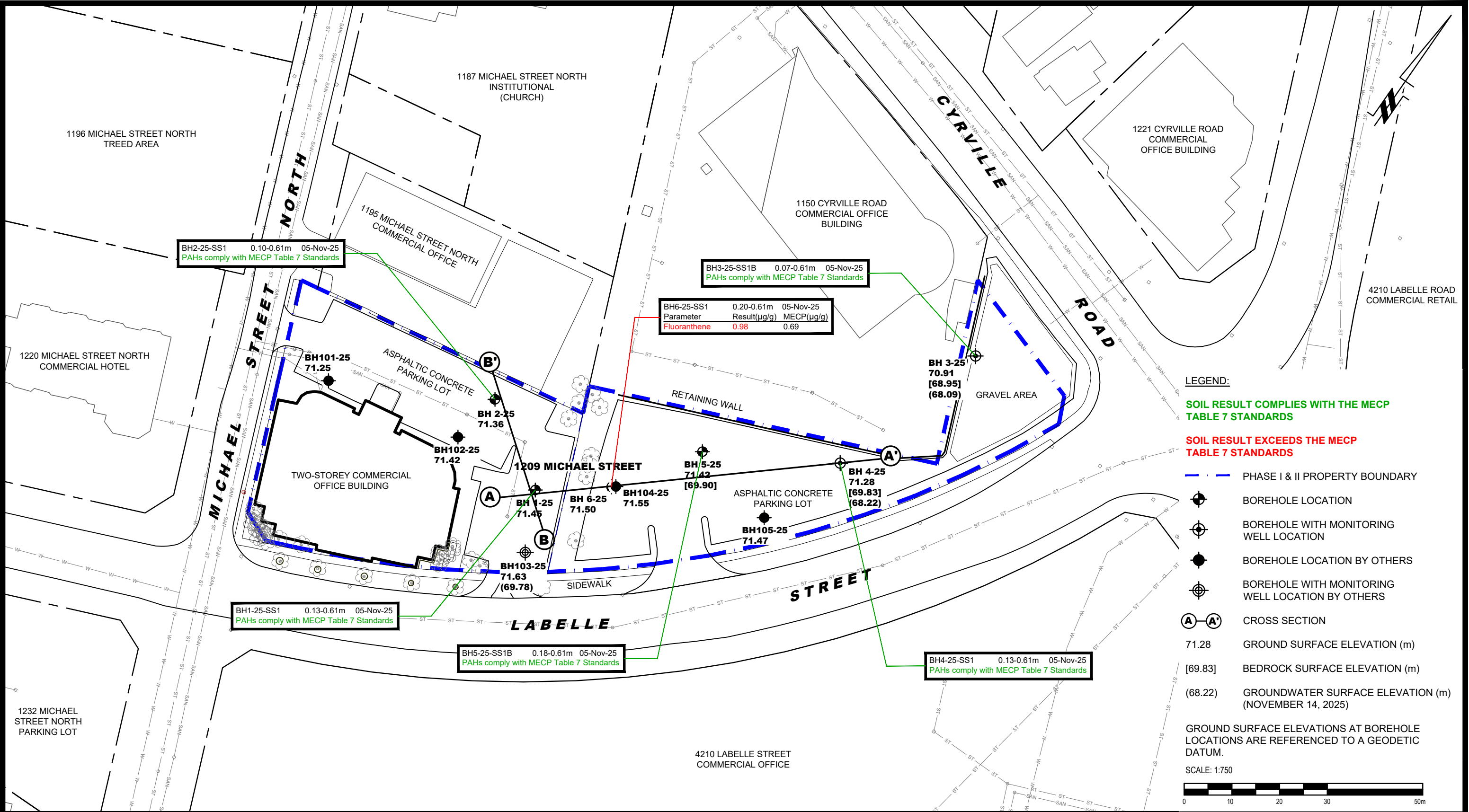
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INSIDE EDGE PROPERTIES
PHASE II - ENVIRONMENTAL SITE ASSESSMENT
1209 MICHAEL STREET NORTH

TEST HOLE LOCATION PLAN

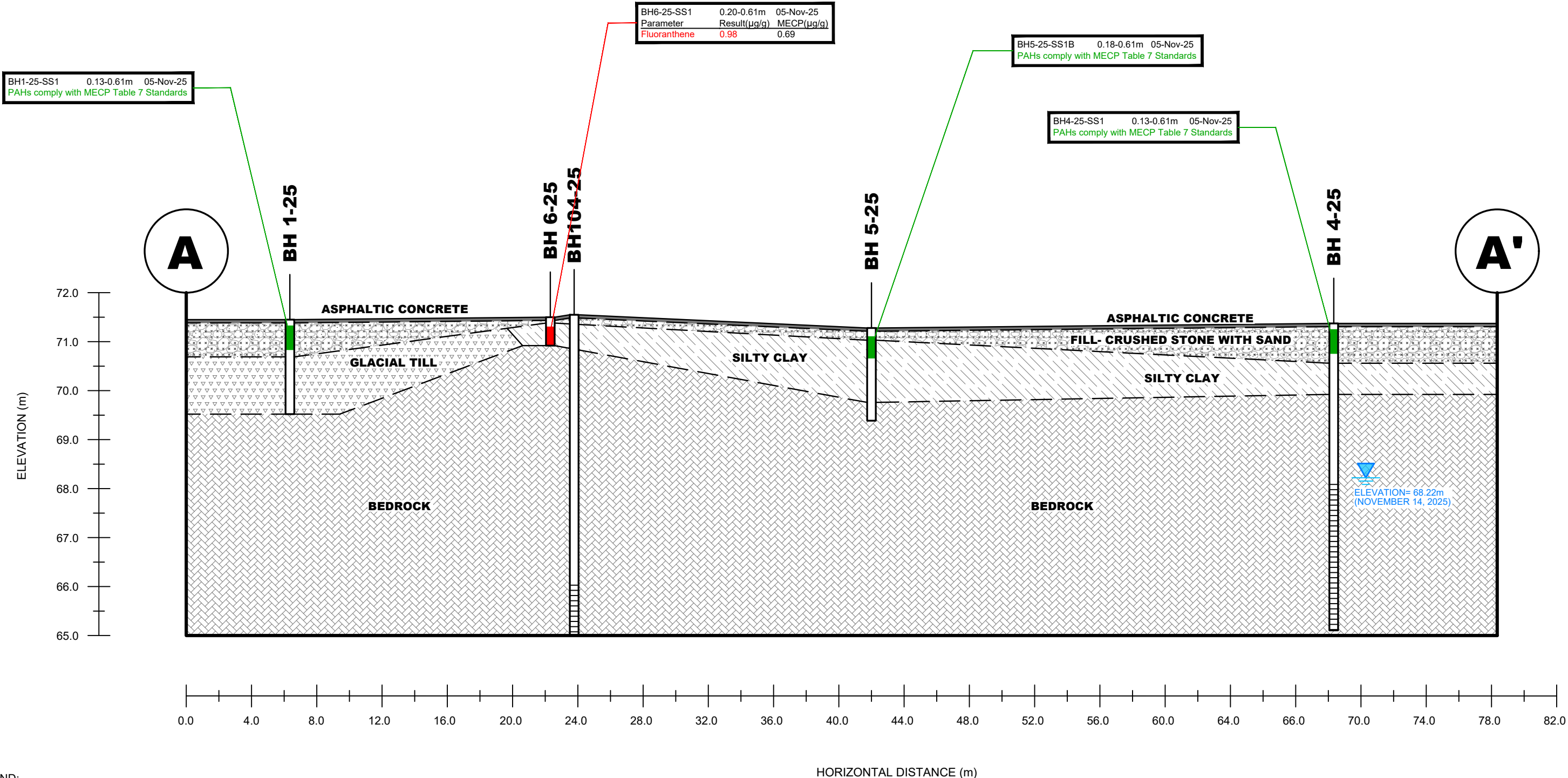
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Drawn by: YA
Checked by: NS
Approved by: MB

Date: 01/2026
Report No.: PE7253-2
Dwg. No.: PE7253-3
Revision No.:



- LEGEND:**
- SOIL RESULT COMPLIES WITH THE MECP TABLE 7 STANDARDS**
- SOIL RESULT EXCEEDS THE MECP TABLE 7 STANDARDS**
- PHASE I & II PROPERTY BOUNDARY
 - BOREHOLE LOCATION
 - ⊕ BOREHOLE WITH MONITORING WELL LOCATION
 - BOREHOLE LOCATION BY OTHERS
 - ⊕ BOREHOLE WITH MONITORING WELL LOCATION BY OTHERS
 - Ⓐ-Ⓐ' CROSS SECTION
 - 71.28 GROUND SURFACE ELEVATION (m)
 - [69.83] BEDROCK SURFACE ELEVATION (m)
 - (68.22) GROUNDWATER SURFACE ELEVATION (m) (NOVEMBER 14, 2025)
- GROUND SURFACE ELEVATIONS AT BOREHOLE LOCATIONS ARE REFERENCED TO A GEODETIC DATUM.
- SCALE: 1:750

 9 AURIGA DRIVE OTTAWA, ON K2E 7T9 TEL: (613) 226-7381					INSIDE EDGE PROPERTIES PHASE II - ENVIRONMENTAL SITE ASSESSMENT 1209 MICHAEL STREET NORTH OTTAWA, ONTARIO	Scale: 1:750	Date: 01/2026
						Drawn by: YA	Report No.: PE7253-2
						Checked by: NS	Dwg. No.: PE7253-4
						Approved by: MB	
					Title: ANALYTICAL TESTING PLAN - SOIL (PAHs)		
NO.	REVISIONS	DATE	INITIAL				



LEGEND:

SOIL RESULT COMPLIES WITH THE MECP TABLE 7 STANDARDS

SOIL RESULT EXCEEDS THE MECP TABLE 7 STANDARDS



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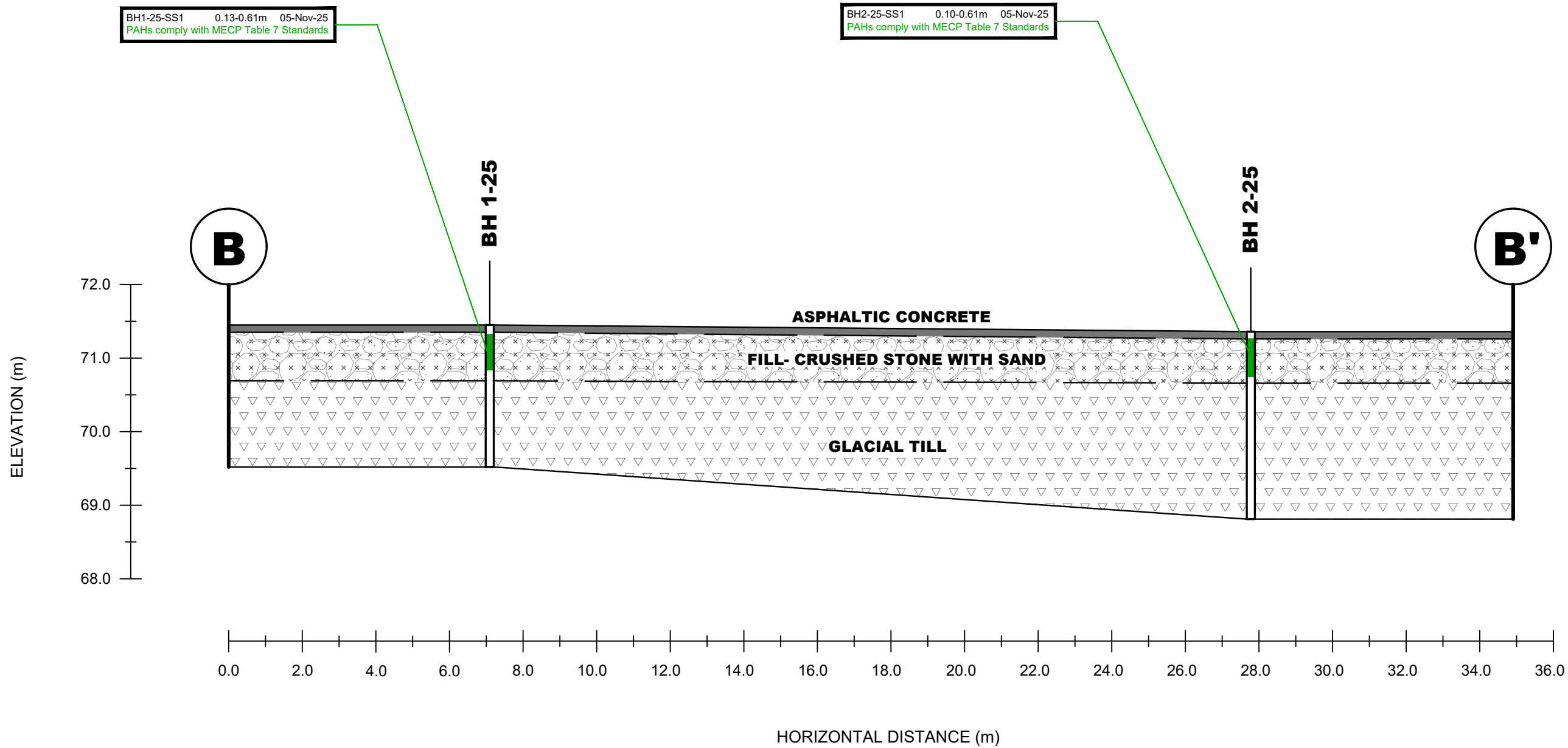
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INSIDE EDGE PROPERTIES
PHASE II - ENVIRONMENTAL SITE ASSESSMENT
1209 MICHAEL STREET NORTH

OTTAWA, ONTARIO

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

Scale:	AS SHOWN	Date:	01/2026
Drawn by:	YA	Report No.:	PE7253-2
Checked by:	NS	Dwg. No.:	PE7253-4A
Approved by:	MB	Revision No.:	



LEGEND:

SOIL RESULT COMPLIES WITH THE MECP
TABLE 7 STANDARDS

SOIL RESULT EXCEEDS THE MECP
TABLE 7 STANDARDS



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GROUP**

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NO.	REVISIONS	DATE	INITIAL

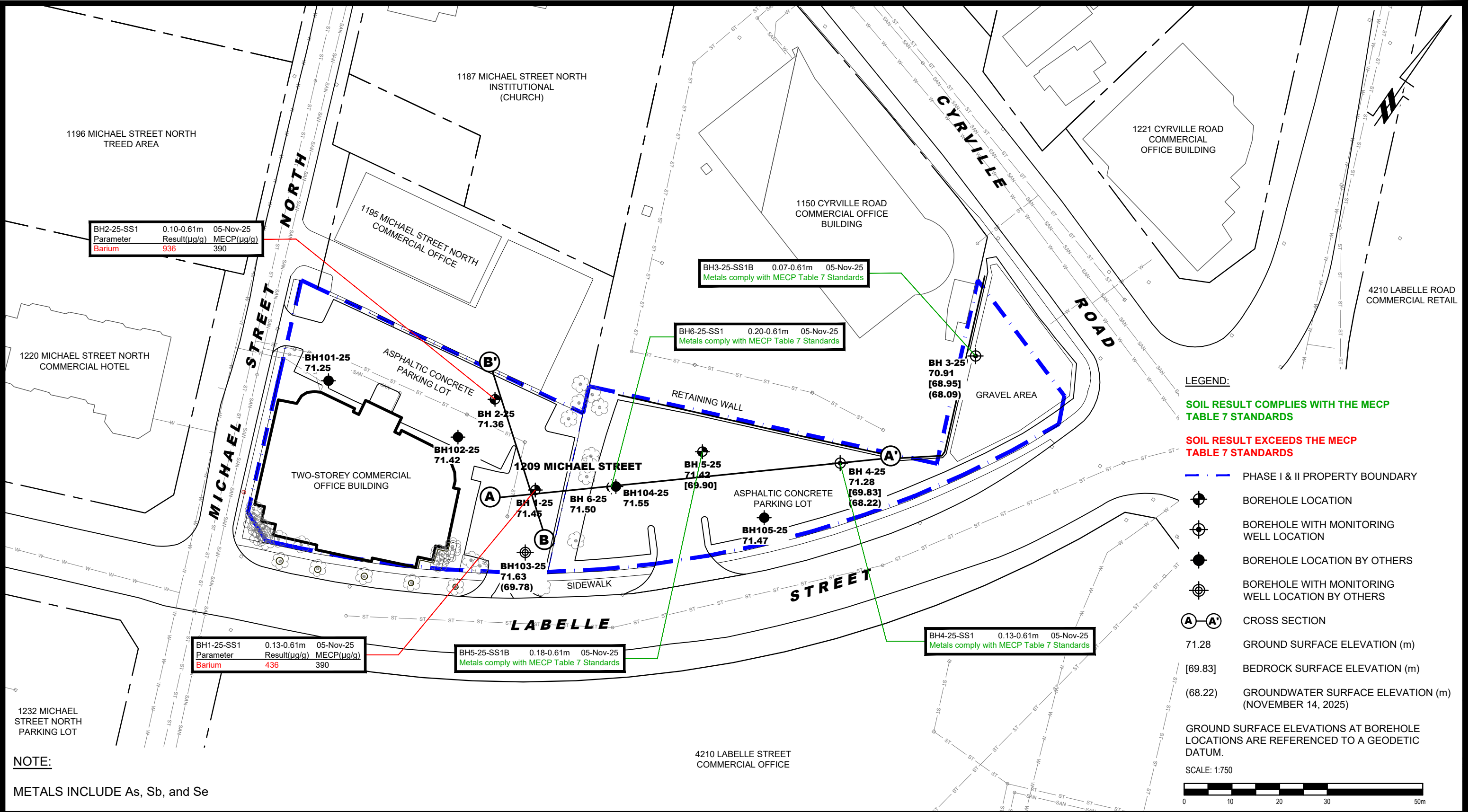
INSIDE EDGE PROPERTIES
PHASE II - ENVIRONMENTAL SITE ASSESSMENT
1209 MICHAEL STREET NORTH

OTTAWA,
Title:

ONTARIO

CROSS SECTION B-B' - SOIL
(PAHs)

Scale:	AS SHOWN	Date:	01/2026
Drawn by:	YA	Report No.:	PE7253-2
Checked by:	NS	Dwg. No.:	PE7253-4B
Approved by:	MB	Revision No.:	



NOTE:
METALS INCLUDE As, Sb, and Se



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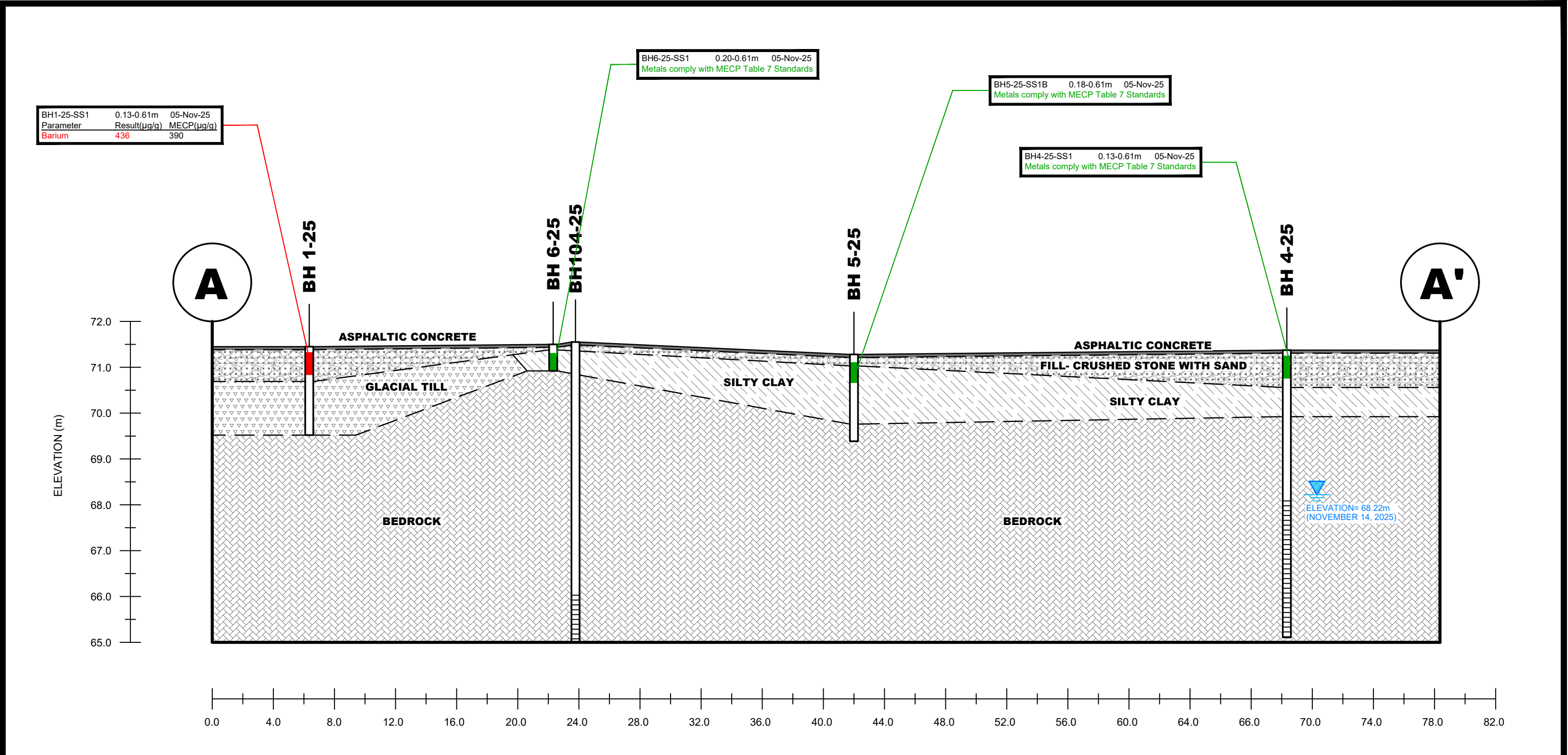
NO.	REVISIONS	DATE	INITIAL

OTTAWA,
Title:

INSIDE EDGE PROPERTIES
PHASE II - ENVIRONMENTAL SITE ASSESSMENT
1209 MICHAEL STREET NORTH
ANALYTICAL TESTING PLAN - SOIL (METALS)

ONTARIO

Scale:	1:750	Date:	01/2026
Drawn by:	YA	Report No.:	PE7253-2
Checked by:	NS	Dwg. No.:	PE7253-5
Approved by:	MB	Revision No.:	



LEGEND:

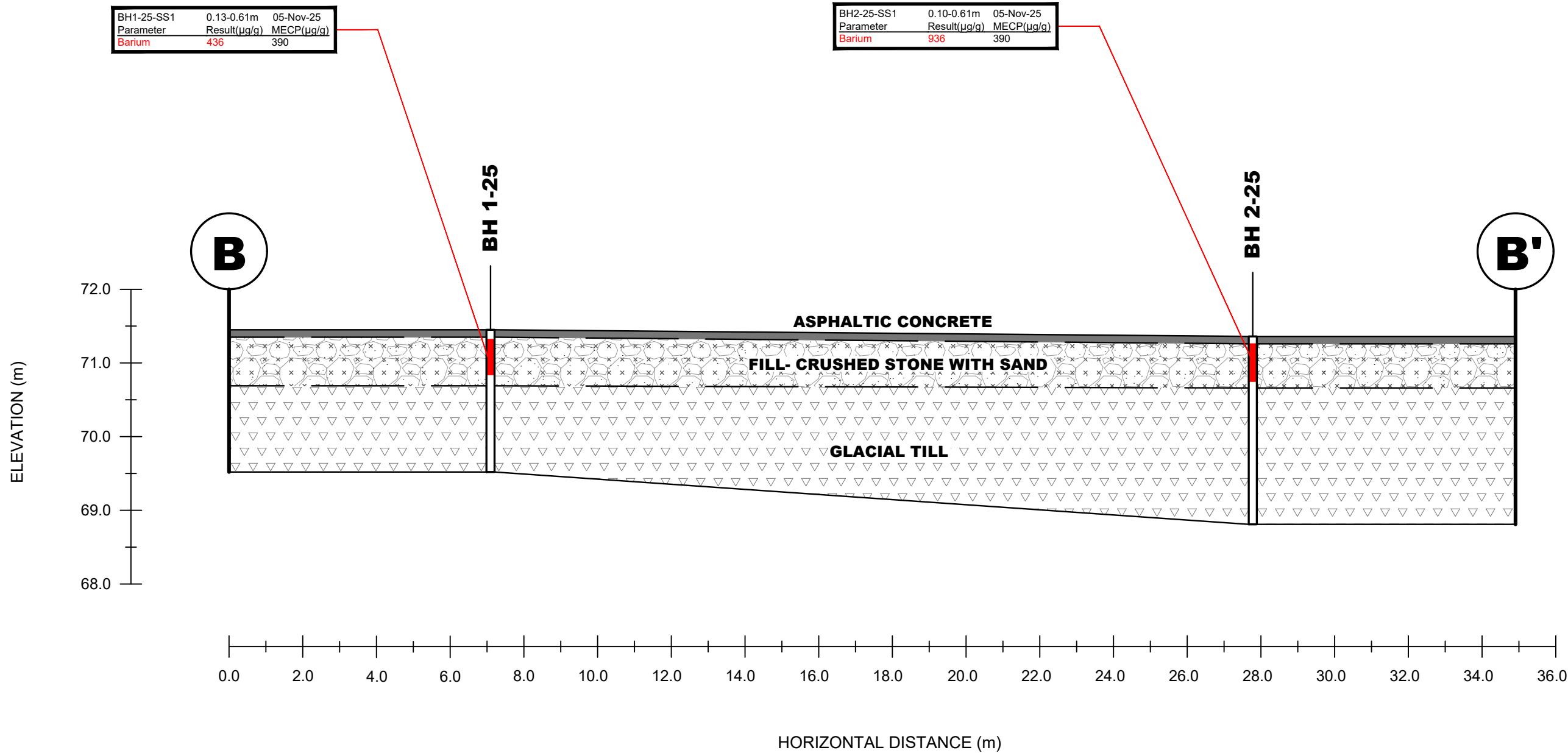
SOIL RESULT COMPLIES WITH THE MECP
TABLE 7 STANDARDS

SOIL RESULT EXCEEDS THE MECP
TABLE 7 STANDARDS

NOTE:

METALS INCLUDE As, Sb, and Se

PATERSON GROUP 9 AURIGA DRIVE OTTAWA, ON K2E 7T9 TEL: (613) 226-7381					INSIDE EDGE PROPERTIES PHASE II - ENVIRONMENTAL SITE ASSESSMENT 1209 MICHAEL STREET NORTH OTTAWA, ONTARIO	Scale: AS SHOWN	Date: 01/2026
						Drawn by: YA	Report No.: PE7253-2
						Checked by: NS	Dwg. No.: PE7253-5A
						Approved by: MB	
					CROSS SECTION A-A' - SOIL (METALS)		
NO.	REVISIONS	DATE	INITIAL				



LEGEND:

SOIL RESULT COMPLIES WITH THE MECP
TABLE 7 STANDARDS

SOIL RESULT EXCEEDS THE MECP
TABLE 7 STANDARDS

NOTE:

METALS INCLUDE As, Sb, and Se



**PATERSON
GROUP**

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

NO.	REVISIONS	DATE	INITIAL

INSIDE EDGE PROPERTIES

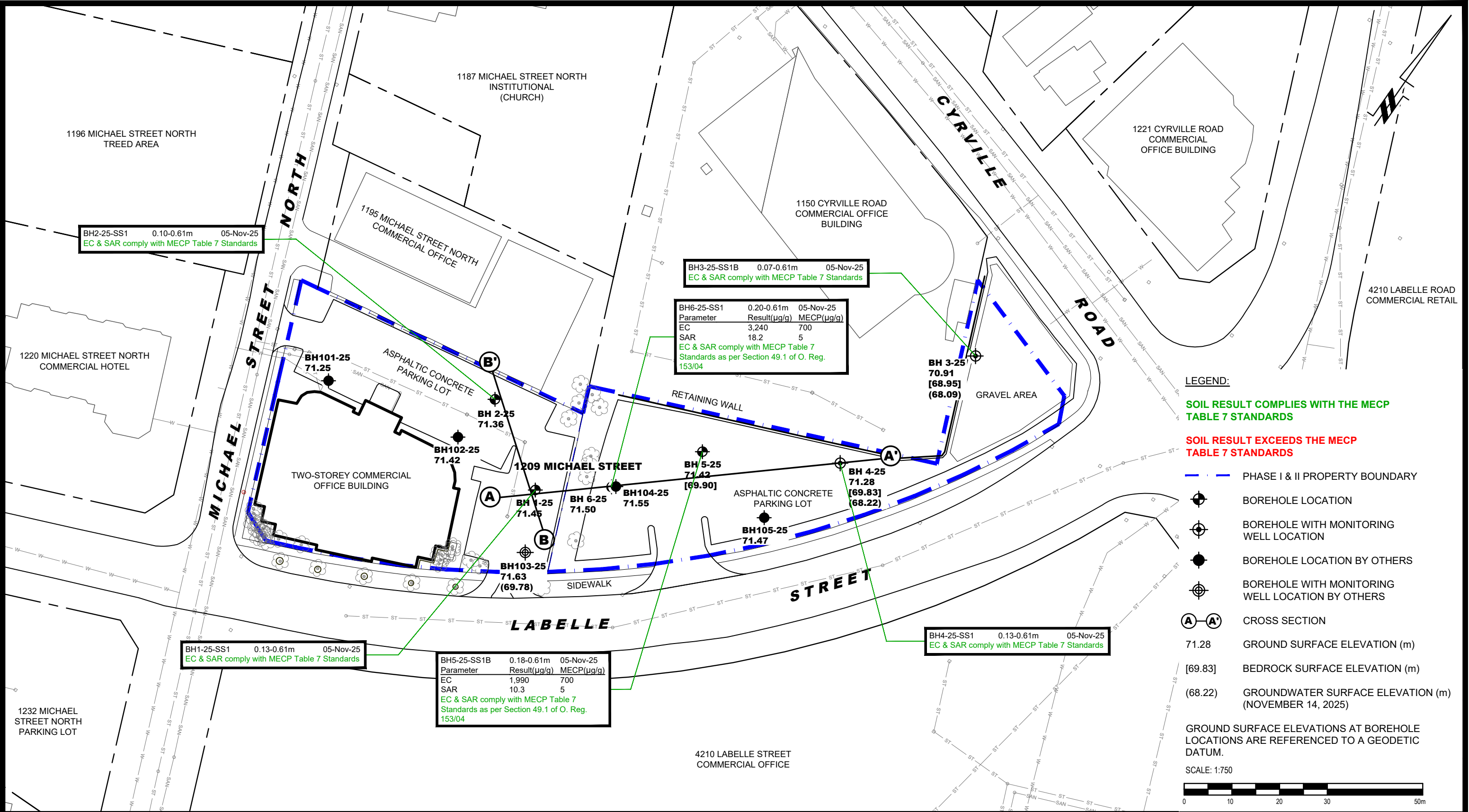
PHASE II - ENVIRONMENTAL SITE ASSESSMENT

1209 MICHAEL STREET NORTH

OTTAWA, ONTARIO

Title: CROSS SECTION B-B' - SOIL (METALS)

Scale:	AS SHOWN	Date:	01/2026
Drawn by:	YA	Report No.:	PE7253-2
Checked by:	NS	Dwg. No.:	PE7253-5B
Approved by:	MB	Revision No.:	





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NO.	REVISIONS	DATE	INITIAL

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Title:

ONTARIO

INSIDE EDGE PROPERTIES
PHASE II - ENVIRONMENTAL SITE ASSESSMENT
1209 MICHAEL STREET NORTH

**ANALYTICAL TESTING PLAN - SOIL
(EC, SAR)**

Scale: 1:750

Drawn by: YA

Checked by: NS

Approved by: MB

Date: 01/2026

Report No.: PE7253-2

Dwg. No.: **PE7253-6**

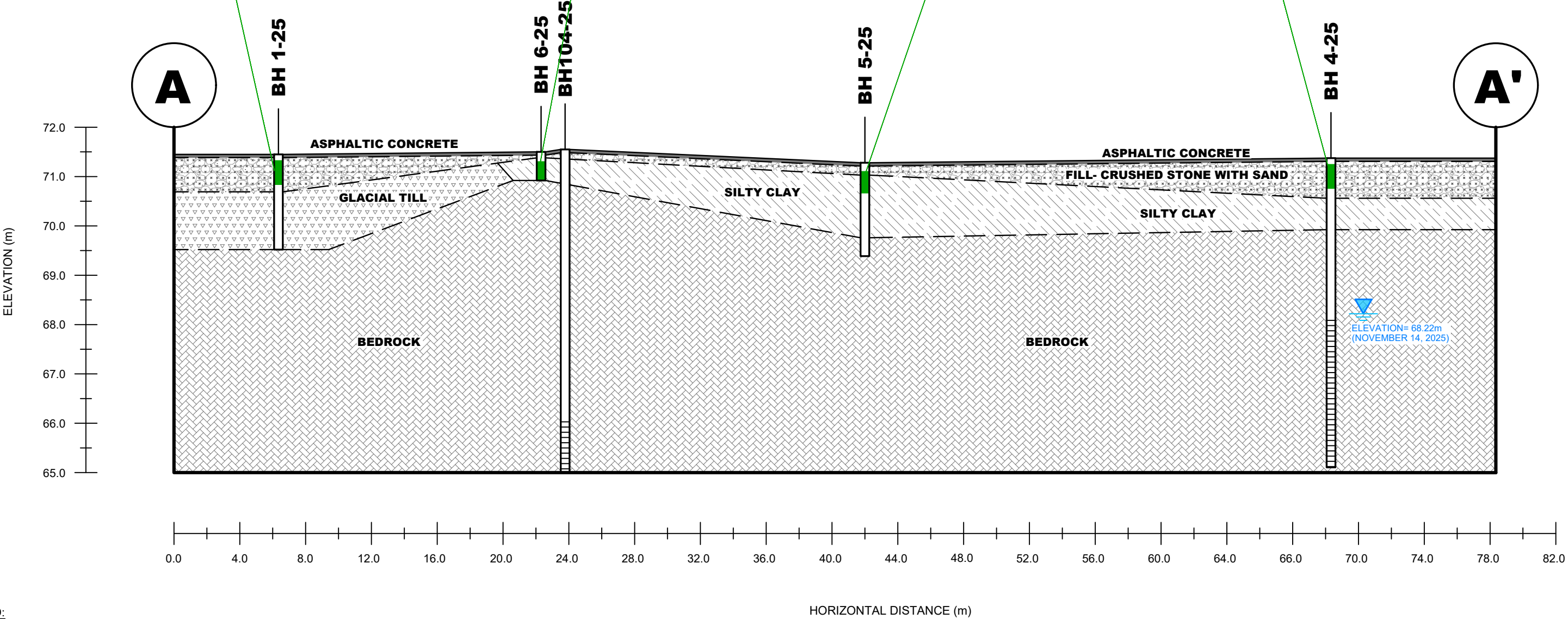
Revision No.:

BH1-25-SS1	0.13-0.61m	05-Nov-25
Parameter	Result(µg/g)	MECP(µg/g)
EC	3,240	700
SAR	18.2	5
EC & SAR comply with MECP Table 7 Standards as per Section 49.1 of O. Reg. 153/04		

BH6-25-SS1	0.20-0.61m	05-Nov-25
Parameter	Result(µg/g)	MECP(µg/g)
EC	3,240	700
SAR	18.2	5
EC & SAR comply with MECP Table 7 Standards as per Section 49.1 of O. Reg. 153/04		

BH5-25-SS1B	0.18-0.61m	05-Nov-25
Parameter	Result(µg/g)	MECP(µg/g)
EC	1,990	700
SAR	10.3	5
EC & SAR comply with MECP Table 7 Standards as per Section 49.1 of O. Reg. 153/04		

BH4-25-SS1	0.13-0.61m	05-Nov-25
EC & SAR comply with MECP Table 7 Standards		

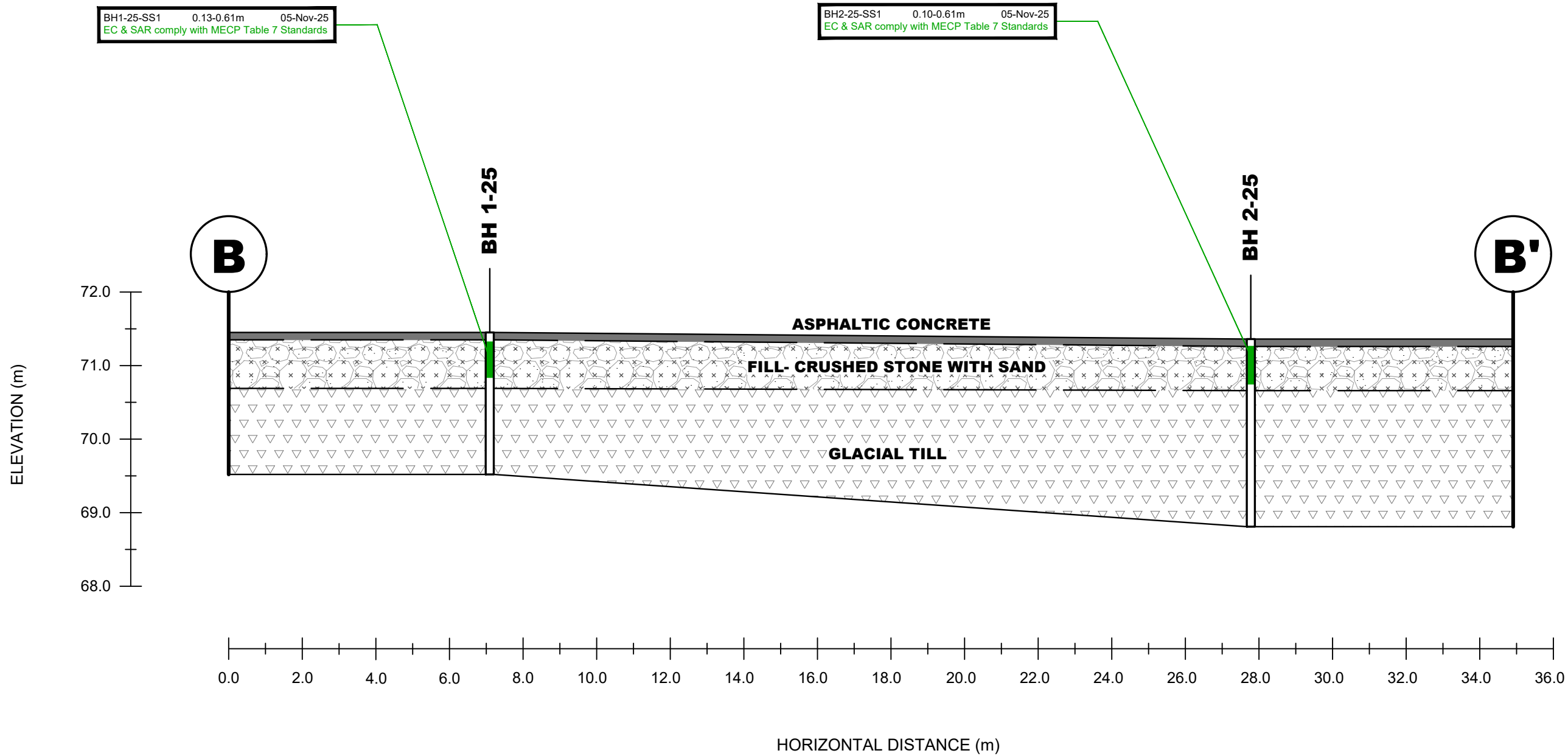


LEGEND:

SOIL RESULT COMPLIES WITH THE MECP
TABLE 7 STANDARDS

SOIL RESULT EXCEEDS THE MECP
TABLE 7 STANDARDS

 9 AURIGA DRIVE OTTAWA, ON K2E 7T9 TEL: (613) 226-7381				INSIDE EDGE PROPERTIES PHASE II - ENVIRONMENTAL SITE ASSESSMENT 1209 MICHAEL STREET NORTH OTTAWA, ONTARIO	Scale: AS SHOWN	Date: 01/2026
					Drawn by: YA	Report No.: PE7253-2
				CROSS SECTION A-A' - SOIL (EC, SAR)	Checked by: NS	Dwg. No.: PE7253-6A
					Approved by: MB	Revision No.:
	NO.	REVISIONS	DATE	INITIAL		

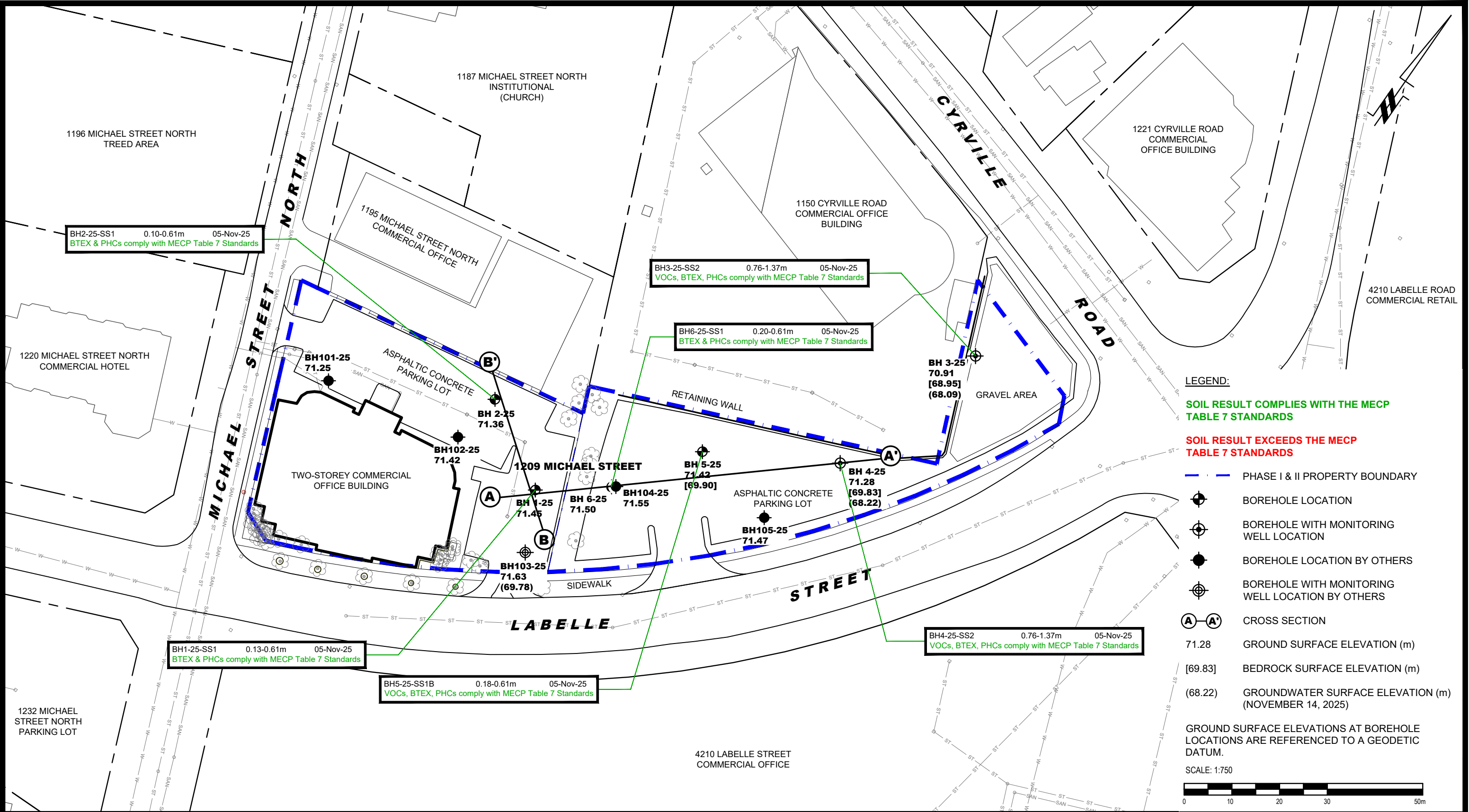


LEGEND:

SOIL RESULT COMPLIES WITH THE MECP
TABLE 7 STANDARDS

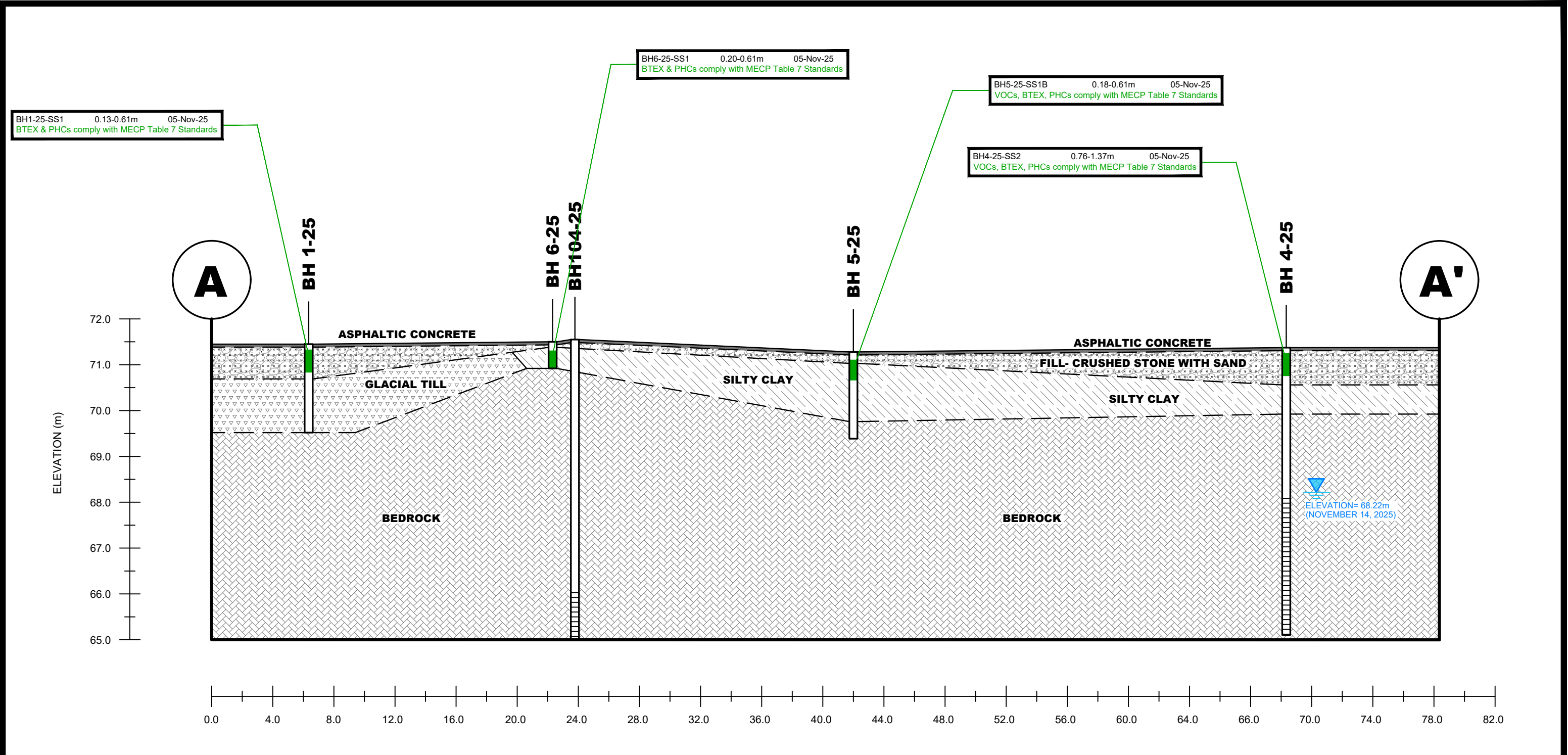
SOIL RESULT EXCEEDS THE MECP
TABLE 7 STANDARDS

 9 AURIGA DRIVE OTTAWA, ON K2E 7T9 TEL: (613) 226-7381				INSIDE EDGE PROPERTIES PHASE II - ENVIRONMENTAL SITE ASSESSMENT 1209 MICHAEL STREET NORTH OTTAWA, ONTARIO	Scale: AS SHOWN	Date: 01/2026
					Drawn by: YA	Report No.: PE7253-2
					Checked by: NS	Dwg. No.: PE7253-6B
					Approved by: MB	Revision No.:
	NO.	REVISIONS	DATE	INITIAL		



- LEGEND:**
- SOIL RESULT COMPLIES WITH THE MECP TABLE 7 STANDARDS**
- SOIL RESULT EXCEEDS THE MECP TABLE 7 STANDARDS**
- PHASE I & II PROPERTY BOUNDARY
 - BOREHOLE LOCATION
 - ⊕ BOREHOLE WITH MONITORING WELL LOCATION
 - BOREHOLE LOCATION BY OTHERS
 - ⊕ BOREHOLE WITH MONITORING WELL LOCATION BY OTHERS
 - Ⓐ-Ⓐ' CROSS SECTION
 - 71.28 GROUND SURFACE ELEVATION (m)
 - [69.83] BEDROCK SURFACE ELEVATION (m)
 - (68.22) GROUNDWATER SURFACE ELEVATION (m) (NOVEMBER 14, 2025)
- GROUND SURFACE ELEVATIONS AT BOREHOLE LOCATIONS ARE REFERENCED TO A GEODETIC DATUM.
- SCALE: 1:750
-

 PATERSON GROUP 9 AURIGA DRIVE OTTAWA, ON K2E 7T9 TEL: (613) 226-7381					INSIDE EDGE PROPERTIES PHASE II - ENVIRONMENTAL SITE ASSESSMENT 1209 MICHAEL STREET NORTH OTTAWA, ONTARIO	Scale: 1:750	Date: 01/2026
						Drawn by: YA	Report No.: PE7253-2
						Checked by: NS	Dwg. No.: PE7253-7
						Approved by: MB	
					Title: ANALYTICAL TESTING PLAN - SOIL (VOCs, BTEX, PHCs)		
NO.	REVISIONS	DATE	INITIAL				

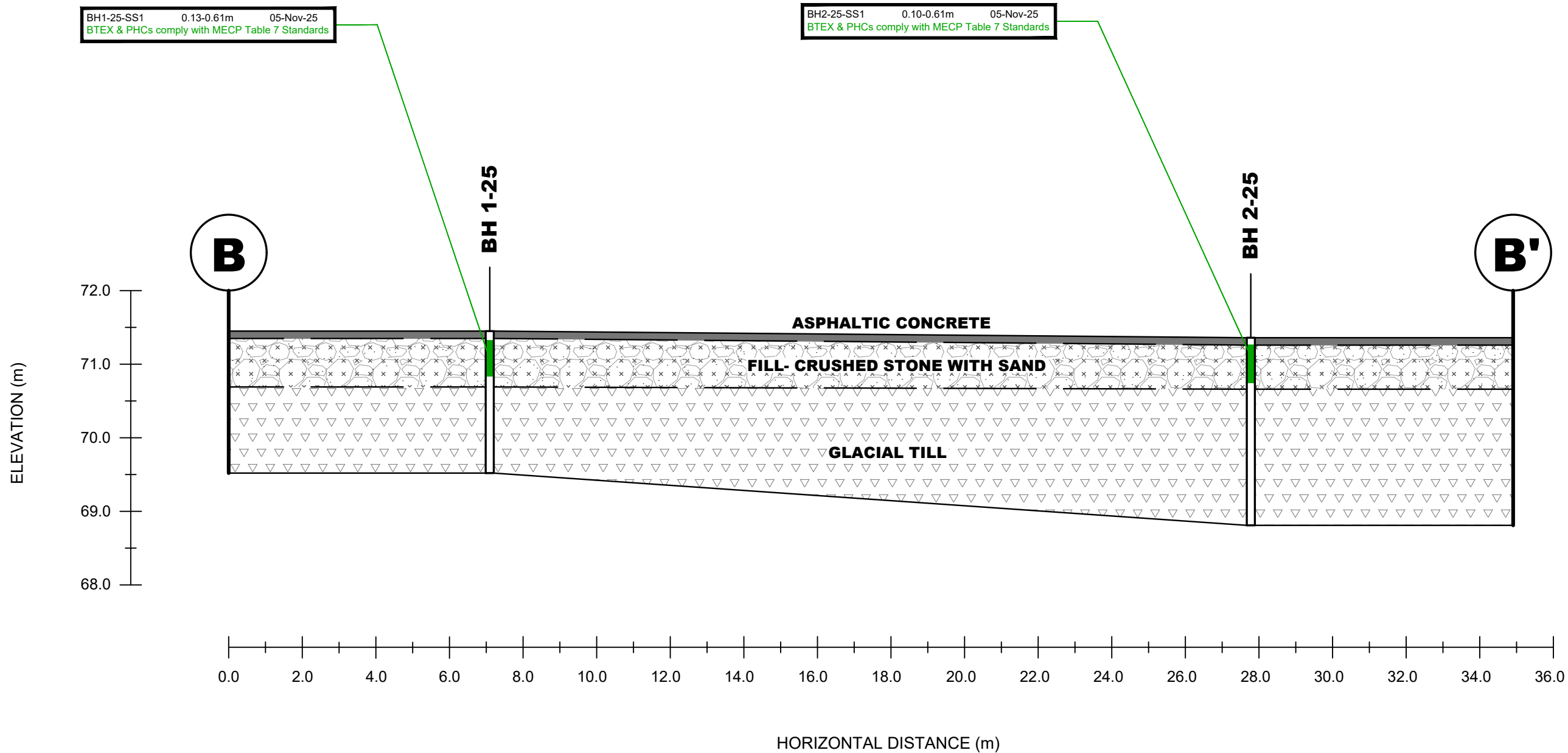


LEGEND:

SOIL RESULT COMPLIES WITH THE MECP TABLE 7 STANDARDS

SOIL RESULT EXCEEDS THE MECP TABLE 7 STANDARDS

 9 AURIGA DRIVE OTTAWA, ON K2E 7T9 TEL: (613) 226-7381					INSIDE EDGE PROPERTIES PHASE II - ENVIRONMENTAL SITE ASSESSMENT 1209 MICHAEL STREET NORTH OTTAWA, ONTARIO	Scale: AS SHOWN	Date: 01/2026
						Drawn by: YA	Report No.: PE7253-2
						Checked by: NS	Dwg. No.: PE7253-7A
						Approved by: MB	
					CROSS SECTION A-A' - SOIL (VOCs, BTEX, PHCs)		
NO.	REVISIONS	DATE	INITIAL				



LEGEND:

SOIL RESULT COMPLIES WITH THE MECP
TABLE 7 STANDARDS

SOIL RESULT EXCEEDS THE MECP
TABLE 7 STANDARDS



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NO.	REVISIONS	DATE	INITIAL

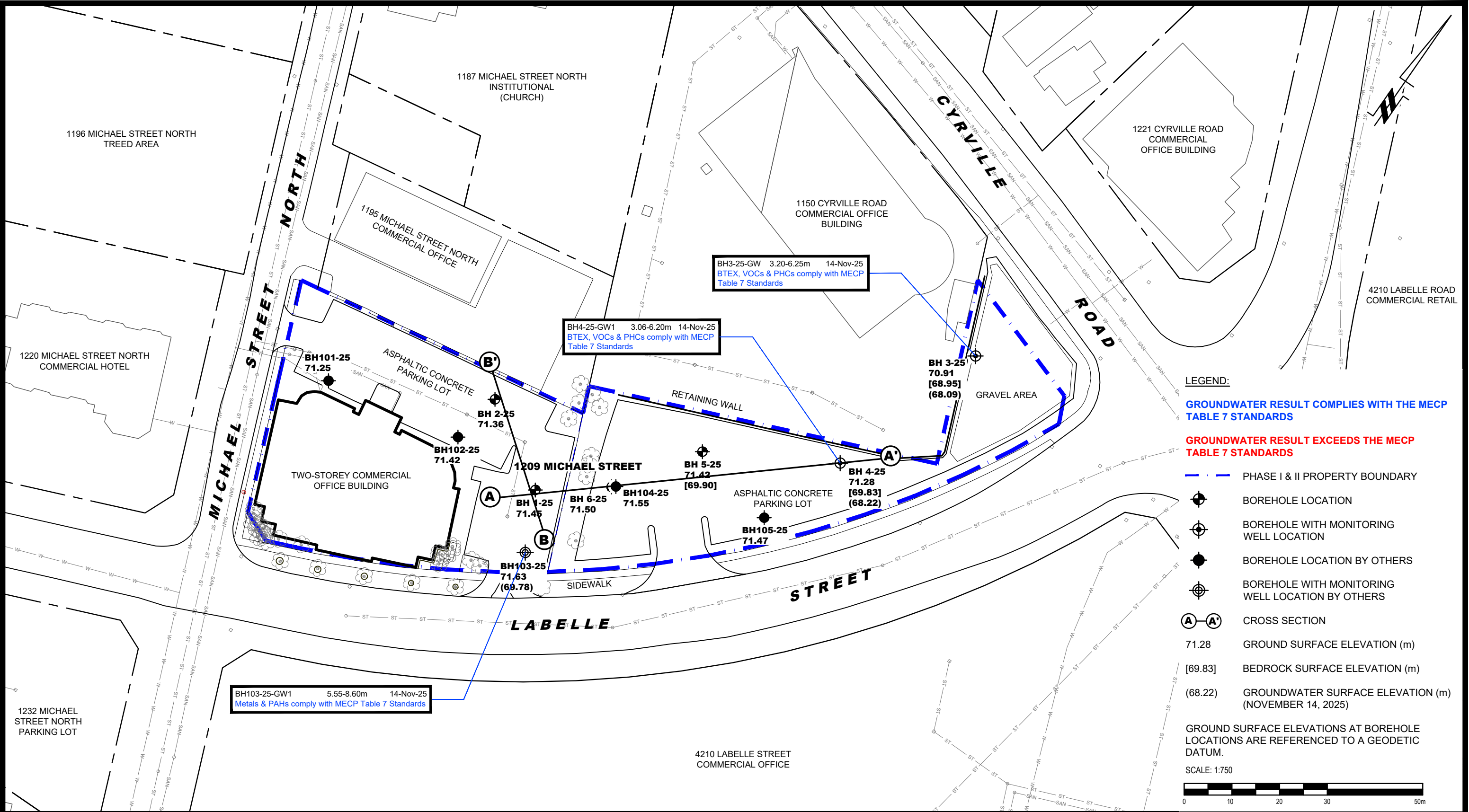
INSIDE EDGE PROPERTIES
PHASE II - ENVIRONMENTAL SITE ASSESSMENT
1209 MICHAEL STREET NORTH

OTTAWA,
Title:

ONTARIO

CROSS SECTION B-B' - SOIL
(VOCs, BTEX, PHCs)

Scale:	AS SHOWN	Date:	01/2026
Drawn by:	YA	Report No.:	PE7253-2
Checked by:	NS	Dwg. No.:	PE7253-7B
Approved by:	MB	Revision No.:	



LEGEND:

GROUNDWATER RESULT COMPLIES WITH THE MECP TABLE 7 STANDARDS

GROUNDWATER RESULT EXCEEDS THE MECP TABLE 7 STANDARDS

— PHASE I & II PROPERTY BOUNDARY

⊕ BOREHOLE LOCATION

⊕ BOREHOLE WITH MONITORING WELL LOCATION

● BOREHOLE LOCATION BY OTHERS

⊕ BOREHOLE WITH MONITORING WELL LOCATION BY OTHERS

ⓐ-ⓐ' CROSS SECTION

71.28 GROUND SURFACE ELEVATION (m)

[69.83] BEDROCK SURFACE ELEVATION (m)

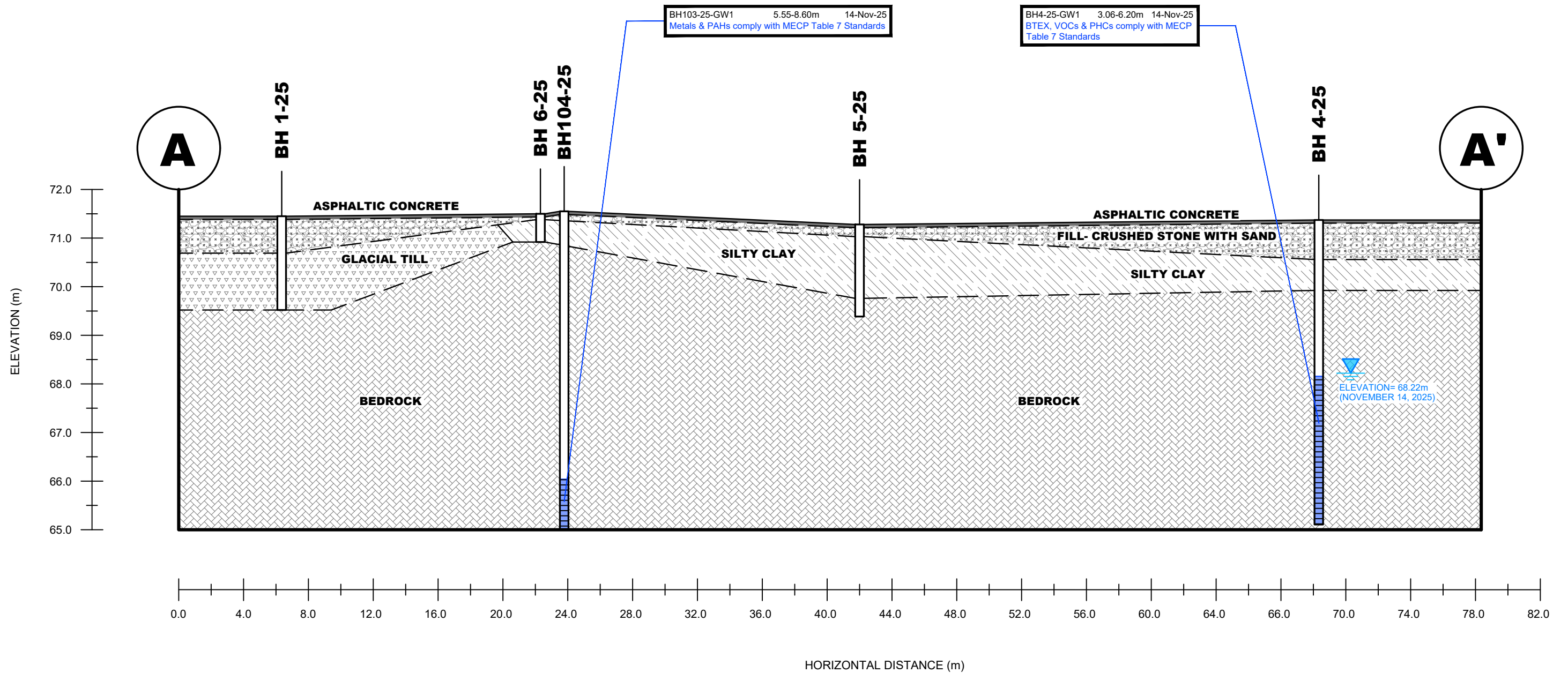
(68.22) GROUNDWATER SURFACE ELEVATION (m) (NOVEMBER 14, 2025)

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

SCALE: 1:750

0 10 20 30 40 50m

 9 AURIGA DRIVE OTTAWA, ON K2E 7T9 TEL: (613) 226-7381					INSIDE EDGE PROPERTIES PHASE II - ENVIRONMENTAL SITE ASSESSMENT 1209 MICHAEL STREET NORTH	Scale: 1:750 Date: 01/2026	
							OTTAWA, ONTARIO
					Title: ANALYTICAL TESTING PLAN - GROUNDWATER (BTEX, VOCs, PHCs, METALS, PAHs)	Drawn by: YA Report No.: PE7253-2	
							Checked by: NS Dwg. No.: PE7253-8
NO.	REVISIONS	DATE	INITIAL				



LEGEND:

GROUNDWATER RESULT COMPLIES WITH
THE MECP TABLE 7 STANDARDS

GROUNDWATER RESULT EXCEEDS THE
MECP TABLE 7 STANDARDS



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9 AURIGA DRIVE
OTTAWA, ON
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TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL

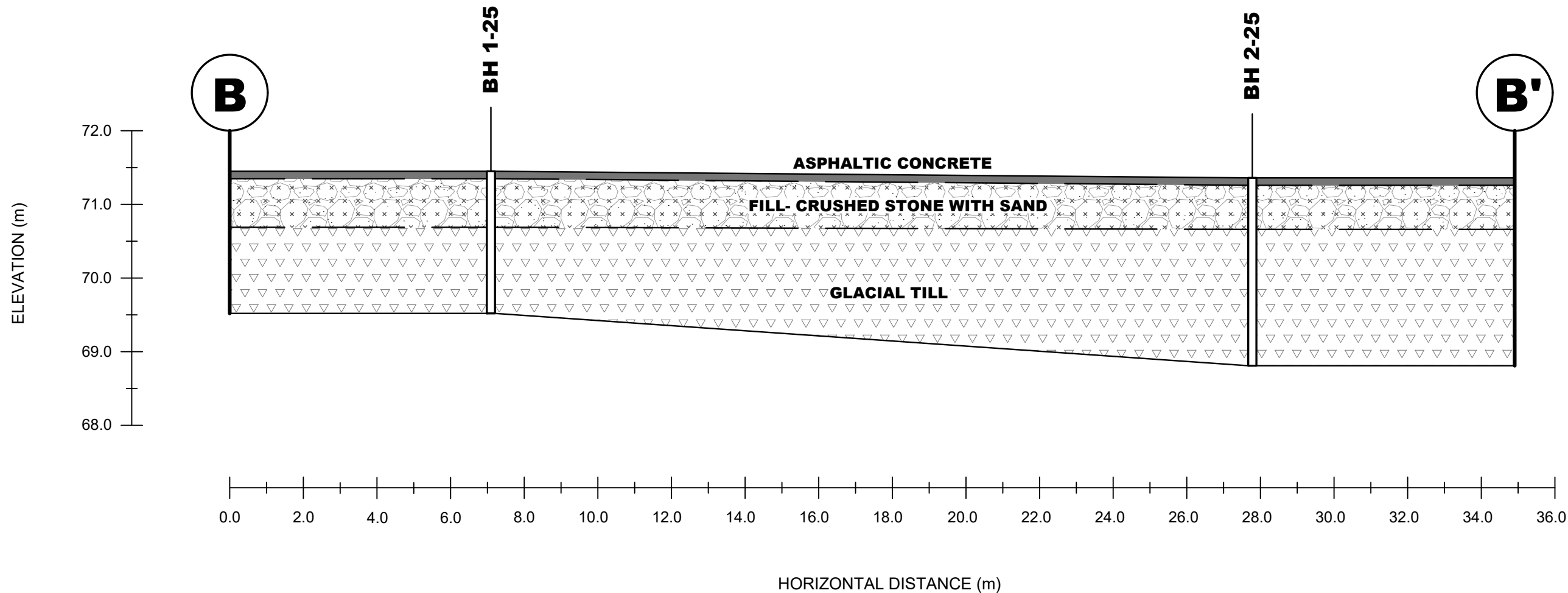
INSIDE EDGE PROPERTIES
PHASE II - ENVIRONMENTAL SITE ASSESSMENT
1209 MICHAEL STREET NORTH

OTTAWA,
Title:

ONTARIO

CROSS SECTION A-A' - GROUNDWATER
(BTEx, VOCs, PHCs, METALS, PAHs)

Scale:	AS SHOWN	Date:	01/2026
Drawn by:	YA	Report No.:	PE7253-2
Checked by:	NS	Dwg. No.:	PE7253-8A
Approved by:	MB	Revision No.:	



LEGEND:

GROUNDWATER RESULT COMPLIES WITH
THE MECP TABLE 7 STANDARDS

GROUNDWATER RESULT EXCEEDS THE
MECP TABLE 7 STANDARDS



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

NO.	REVISIONS	DATE	INITIAL

INSIDE EDGE PROPERTIES

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

1209 MICHAEL STREET NORTH

OTTAWA, ONTARIO

Title: CROSS SECTION B-B' - GROUNDWATER
(BTEx, VOCs, PHCs, METALS, PAHs)

Scale:	AS SHOWN	Date:	01/2026
Drawn by:	YA	Report No.:	PE7253-2
Checked by:	NS	Dwg. No.:	PE7253-8B
Approved by:	MB	Revision No.:	

APPENDIX 1

SAMPLING AND ANALYSIS PLAN

SOIL PROFILE AND TEST DATA SHEETS

SYMBOLS AND TERMS

LABORATORY CERTIFICATES OF ANALYSIS

Sampling & Analysis Plan

1209 Michael Street North
Ottawa, Ontario

Prepared for Inside Edge Properties

Report: PE7253-SAP
October 1, 2025

TABLE OF CONTENTS

	PAGE
1.0 SAMPLING PROGRAM.....	1
2.0 ANALYTICAL TESTING PROGRAM.....	2
3.0 STANDARD OPERATING PROCEDURES.....	3
3.2 Monitoring Well Installation Procedure	6
3.3 Monitoring Well Sampling Procedure	7
4.0 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)	8
5.0 DATA QUALITY OBJECTIVES.....	9
6.0 PHYSICAL IMPEDIMENTS	10

1.0 SAMPLING PROGRAM

Paterson Group Inc. (Paterson) was commissioned by Bertone Management Inc., to conduct a Phase II – Environmental Site Assessment (Phase II ESA) for 1209 Michael Street North, Ottawa, Ontario.

Based on the findings of the Phase I ESA, the following subsurface investigation program was developed.

Borehole	Location	Rationale	Proposed Depth & Rationale
BH1-25	Western Portion of Phase I Property	To assess the potential for soil impacts resulting from the presence of fill material of unknown quality.	1-2 m; for the purposes of assessing the overburden layers of fill material.
BH2-25	Western Portion of Phase I Property	To assess the potential for soil impacts resulting from the presence of fill material of unknown quality.	1-2 m; for the purposes of assessing the overburden layers of fill material.
BH3-25	Northern Portion of Phase I Property	To assess for potential groundwater impacts resulting from the presence of a former off-site retail fuel outlet.	5-7 m; for the purposes of installing a groundwater monitoring well.
BH4-25	Central Portion of Phase I Property	To assess for potential groundwater impacts resulting from the presence of a former off-site retail fuel outlet.	5-7 m; for the purposes of installing a groundwater monitoring well.
BH5-25	Central Portion of Phase I Property	To assess the potential for soil impacts resulting from the presence of fill material of unknown quality.	1-2 m; for the purposes of assessing the overburden layers of fill material.
BH6-25	Central Portion of Phase I Property	To assess the potential for soil impacts resulting from the presence of fill material of unknown quality.	1-2 m; for the purposes of assessing the overburden layers of fill material.

Borehole locations are shown on Drawing PE7253-3 – 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. 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 three boreholes to allow for the collection of groundwater samples.

2.0 ANALYTICAL TESTING PROGRAM

The analytical testing program for soil at the Phase I Property 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 Phase I Property 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)
- ☐ Rkl 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 F₁, 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 1/4" if installing in cored hole in bedrock)
- ☐ 5' x 2" threaded sections of Schedule 40 PVC riser pipe (5' x 1 1/4" 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

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.

COORD. SYS.: MTM ZONE 9 **EASTING:** 372759.41 **NORTHING:** 5031780.74 **ELEVATION:** 71.45

PROJECT: Phase II Environmental Site Assessment

FILE NO. : PE7253

ADVANCED BY: Truck Mounted Drill Rig

REMARKS:
DATE: November 5, 2025

HOLE NO. : BH 1-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE				GASTECH (ppm) GASTECH (% LEL)				PIEZOMETER CONSTRUCTION	ELEVATION (m)
			TYPE AND NO.	RECOVERY (%)	N OR RQD	ANALYTICAL TESTS	50	100	150	200		
							PID (ppm) PID (% LEL)					
							20	40	60	80		
GROUND SURFACE												
ASPHALT												
FILL: Brown silty sand, with crushed stone												
GLACIAL TILL: Brown silty clay, with sand, trace shale fragments and gravel												
End of Borehole												
Practical refusal to augering at 1.93 m depth												

DISCLAIMER: THE DATA PRESENTED IN THIS SHEET IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHOM IT WAS PRODUCED. THIS SHEET SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT RESPONSIBLE FOR THE UNAUTHORIZED USE OF THIS DATA.

COORD. SYS.: MTM ZONE 9 **EASTING:** 372741.61 **NORTHING:** 5031791.53 **ELEVATION:** 71.36

PROJECT: Phase II Environmental Site Assessment

FILE NO. : PE7253

ADVANCED BY: Truck Mounted Drill Rig

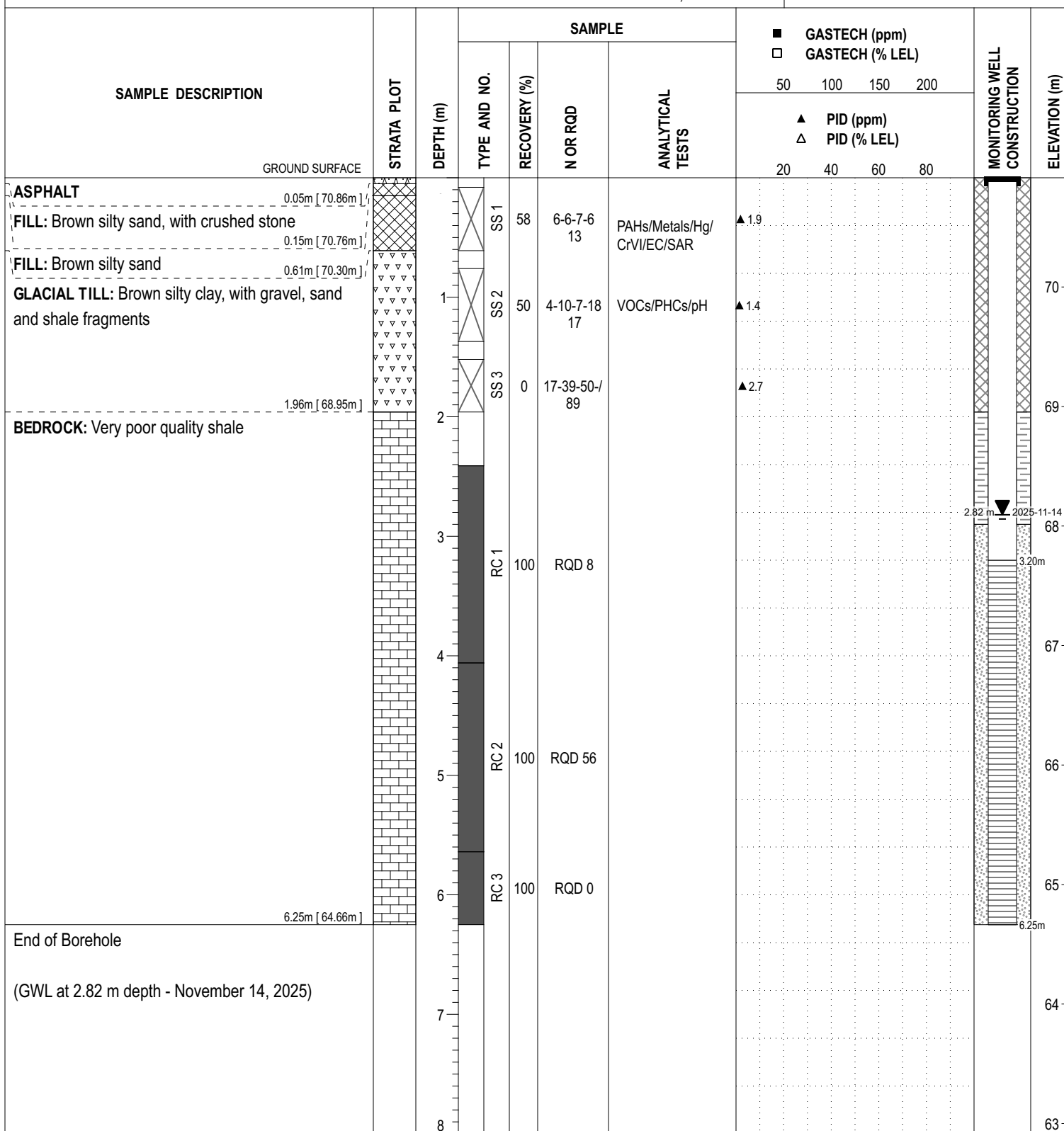
REMARKS:
DATE: November 5, 2025

HOLE NO. : BH 2-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE				GASTECH (ppm) GASTECH (% LEL)				PIEZOMETER CONSTRUCTION	ELEVATION (m)
			TYPE AND NO.	RECOVERY (%)	N OR RQD	ANALYTICAL TESTS	50	100	150	200		
							PID (ppm) PID (% LEL)					
							20	40	60	80		
GROUND SURFACE												
ASPHALT												
FILL: Brown silty sand, with crushed stone												
0.05m [71.31m]												
GLACIAL TILL: Brown silty clay, some sand, trace gravel		1										
0.69m [70.67m]												
GLACIAL TILL: Brown silty clay, with gravel and shale fragments		2										
1.52m [69.84m]												
GLACIAL TILL: Brown silty clay, with gravel and shale fragments												
2.54m [68.81m]												
End of Borehole												
Practical refusal to augering at 2.54 m depth		3										
		4										
		5										
		6										
		7										
		8										

DISCLAIMER: THE DATA PRESENTED IN THIS SHEET IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHOM IT WAS PRODUCED. THIS SHEET SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT RESPONSIBLE FOR THE UNAUTHORIZED USE OF THIS DATA.

COORD. SYS.: MTM ZONE 9		EASTING: 372819.13	NORTHING: 5031856.46	ELEVATION: 70.91
PROJECT: Phase II Environmental Site Assessment				FILE NO. : PE7253
ADVANCED BY: Truck Mounted Drill Rig				HOLE NO. : BH 3-25
REMARKS:				
DATE: November 5, 2025				

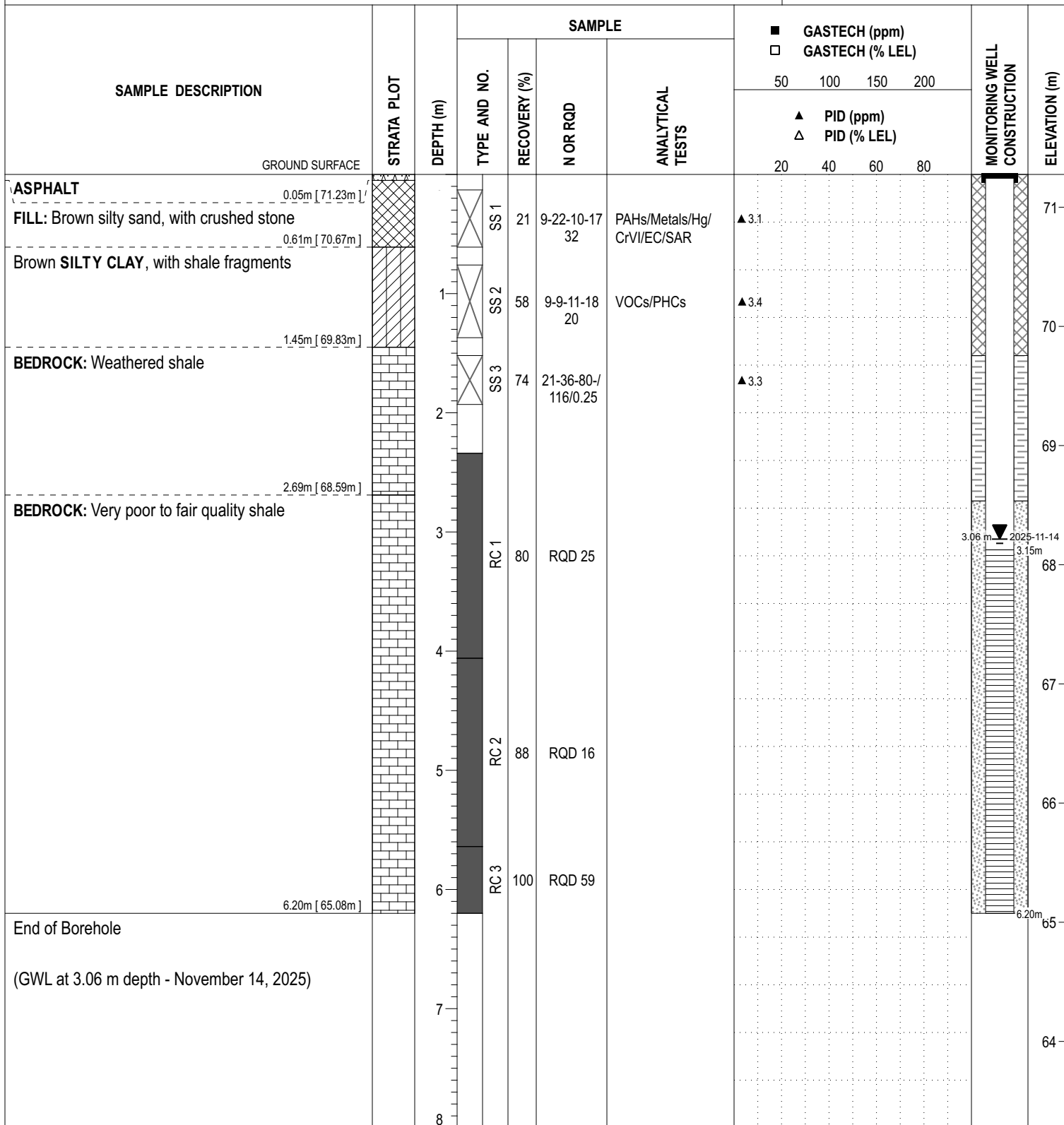


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COORD. SYS.: MTM ZONE 9 **EASTING:** 372808.66 **NORTHING:** 5031821.82 **ELEVATION:** 71.28

PROJECT: Phase II Environmental Site Assessment **FILE NO. :** PE7253

ADVANCED BY: Truck Mounted Drill Rig

REMARKS: **DATE:** November 5, 2025 **HOLE NO. :** BH 4-25


DISCLAIMER: THE DATA PRESENTED IN THIS SHEET IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHOM IT WAS PRODUCED. THIS SHEET SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT RESPONSIBLE FOR THE UNAUTHORIZED USE OF THIS DATA.

COORD. SYS.: MTM ZONE 9 **EASTING:** 372783.58 **NORTHING:** 5031807.31 **ELEVATION:** 71.42

PROJECT: Phase II Environmental Site Assessment

FILE NO. : PE7253

ADVANCED BY: Truck Mounted Drill Rig

REMARKS:
DATE: November 5, 2025

HOLE NO. : BH 5-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE				GASTECH (ppm) GASTECH (% LEL)				PIEZOMETER CONSTRUCTION	ELEVATION (m)
			TYPE AND NO.	RECOVERY (%)	N OR RQD	ANALYTICAL TESTS	50	100	150	200		
							▲ PID (ppm) △ PID (% LEL)					
GROUND SURFACE							20	40	60	80		
ASPHALT							▲ 2.2					
FILL: Brown silty sand, with crushed stone							▲ 2.4					
Brown SILTY CLAY, some sand, trace gravel		1					▲ 1.9					
BEDROCK Weathered shale		2					▲ 1.8					
End of Borehole												

DISCLAIMER: THE DATA PRESENTED IN THIS SHEET IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHOM IT WAS PRODUCED. THIS SHEET SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT RESPONSIBLE FOR THE UNAUTHORIZED USE OF THIS DATA.

COORD. SYS.: MTM ZONE 9 **EASTING:** 372772.15 **NORTHING:** 5031790.40 **ELEVATION:** 71.50

PROJECT: Phase II Environmental Site Assessment

FILE NO. : PE7253

ADVANCED BY: Truck Mounted Drill Rig

REMARKS:
DATE: November 5, 2025

HOLE NO. : BH 6-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE				■ GASTECH (ppm) □ GASTECH (% LEL) ▲ PID (ppm) △ PID (% LEL)				PIEZOMETER CONSTRUCTION	ELEVATION (m)
			TYPE AND NO.	RECOVERY (%)	N OR RQD	ANALYTICAL TESTS	50	100	150	200		
							20	40	60	80		
GROUND SURFACE												
ASPHALT												
0.05m [71.45m]												
FILL: Brown silty sand, with crushed stone												
0.20m [71.30m]												
Brown SILTY CLAY, with sand, trace shale fragments												
0.81m [70.69m]												
End of Borehole												
Practical refusal to augering at 0.81 m depth												
		1										71
		2										70
		3										69
		4										68
		5										67
		6										66
		7										65
		8										64

DISCLAIMER: THE DATA PRESENTED IN THIS SHEET IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHOM IT WAS PRODUCED. THIS SHEET SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT RESPONSIBLE FOR THE UNAUTHORIZED USE OF THIS DATA.

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)
D _{xx}	-	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
D ₁₀	-	Grain size at which 10% of the soil is finer (effective grain size)
D ₆₀	-	Grain size at which 60% of the soil is finer
C _c	-	Concavity coefficient = $(D_{30})^2 / (D_{10} \times D_{60})$
C _u	-	Uniformity coefficient = D_{60} / D_{10}

C_c and C_u are used to assess the grading of sands and gravels:

Well-graded gravels have: $1 < C_c < 3$ and $C_u > 4$

Well-graded sands have: $1 < C_c < 3$ and $C_u > 6$

Sands and gravels not meeting the above requirements are poorly-graded or uniformly-graded.

C_c and C_u 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

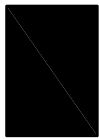
p' _o	-	Present effective overburden pressure at sample depth
p' _c	-	Preconsolidation pressure of (maximum past pressure on) sample
C _{cr}	-	Recompression index (in effect at pressures below p' _c)
C _c	-	Compression index (in effect at pressures above p' _c)
OC Ratio		Overconsolidation ratio = p'_c / p'_o
Void Ratio		Initial sample void ratio = volume of voids / volume of solids
W _o	-	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.
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SYMBOLS AND TERMS (continued)

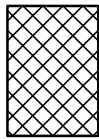
STRATA PLOT



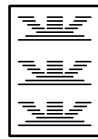
Topsoil



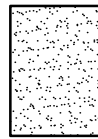
Asphalt



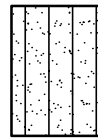
Fill



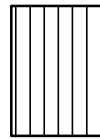
Peat



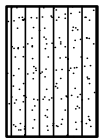
Sand



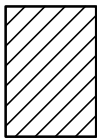
Silty Sand



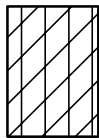
Silt



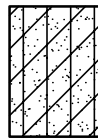
Sandy Silt



Clay



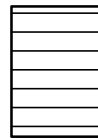
Silty Clay



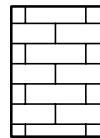
Clayey Silty Sand



Glacial Till



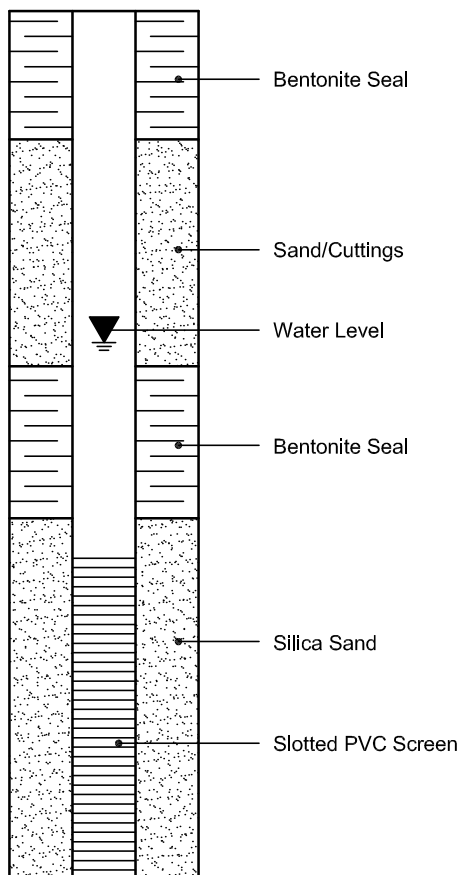
Shale



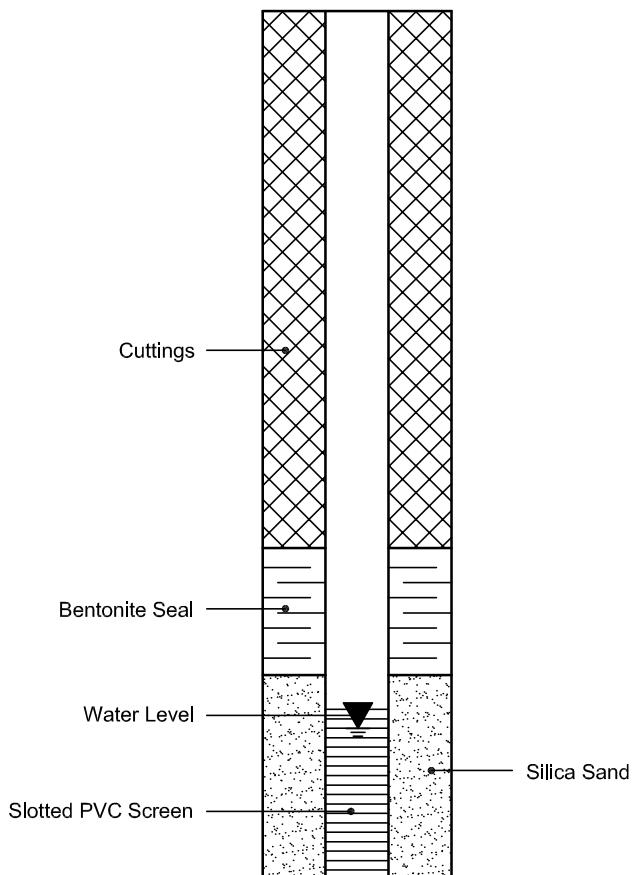
Bedrock

MONITORING WELL AND PIEZOMETER CONSTRUCTION

MONITORING WELL CONSTRUCTION



PIEZOMETER CONSTRUCTION



Certificate of Analysis

Paterson Group Consulting Engineers (Ottawa)

9 Auriga Drive
Ottawa, ON K2E 7T9
Attn: Nick Sullivan

Client PO: 64415
Project: PE7253
Custody:

Report Date: 12-Nov-2025

Order Date: 6-Nov-2025

Order #: 2545414

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

Paracel ID	Client ID
2545414-01	BH1-25-SS1
2545414-02	BH2-25-SS1
2545414-03	BH3-25-SS1B
2545414-04	BH3-25-SS2
2545414-05	BH4-25-SS1
2545414-06	BH4-25-SS2
2545414-07	BH5-25-SS1B
2545414-08	BH6-25-SS1
2545414-09	DUP-1
2545414-10	DUP-2

Approved By:



Mark Foto, M.Sc.

Laboratory Director

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
BTEX by P&T GC-MS	EPA 8260 - P&T GC-MS	7-Nov-25	8-Nov-25
Chromium, hexavalent - soil	MOE E3056 - Extraction, colourimetric	11-Nov-25	11-Nov-25
Conductivity	MOE E3138 - probe @25 °C, water ext	10-Nov-25	10-Nov-25
Mercury by CVAA	EPA 7471B - CVAA, digestion	10-Nov-25	10-Nov-25
pH, soil	MOE E3137 - probe @25 °C, CaCl2 ext	10-Nov-25	10-Nov-25
PHC F1	CWS Tier 1 - P&T GC-FID	7-Nov-25	8-Nov-25
PHC F4G (gravimetric)	CWS Tier 1 - Extraction Gravimetric	10-Nov-25	11-Nov-25
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	8-Nov-25	11-Nov-25
REG 153: Metals by ICP/MS, soil	EPA 6020 - Digestion - ICP-MS	10-Nov-25	10-Nov-25
REG 153: PAHs by GC-MS	EPA 8270 - GC-MS, extraction	10-Nov-25	11-Nov-25
REG 153: VOCs by P&T GC/MS	EPA 8260 - P&T GC-MS	7-Nov-25	8-Nov-25
SAR	Calculated	10-Nov-25	10-Nov-25
Solids, %	CWS Tier 1 - Gravimetric	7-Nov-25	10-Nov-25

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Client ID:	BH1-25-SS1	BH2-25-SS1	BH3-25-SS1B	BH3-25-SS2	-	-
Sample Date:	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	-	-
Sample ID:	2545414-01	2545414-02	2545414-03	2545414-04	-	-
Matrix:	Soil	Soil	Soil	Soil	-	-
MDL/Units						

Physical Characteristics

% Solids	0.1 % by Wt.	94.7	94.9	83.7	82.6	-	-
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General Inorganics

SAR	0.01 N/A	1.32	2.03	0.12	-	-	-
Conductivity	5 uS/cm	252	354	137	-	-	-
pH	0.05 pH Units	-	7.91	-	7.67	-	-

Metals

Antimony	1.0 ug/g	<1.0	<1.0	<1.0	-	-	-
Arsenic	1.0 ug/g	1.4	1.3	<1.0	-	-	-
Barium	1.0 ug/g	436	936	19.6	-	-	-
Beryllium	0.5 ug/g	<0.5	<0.5	<0.5	-	-	-
Boron	5.0 ug/g	11.5	11.8	<5.0	-	-	-
Cadmium	0.5 ug/g	<0.5	<0.5	<0.5	-	-	-
Chromium (VI)	0.2 ug/g	<0.2	<0.2	<0.2	-	-	-
Chromium	5.0 ug/g	8.6	9.6	14.8	-	-	-
Cobalt	1.0 ug/g	3.1	3.6	2.9	-	-	-
Copper	5.0 ug/g	6.6	7.3	<5.0	-	-	-
Lead	1.0 ug/g	5.0	5.9	1.6	-	-	-
Mercury	0.1 ug/g	<0.1	<0.1	<0.1	-	-	-
Molybdenum	1.0 ug/g	<1.0	<1.0	<1.0	-	-	-
Nickel	5.0 ug/g	8.3	9.1	6.9	-	-	-
Selenium	1.0 ug/g	<1.0	<1.0	<1.0	-	-	-
Silver	0.3 ug/g	0.7	0.7	0.5	-	-	-
Thallium	1.0 ug/g	<1.0	<1.0	<1.0	-	-	-
Uranium	1.0 ug/g	<1.0	<1.0	<1.0	-	-	-
Vanadium	10.0 ug/g	<10.0	<10.0	17.4	-	-	-

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Client ID:	BH1-25-SS1	BH2-25-SS1	BH3-25-SS1B	BH3-25-SS2	-	-
Sample Date:	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	-	-
Sample ID:	2545414-01	2545414-02	2545414-03	2545414-04	-	-
Matrix:	Soil	Soil	Soil	Soil	-	-
MDL/Units						

Metals

Zinc	20.0 ug/g	<20.0	<20.0	<20.0	-	-	-
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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	-	-	-	<0.05	-	-
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	-	-
Ethylbenzene	0.05 ug/g	-	-	-	<0.05	-	-

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Client ID:	BH1-25-SS1	BH2-25-SS1	BH3-25-SS1B	BH3-25-SS2	-	-
Sample Date:	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	-	-
Sample ID:	2545414-01	2545414-02	2545414-03	2545414-04	-	-
Matrix:	Soil	Soil	Soil	Soil	-	-
MDL/Units						

Volatiles

Ethylene dibromide (dibromoethane)	0.05 ug/g	-	-	-	<0.05	-	-
Hexane	0.05 ug/g	-	-	-	<0.05	-	-
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	-	-	-	<0.05	-	-
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	-	-	-	<0.05	-	-
o-Xylene	0.05 ug/g	-	-	-	<0.05	-	-
Xylenes, total	0.05 ug/g	-	-	-	<0.05	-	-
Toluene-d8	Surrogate	-	-	-	104%	-	-
Dibromofluoromethane	Surrogate	-	-	-	121%	-	-
4-Bromofluorobenzene	Surrogate	-	-	-	113%	-	-
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	-	-	-	-

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Client ID:	BH1-25-SS1	BH2-25-SS1	BH3-25-SS1B	BH3-25-SS2	-	-
Sample Date:	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	-	-
Sample ID:	2545414-01	2545414-02	2545414-03	2545414-04	-	-
Matrix:	Soil	Soil	Soil	Soil	-	-
MDL/Units						

Volatiles

m,p-Xylenes	0.05 ug/g	<0.05	<0.05	-	-	-	-
o-Xylene	0.05 ug/g	<0.05	<0.05	-	-	-	-
Xylenes, total	0.05 ug/g	<0.05	<0.05	-	-	-	-
Toluene-d8	Surrogate	96.6%	95.6%	-	-	-	-

Hydrocarbons

F1 PHCs (C6-C10)	7 ug/g	<7	<7	-	<7	-	-
F2 PHCs (C10-C16)	4 ug/g	6	<4	-	<4	-	-
F3 PHCs (C16-C34)	8 ug/g	152	21	-	<8	-	-
F4 PHCs (C34-C50)	6 ug/g	335 [1]	8	-	<6	-	-
F4G PHCs (gravimetric)	50 ug/g	443	-	-	-	-	-

Semi-Volatiles

Acenaphthene	0.02 ug/g	<0.02	<0.02	<0.02	-	-	-
Acenaphthylene	0.02 ug/g	<0.02	<0.02	<0.02	-	-	-
Anthracene	0.02 ug/g	<0.02	<0.02	<0.02	-	-	-
Benzo [a] anthracene	0.02 ug/g	<0.02	<0.02	<0.02	-	-	-
Benzo [a] pyrene	0.02 ug/g	<0.02	<0.02	<0.02	-	-	-
Benzo [b] fluoranthene	0.02 ug/g	<0.02	<0.02	<0.02	-	-	-
Benzo [g,h,i] perylene	0.02 ug/g	<0.02	<0.02	<0.02	-	-	-
Benzo [k] fluoranthene	0.02 ug/g	<0.02	<0.02	<0.02	-	-	-
Chrysene	0.02 ug/g	<0.02	<0.02	<0.02	-	-	-
Dibenzo [a,h] anthracene	0.02 ug/g	<0.02	<0.02	<0.02	-	-	-
Fluoranthene	0.02 ug/g	<0.02	<0.02	<0.02	-	-	-
Fluorene	0.02 ug/g	<0.02	<0.02	<0.02	-	-	-
Indeno [1,2,3-cd] pyrene	0.02 ug/g	<0.02	<0.02	<0.02	-	-	-
1-Methylnaphthalene	0.02 ug/g	<0.02	<0.02	<0.02	-	-	-

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Client ID:	BH1-25-SS1	BH2-25-SS1	BH3-25-SS1B	BH3-25-SS2		
Sample Date:	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	-	-
Sample ID:	2545414-01	2545414-02	2545414-03	2545414-04		
Matrix:	Soil	Soil	Soil	Soil		
MDL/Units						

Semi-Volatiles

2-Methylnaphthalene	0.02 ug/g	<0.02	<0.02	<0.02	-	-	-
Methylnaphthalene (1&2)	0.04 ug/g	<0.04	<0.04	<0.04	-	-	-
Naphthalene	0.01 ug/g	<0.01	<0.01	<0.01	-	-	-
Phenanthrene	0.02 ug/g	<0.02	<0.02	<0.02	-	-	-
Pyrene	0.02 ug/g	<0.02	<0.02	<0.02	-	-	-
2-Fluorobiphenyl	Surrogate	74.3%	64.2%	64.4%	-	-	-
Terphenyl-d14	Surrogate	84.8%	85.2%	78.9%	-	-	-

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Client ID:	BH4-25-SS1	BH4-25-SS2	BH5-25-SS1B	BH6-25-SS1	-	-
Sample Date:	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	-	-
Sample ID:	2545414-05	2545414-06	2545414-07	2545414-08	-	-
Matrix:	Soil	Soil	Soil	Soil	-	-
MDL/Units						

Physical Characteristics

% Solids	0.1 % by Wt.	93.4	85.7	88.3	83.9	-	-
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General Inorganics

SAR	0.01 N/A	1.57	-	10.3	18.2	-	-
Conductivity	5 uS/cm	261	-	1990	3240	-	-

Metals

Antimony	1.0 ug/g	<1.0	-	<1.0	<1.0	-	-
Arsenic	1.0 ug/g	1.9	-	6.1	4.5	-	-
Barium	1.0 ug/g	207	-	95.6	80.1	-	-
Beryllium	0.5 ug/g	<0.5	-	0.7	0.6	-	-
Boron	5.0 ug/g	12.6	-	7.1	5.6	-	-
Cadmium	0.5 ug/g	<0.5	-	<0.5	<0.5	-	-
Chromium	5.0 ug/g	13.0	-	31.5	28.0	-	-
Chromium (VI)	0.2 ug/g	<0.2	-	<0.2	<0.2	-	-
Cobalt	1.0 ug/g	4.4	-	11.2	8.3	-	-
Copper	5.0 ug/g	11.0	-	26.1	18.3	-	-
Lead	1.0 ug/g	25.5	-	12.0	12.4	-	-
Mercury	0.1 ug/g	<0.1	-	<0.1	0.1	-	-
Molybdenum	1.0 ug/g	<1.0	-	2.3	1.3	-	-
Nickel	5.0 ug/g	11.0	-	33.1	24.7	-	-
Selenium	1.0 ug/g	<1.0	-	<1.0	<1.0	-	-
Silver	0.3 ug/g	0.6	-	0.8	0.8	-	-
Thallium	1.0 ug/g	<1.0	-	<1.0	<1.0	-	-
Uranium	1.0 ug/g	<1.0	-	1.3	<1.0	-	-
Vanadium	10.0 ug/g	12.7	-	41.9	36.3	-	-
Zinc	20.0 ug/g	23.8	-	51.9	53.3	-	-

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Client ID:	BH4-25-SS1	BH4-25-SS2	BH5-25-SS1B	BH6-25-SS1	-	-
Sample Date:	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	-	-
Sample ID:	2545414-05	2545414-06	2545414-07	2545414-08	-	-
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	-	<0.05	<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	-	-

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Client ID:	BH4-25-SS1	BH4-25-SS2	BH5-25-SS1B	BH6-25-SS1	-	-
Sample Date:	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	-	-
Sample ID:	2545414-05	2545414-06	2545414-07	2545414-08	-	-
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	<0.05	-	-
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	<0.05	-	-
o-Xylene	0.05 ug/g	-	<0.05	<0.05	-	-
Xylenes, total	0.05 ug/g	-	<0.05	<0.05	-	-
Toluene-d8	Surrogate	-	102%	101%	-	-
Dibromofluoromethane	Surrogate	-	119%	116%	-	-
4-Bromofluorobenzene	Surrogate	-	111%	107%	-	-
Benzene	0.02 ug/g	-	-	-	<0.02	-
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	-

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Client ID:	BH4-25-SS1	BH4-25-SS2	BH5-25-SS1B	BH6-25-SS1	-	-
Sample Date:	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	-	-
Sample ID:	2545414-05	2545414-06	2545414-07	2545414-08	-	-
Matrix:	Soil	Soil	Soil	Soil	-	-
MDL/Units						

Volatiles

Xylenes, total	0.05 ug/g	-	-	-	<0.05	-	-
Toluene-d8	Surrogate	-	-	-	103%	-	-

Hydrocarbons

F1 PHCs (C6-C10)	7 ug/g	-	<7	<7	<7	-	-
F2 PHCs (C10-C16)	4 ug/g	-	16	<4	<4	-	-
F3 PHCs (C16-C34)	8 ug/g	-	20	<8	<8	-	-
F4 PHCs (C34-C50)	6 ug/g	-	<6	<6	30	-	-

Semi-Volatiles

Acenaphthene	0.02 ug/g	<0.02	-	<0.02	0.09	-	-
Acenaphthylene	0.02 ug/g	<0.02	-	<0.02	0.03	-	-
Anthracene	0.02 ug/g	<0.02	-	<0.02	0.15	-	-
Benzo [a] anthracene	0.02 ug/g	<0.02	-	0.03	0.32	-	-
Benzo [a] pyrene	0.02 ug/g	<0.02	-	<0.02	0.28	-	-
Benzo [b] fluoranthene	0.02 ug/g	<0.02	-	0.03	0.27	-	-
Benzo [g,h,i] perylene	0.02 ug/g	<0.02	-	<0.02	0.16	-	-
Benzo [k] fluoranthene	0.02 ug/g	<0.02	-	<0.02	0.16	-	-
Chrysene	0.02 ug/g	<0.02	-	0.03	0.32	-	-
Dibenzo [a,h] anthracene	0.02 ug/g	<0.02	-	<0.02	0.04	-	-
Fluoranthene	0.02 ug/g	<0.02	-	0.07	0.98	-	-
Fluorene	0.02 ug/g	<0.02	-	<0.02	0.14	-	-
Indeno [1,2,3-cd] pyrene	0.02 ug/g	<0.02	-	<0.02	0.15	-	-
1-Methylnaphthalene	0.02 ug/g	<0.02	-	<0.02	0.04	-	-
2-Methylnaphthalene	0.02 ug/g	<0.02	-	<0.02	0.05	-	-
Methylnaphthalene (1&2)	0.04 ug/g	<0.04	-	<0.04	0.09	-	-
Naphthalene	0.01 ug/g	<0.01	-	<0.01	0.13	-	-

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Client ID:	BH4-25-SS1	BH4-25-SS2	BH5-25-SS1B	BH6-25-SS1		
Sample Date:	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	05-Nov-25 09:00	-	-
Sample ID:	2545414-05	2545414-06	2545414-07	2545414-08		
Matrix:	Soil	Soil	Soil	Soil		
MDL/Units						

Semi-Volatiles

Phenanthrene	0.02 ug/g	<0.02	-	0.08	1.13	-	-
Pyrene	0.02 ug/g	<0.02	-	0.05	0.73	-	-
2-Fluorobiphenyl	Surrogate	64.2%	-	65.6%	54.2%	-	-
Terphenyl-d14	Surrogate	86.2%	-	76.1%	72.4%	-	-

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Client ID:	DUP-1	DUP-2			
Sample Date:	05-Nov-25 09:00	05-Nov-25 09:00			-
Sample ID:	2545414-09	2545414-10			-
Matrix:	Soil	Soil			
MDL/Units					

Physical Characteristics

% Solids	0.1 % by Wt.	89.2	95.7	-	-	-	-
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Metals

Antimony	1.0 ug/g	-	<1.0	-	-	-	-
Arsenic	1.0 ug/g	-	1.3	-	-	-	-
Barium	1.0 ug/g	-	1020	-	-	-	-
Beryllium	0.5 ug/g	-	<0.5	-	-	-	-
Boron	5.0 ug/g	-	10.1	-	-	-	-
Cadmium	0.5 ug/g	-	<0.5	-	-	-	-
Chromium	5.0 ug/g	-	9.8	-	-	-	-
Chromium (VI)	0.2 ug/g	-	<0.2	-	-	-	-
Cobalt	1.0 ug/g	-	3.8	-	-	-	-
Copper	5.0 ug/g	-	6.3	-	-	-	-
Lead	1.0 ug/g	-	5.4	-	-	-	-
Mercury	0.1 ug/g	-	<0.1	-	-	-	-
Molybdenum	1.0 ug/g	-	<1.0	-	-	-	-
Nickel	5.0 ug/g	-	9.2	-	-	-	-
Selenium	1.0 ug/g	-	<1.0	-	-	-	-
Silver	0.3 ug/g	-	0.6	-	-	-	-
Thallium	1.0 ug/g	-	<1.0	-	-	-	-
Uranium	1.0 ug/g	-	<1.0	-	-	-	-
Vanadium	10.0 ug/g	-	<10.0	-	-	-	-
Zinc	20.0 ug/g	-	<20.0	-	-	-	-

Volatiles

Acetone	0.50 ug/g	<0.50	-	-	-	-	-
Benzene	0.02 ug/g	<0.02	-	-	-	-	-

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Client ID:	DUP-1	DUP-2			
Sample Date:	05-Nov-25 09:00	05-Nov-25 09:00			-
Sample ID:	2545414-09	2545414-10			-
Matrix:	Soil	Soil			
MDL/Units					

Volatiles

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	<0.05	-	-	-	-
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	<0.05	-	-	-	-
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g	<0.50	-	-	-	-
Methyl Isobutyl Ketone	0.50 ug/g	<0.50	-	-	-	-

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Client ID:	DUP-1	DUP-2			
Sample Date:	05-Nov-25 09:00	05-Nov-25 09:00			
Sample ID:	2545414-09	2545414-10			
Matrix:	Soil	Soil			
MDL/Units					

Volatiles

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	<0.05	-	-	-	-
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	<0.05	-	-	-	-
o-Xylene	0.05 ug/g	<0.05	-	-	-	-
Xylenes, total	0.05 ug/g	<0.05	-	-	-	-
Dibromofluoromethane	Surrogate	118%	-	-	-	-
Toluene-d8	Surrogate	98.6%	-	-	-	-
4-Bromofluorobenzene	Surrogate	107%	-	-	-	-

Hydrocarbons

F1 PHCs (C6-C10)	7 ug/g	47	-	-	-	-
F2 PHCs (C10-C16)	4 ug/g	41	-	-	-	-
F3 PHCs (C16-C34)	8 ug/g	37	-	-	-	-
F4 PHCs (C34-C50)	6 ug/g	31	-	-	-	-

Semi-Volatiles

Acenaphthene	0.02 ug/g	-	<0.02	-	-	-
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Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Client ID:	DUP-1	DUP-2			
Sample Date:	05-Nov-25 09:00	05-Nov-25 09:00			-
Sample ID:	2545414-09	2545414-10			-
Matrix:	Soil	Soil			
MDL/Units					

Semi-Volatiles

Acenaphthylene	0.02 ug/g	-	<0.02	-	-	-
Anthracene	0.02 ug/g	-	<0.02	-	-	-
Benzo [a] anthracene	0.02 ug/g	-	<0.02	-	-	-
Benzo [a] pyrene	0.02 ug/g	-	<0.02	-	-	-
Benzo [b] fluoranthene	0.02 ug/g	-	<0.02	-	-	-
Benzo [g,h,i] perylene	0.02 ug/g	-	<0.02	-	-	-
Benzo [k] fluoranthene	0.02 ug/g	-	<0.02	-	-	-
Chrysene	0.02 ug/g	-	<0.02	-	-	-
Dibenzo [a,h] anthracene	0.02 ug/g	-	<0.02	-	-	-
Fluoranthene	0.02 ug/g	-	<0.02	-	-	-
Fluorene	0.02 ug/g	-	<0.02	-	-	-
Indeno [1,2,3-cd] pyrene	0.02 ug/g	-	<0.02	-	-	-
1-Methylnaphthalene	0.02 ug/g	-	<0.02	-	-	-
2-Methylnaphthalene	0.02 ug/g	-	<0.02	-	-	-
Methylnaphthalene (1&2)	0.04 ug/g	-	<0.04	-	-	-
Naphthalene	0.01 ug/g	-	<0.01	-	-	-
Phenanthrene	0.02 ug/g	-	<0.02	-	-	-
Pyrene	0.02 ug/g	-	<0.02	-	-	-
2-Fluorobiphenyl	Surrogate	-	57.3%	-	-	-
Terphenyl-d14	Surrogate	-	82.0%	-	-	-

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics								
Conductivity	ND	5	uS/cm					
Hydrocarbons								
F4G PHCs (gravimetric)	ND	50	ug/g					
F1 PHCs (C6-C10)	ND	7	ug/g					
F2 PHCs (C10-C16)	ND	4	ug/g					
F3 PHCs (C16-C34)	ND	8	ug/g					
F4 PHCs (C34-C50)	ND	6	ug/g					
Metals								
Chromium (VI)	ND	0.2	ug/g					
Mercury	ND	0.1	ug/g					
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					

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzo [a] anthracene	ND	0.02	ug/g					
Benzo [a] pyrene	ND	0.02	ug/g					
Benzo [b] fluoranthene	ND	0.02	ug/g					
Benzo [g,h,i] perylene	ND	0.02	ug/g					
Benzo [k] fluoranthene	ND	0.02	ug/g					
Chrysene	ND	0.02	ug/g					
Dibenzo [a,h] anthracene	ND	0.02	ug/g					
Fluoranthene	ND	0.02	ug/g					
Fluorene	ND	0.02	ug/g					
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g					
1-Methylnaphthalene	ND	0.02	ug/g					
2-Methylnaphthalene	ND	0.02	ug/g					
Methylnaphthalene (1&2)	ND	0.04	ug/g					
Naphthalene	ND	0.01	ug/g					
Phenanthrene	ND	0.02	ug/g					
Pyrene	ND	0.02	ug/g					
Surrogate: 2-Fluorobiphenyl	0.673		%	50.5	50-140			
Surrogate: Terphenyl-d14	1.05		%	78.6	50-140			
Volatiles								
Benzene	ND	0.02	ug/g					
Ethylbenzene	ND	0.05	ug/g					
Toluene	ND	0.05	ug/g					
m,p-Xylenes	ND	0.05	ug/g					
o-Xylene	ND	0.05	ug/g					
Xylenes, total	ND	0.05	ug/g					
Surrogate: Toluene-d8	7.72		%	96.4	50-140			
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					

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Chlorobenzene	ND	0.05	ug/g					
Chloroform	ND	0.05	ug/g					
Dibromochloromethane	ND	0.05	ug/g					
Dichlorodifluoromethane	ND	0.05	ug/g					
1,2-Dichlorobenzene	ND	0.05	ug/g					
1,3-Dichlorobenzene	ND	0.05	ug/g					
1,4-Dichlorobenzene	ND	0.05	ug/g					
1,1-Dichloroethane	ND	0.05	ug/g					
1,2-Dichloroethane	ND	0.05	ug/g					
1,1-Dichloroethylene	ND	0.05	ug/g					
cis-1,2-Dichloroethylene	ND	0.05	ug/g					
trans-1,2-Dichloroethylene	ND	0.05	ug/g					
1,2-Dichloropropane	ND	0.05	ug/g					
cis-1,3-Dichloropropylene	ND	0.05	ug/g					
trans-1,3-Dichloropropylene	ND	0.05	ug/g					
1,3-Dichloropropene, total	ND	0.05	ug/g					
Ethylbenzene	ND	0.05	ug/g					
Ethylene dibromide (dibromoethane, 1,2-)	ND	0.05	ug/g					
Hexane	ND	0.05	ug/g					
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g					
Methyl Isobutyl Ketone	ND	0.50	ug/g					
Methyl tert-butyl ether	ND	0.05	ug/g					
Methylene Chloride	ND	0.05	ug/g					
Styrene	ND	0.05	ug/g					
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g					
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g					
Tetrachloroethylene	ND	0.05	ug/g					
Toluene	ND	0.05	ug/g					
1,1,1-Trichloroethane	ND	0.05	ug/g					
1,1,2-Trichloroethane	ND	0.05	ug/g					
Trichloroethylene	ND	0.05	ug/g					
Trichlorofluoromethane	ND	0.05	ug/g					
Vinyl chloride	ND	0.02	ug/g					

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
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	8.11		%	101	50-140			
Surrogate: Dibromofluoromethane	8.25		%	103	50-140			
Surrogate: Toluene-d8	7.72		%	96.4	50-140			

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
SAR	1.44	0.01	N/A	1.32			8.7	30	
Conductivity	247	5	uS/cm	252			2.1	5	
pH	6.72	0.05	pH Units	6.75			0.4	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	30			NC	30	
Metals									
Antimony	ND	1.0	ug/g	ND			NC	30	
Arsenic	1.5	1.0	ug/g	1.5			1.9	30	
Barium	56.7	1.0	ug/g	57.0			0.4	30	
Beryllium	ND	0.5	ug/g	ND			NC	30	
Boron	5.2	5.0	ug/g	5.4			3.9	30	
Cadmium	ND	0.5	ug/g	ND			NC	30	
Chromium (VI)	ND	0.2	ug/g	ND			NC	35	
Chromium	20.9	5.0	ug/g	21.1			1.0	30	
Cobalt	4.6	1.0	ug/g	4.4			3.1	30	
Copper	9.9	5.0	ug/g	9.8			1.1	30	
Lead	28.7	1.0	ug/g	27.6			4.1	30	
Mercury	ND	0.1	ug/g	ND			NC	30	
Molybdenum	ND	1.0	ug/g	ND			NC	30	
Nickel	11.4	5.0	ug/g	11.5			1.0	30	
Selenium	ND	1.0	ug/g	ND			NC	30	
Silver	0.7	0.3	ug/g	0.8			7.2	30	
Thallium	ND	1.0	ug/g	ND			NC	30	
Uranium	ND	1.0	ug/g	ND			NC	30	
Vanadium	25.8	10.0	ug/g	26.4			2.3	30	
Zinc	105	20.0	ug/g	102			2.9	30	

Physical Characteristics

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
% Solids	84.1	0.1	% by Wt.	83.7			0.4	25	
Semi-Volatiles									
Acenaphthene	ND	0.02	ug/g	ND			NC	40	
Acenaphthylene	ND	0.02	ug/g	ND			NC	40	
Anthracene	ND	0.02	ug/g	ND			NC	40	
Benzo [a] anthracene	ND	0.02	ug/g	ND			NC	40	
Benzo [a] pyrene	ND	0.02	ug/g	ND			NC	40	
Benzo [b] fluoranthene	ND	0.02	ug/g	ND			NC	40	
Benzo [g,h,i] perylene	ND	0.02	ug/g	ND			NC	40	
Benzo [k] fluoranthene	ND	0.02	ug/g	ND			NC	40	
Chrysene	ND	0.02	ug/g	ND			NC	40	
Dibenzo [a,h] anthracene	ND	0.02	ug/g	ND			NC	40	
Fluoranthene	ND	0.02	ug/g	ND			NC	40	
Fluorene	ND	0.02	ug/g	ND			NC	40	
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g	ND			NC	40	
1-Methylnaphthalene	ND	0.02	ug/g	ND			NC	40	
2-Methylnaphthalene	ND	0.02	ug/g	ND			NC	40	
Naphthalene	ND	0.01	ug/g	ND			NC	40	
Phenanthrene	ND	0.02	ug/g	ND			NC	40	
Pyrene	ND	0.02	ug/g	ND			NC	40	
Surrogate: 2-Fluorobiphenyl	0.965		%		50.0	50-140			
Surrogate: Terphenyl-d14	1.35		%		69.9	50-140			
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	

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Dibromochloromethane	ND	0.05	ug/g	ND			NC	50	
Dichlorodifluoromethane	ND	0.05	ug/g	ND			NC	50	
1,2-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,3-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,4-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,1-Dichloroethane	ND	0.05	ug/g	ND			NC	50	
1,2-Dichloroethane	ND	0.05	ug/g	ND			NC	50	
1,1-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
cis-1,2-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
trans-1,2-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
1,2-Dichloropropane	ND	0.05	ug/g	ND			NC	50	
cis-1,3-Dichloropropylene	ND	0.05	ug/g	ND			NC	50	
trans-1,3-Dichloropropylene	ND	0.05	ug/g	ND			NC	50	
Ethylbenzene	ND	0.05	ug/g	ND			NC	50	
Ethylene dibromide (dibromoethane, 1,2-)	ND	0.05	ug/g	ND			NC	50	
Hexane	ND	0.05	ug/g	ND			NC	50	
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g	ND			NC	50	
Methyl Isobutyl Ketone	ND	0.50	ug/g	ND			NC	50	
Methyl tert-butyl ether	ND	0.05	ug/g	ND			NC	50	
Methylene Chloride	ND	0.05	ug/g	ND			NC	50	
Styrene	ND	0.05	ug/g	ND			NC	50	
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g	ND			NC	50	
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g	ND			NC	50	
Tetrachloroethylene	ND	0.05	ug/g	ND			NC	50	
Toluene	ND	0.05	ug/g	ND			NC	50	
1,1,1-Trichloroethane	ND	0.05	ug/g	ND			NC	50	
1,1,2-Trichloroethane	ND	0.05	ug/g	ND			NC	50	
Trichloroethylene	ND	0.05	ug/g	ND			NC	50	
Trichlorofluoromethane	ND	0.05	ug/g	ND			NC	50	
Vinyl chloride	ND	0.02	ug/g	ND			NC	50	
m,p-Xylenes	ND	0.05	ug/g	ND			NC	50	

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
o-Xylene	ND	0.05	ug/g	ND			NC	50	
Surrogate: 4-Bromofluorobenzene	8.31		%		102	50-140			
Surrogate: Dibromofluoromethane	8.99		%		110	50-140			
Surrogate: Toluene-d8	7.66		%		94.1	50-140			
Benzene	ND	0.02	ug/g	ND			NC	50	
Ethylbenzene	ND	0.05	ug/g	ND			NC	50	
Toluene	ND	0.05	ug/g	ND			NC	50	
m,p-Xylenes	ND	0.05	ug/g	ND			NC	50	
o-Xylene	ND	0.05	ug/g	ND			NC	50	
Surrogate: Toluene-d8	7.66		%		94.1	50-140			

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	163	7	ug/g	ND	94.6	85-115			
F2 PHCs (C10-C16)	105	4	ug/g	ND	111	60-140			
F3 PHCs (C16-C34)	269	8	ug/g	ND	115	60-140			
F4 PHCs (C34-C50)	229	6	ug/g	30	135	60-140			
F4G PHCs (gravimetric)	880	50	ug/g	ND	88.0	80-120			
Metals									
Antimony	38.1	1.0	ug/g	ND	76.1	70-130			
Arsenic	44.0	1.0	ug/g	ND	86.7	70-130			
Barium	70.3	1.0	ug/g	22.8	94.9	70-130			
Beryllium	46.9	0.5	ug/g	ND	93.5	70-130			
Boron	47.3	5.0	ug/g	ND	90.4	70-130			
Cadmium	45.1	0.5	ug/g	ND	90.1	70-130			
Chromium (VI)	5.0	0.2	ug/g	ND	84.0	48-112			
Chromium	56.1	5.0	ug/g	8.4	95.2	70-130			
Cobalt	47.7	1.0	ug/g	1.8	91.8	70-130			
Copper	47.8	5.0	ug/g	ND	87.7	70-130			
Lead	56.3	1.0	ug/g	11.0	90.5	70-130			
Mercury	1.65	0.1	ug/g	ND	110	70-130			
Molybdenum	45.5	1.0	ug/g	ND	90.6	70-130			
Nickel	49.8	5.0	ug/g	ND	90.4	70-130			
Selenium	45.6	1.0	ug/g	ND	91.0	70-130			
Silver	41.3	0.3	ug/g	0.3	81.9	70-130			
Thallium	44.4	1.0	ug/g	ND	88.6	70-130			
Uranium	44.4	1.0	ug/g	ND	88.6	70-130			
Vanadium	59.0	10.0	ug/g	10.6	96.9	70-130			
Zinc	82.6	20.0	ug/g	40.9	83.3	70-130			
Semi-Volatiles									
Acenaphthene	0.124	0.02	ug/g	ND	51.6	50-140			
Acenaphthylene	0.131	0.02	ug/g	ND	54.2	50-140			
Anthracene	0.132	0.02	ug/g	ND	54.9	50-140			

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzo [a] anthracene	0.138	0.02	ug/g	ND	57.4	50-140			
Benzo [a] pyrene	0.129	0.02	ug/g	ND	53.5	50-140			
Benzo [b] fluoranthene	0.130	0.02	ug/g	ND	53.7	50-140			
Benzo [g,h,i] perylene	0.121	0.02	ug/g	ND	50.3	50-140			
Benzo [k] fluoranthene	0.144	0.02	ug/g	ND	59.8	50-140			
Chrysene	0.152	0.02	ug/g	ND	63.1	50-140			
Dibenzo [a,h] anthracene	0.084	0.02	ug/g	ND	50.2	50-140			
Fluoranthene	0.167	0.02	ug/g	ND	69.4	50-140			
Fluorene	0.126	0.02	ug/g	ND	52.4	50-140			
Indeno [1,2,3-cd] pyrene	0.248	0.02	ug/g	ND	103	50-140			
1-Methylnaphthalene	0.137	0.02	ug/g	ND	56.6	50-140			
2-Methylnaphthalene	0.158	0.02	ug/g	ND	65.4	50-140			
Naphthalene	0.139	0.01	ug/g	ND	57.5	50-140			
Phenanthrene	0.164	0.02	ug/g	ND	68.0	50-140			
Pyrene	0.154	0.02	ug/g	ND	63.6	50-140			
Surrogate: 2-Fluorobiphenyl	1.32		%		68.3	50-140			
Surrogate: Terphenyl-d14	1.18		%		61.4	50-140			
Volatiles									
Acetone	11.5	0.50	ug/g	ND	115	50-140			
Benzene	4.21	0.02	ug/g	ND	105	60-130			
Bromodichloromethane	3.63	0.05	ug/g	ND	90.8	60-130			
Bromoform	3.53	0.05	ug/g	ND	88.2	60-130			
Bromomethane	4.46	0.05	ug/g	ND	112	50-140			
Carbon Tetrachloride	3.75	0.05	ug/g	ND	93.7	60-130			
Chlorobenzene	3.70	0.05	ug/g	ND	92.5	60-130			
Chloroform	3.87	0.05	ug/g	ND	96.8	60-130			
Dibromochloromethane	3.42	0.05	ug/g	ND	85.6	60-130			
Dichlorodifluoromethane	4.09	0.05	ug/g	ND	102	50-140			
1,2-Dichlorobenzene	3.96	0.05	ug/g	ND	99.0	60-130			
1,3-Dichlorobenzene	3.96	0.05	ug/g	ND	98.9	60-130			
1,4-Dichlorobenzene	3.89	0.05	ug/g	ND	97.3	60-130			

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,1-Dichloroethane	4.06	0.05	ug/g	ND	101	60-130			
1,2-Dichloroethane	3.85	0.05	ug/g	ND	96.2	60-130			
1,1-Dichloroethylene	4.11	0.05	ug/g	ND	103	60-130			
cis-1,2-Dichloroethylene	3.87	0.05	ug/g	ND	96.7	60-130			
trans-1,2-Dichloroethylene	4.07	0.05	ug/g	ND	102	60-130			
1,2-Dichloropropane	3.78	0.05	ug/g	ND	94.6	60-130			
cis-1,3-Dichloropropylene	3.92	0.05	ug/g	ND	98.0	60-130			
trans-1,3-Dichloropropylene	3.99	0.05	ug/g	ND	99.7	60-130			
Ethylbenzene	3.94	0.05	ug/g	ND	98.4	60-130			
Ethylene dibromide (dibromoethane, 1,2-)	3.54	0.05	ug/g	ND	88.5	60-130			
Hexane	3.94	0.05	ug/g	ND	98.4	60-130			
Methyl Ethyl Ketone (2-Butanone)	11.3	0.50	ug/g	ND	113	50-140			
Methyl Isobutyl Ketone	11.1	0.50	ug/g	ND	111	50-140			
Methyl tert-butyl ether	9.84	0.05	ug/g	ND	98.4	50-140			
Methylene Chloride	4.53	0.05	ug/g	ND	113	60-130			
Styrene	4.05	0.05	ug/g	ND	101	60-130			
1,1,1,2-Tetrachloroethane	3.63	0.05	ug/g	ND	90.8	60-130			
1,1,2,2-Tetrachloroethane	3.55	0.05	ug/g	ND	88.8	60-130			
Tetrachloroethylene	3.75	0.05	ug/g	ND	93.8	60-130			
Toluene	3.92	0.05	ug/g	ND	98.0	60-130			
1,1,1-Trichloroethane	3.81	0.05	ug/g	ND	95.3	60-130			
1,1,2-Trichloroethane	3.63	0.05	ug/g	ND	90.7	60-130			
Trichloroethylene	3.61	0.05	ug/g	ND	90.1	60-130			
Trichlorofluoromethane	4.36	0.05	ug/g	ND	109	50-140			
Vinyl chloride	4.44	0.02	ug/g	ND	111	50-140			
m,p-Xylenes	7.64	0.05	ug/g	ND	95.6	60-130			
o-Xylene	3.84	0.05	ug/g	ND	95.9	60-130			
Surrogate: 4-Bromofluorobenzene	8.16		%		102	50-140			
Surrogate: Dibromofluoromethane	7.88		%		98.5	50-140			
Surrogate: Toluene-d8	7.47		%		93.4	50-140			
Benzene	4.21	0.02	ug/g	ND	105	60-130			

Certificate of Analysis

Report Date: 12-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 6-Nov-2025

Client PO: 64415

Project Description: PE7253

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Ethylbenzene	3.94	0.05	ug/g	ND	98.4	60-130			
Toluene	3.92	0.05	ug/g	ND	98.0	60-130			
m,p-Xylenes	7.64	0.05	ug/g	ND	95.6	60-130			
o-Xylene	3.84	0.05	ug/g	ND	95.9	60-130			
Surrogate: Toluene-d8	7.47		%		93.4	50-140			

Certificate of Analysis

Client: Paterson Group Consulting Engineers (Ottawa)

Client PO: 64415

Report Date: 12-Nov-2025

Order Date: 6-Nov-2025

Project Description: PE7253

Qualifier Notes:

Sample Qualifiers :

- 1: GC-FID signal did not return to baseline by C50
Applies to Samples: BH1-25-SS1

Sample Data Revisions:

None

Certificate of Analysis

Client: Paterson Group Consulting Engineers (Ottawa)

Client PO: 64415

Report Date: 12-Nov-2025

Order Date: 6-Nov-2025

Project Description: PE7253

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

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

%REC: Percent recovery.

RPD: Relative percent difference.

NC: Not Calculated

Soil results are reported on a dry weight basis unless 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.

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

Parcel ID: 2545414



Paracel Blvd.
10 K1G 4J8
947
paracelabs.com
jbs.com

Parcel Order Number
(Lab Use Only)

2545414

Chain Of Custody
(Lab Use Only)

Client Name: Paterson Group	Project Ref: PE7253	Page 1 of 1
Contact Name: Nick Sullivan	Quote #:	
Address: 9 Auriga Drive Ottawa, Ontario, K2E 7T9	PO #: 64415	
Telephone: 613-226-7381	E-mail: nsullivan@patersongroup.ca	
		Turnaround Time ☐ 1 day ☐ 3 day ☐ 2 day ☒ Regular
		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 ☐ Table 2 ☐ Ind/Comm ☒ Coarse ☐ Table 3 ☐ Agri/Other ☒ Table 7 For RSC: ☒ Yes ☐ No		☐ REG 558 ☐ PWQO ☐ CCME ☐ MISA ☐ SU - Sani ☐ SU - Storm Mun: _____ ☐ Other: _____																			
Sample ID/Location Name				Matrix	Air Volume	# of Containers	Sample Taken														
							Date	Time	BTEX	VOCs	PHCs (F1-F4)	PAHs	ICP Metals	Hg	CrVI	EC + SAR	pH				
1	BH1-25-SS1			S		2	Nov. 5. 2025		☒	☐	☒	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐
2	BH2-25-SS1			S		2	Nov. 5. 2025		☒	☐	☒	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐
3	BH3-25-SS1B			S		1	Nov. 5. 2025		☐	☐	☒	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐
4	BH3-25-SS2			S		2	Nov. 5. 2025		☐	☒	☒	☐	☒	☒	☒	☒	☒	☐	☐	☐	☐
5	BH4-25-SS1			S		1	Nov. 5. 2025		☐	☐	☒	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐
6	BH4-25-SS2			S		2	Nov. 5. 2025		☐	☒	☒	☐	☒	☒	☒	☒	☒	☐	☐	☐	☐
7	BH5-25-SS1B			S		2	Nov. 5. 2025		☐	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐
8	BH6-25-SS1			S		2	Nov. 5. 2025		☒	☐	☒	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐
9	DUP-1			S		2	Nov. 5. 2025		☐	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
10	DUP-2			S		1	Nov. 5. 2025		☐	☐	☐	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐

Comments:

Method of Delivery:

Parcel courier

Relinquished By (Sign): <i>N. Sullivan</i>	Received at Depot:	Received at Lab: <i>LIT</i>	Verified By: <i>SO</i>
Relinquished By (Print): Nick Sullivan	Date/Time:	Date/Time: <i>06/11/25 15:40</i>	Date/Time: <i>Nov 6, 2025 4:12pm</i>
Date/Time: November 6, 2025 @ 3:00 PM	Temperature: _____ °C	Temperature: <i>14.2°C</i>	pH Verified: ☐ By: _____

Certificate of Analysis

Paterson Group Consulting Engineers (Ottawa)

9 Auriga Drive
Ottawa, ON K2E 7T9
Attn: Nick Sullivan

Client PO: 64463
Project: PE7253
Custody:

Report Date: 24-Nov-2025

Order Date: 18-Nov-2025

Order #: 2547226

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

Paracel ID	Client ID
2547226-01	BH3-25-GW1
2547226-02	BH4-25-GW1
2547226-03	BH103-25-GW1
2547226-04	DUP-1

Approved By:

A. Tirca

Adriana Tirca, B.Eng (Chem)

Supervisor

Certificate of Analysis

Report Date: 24-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 18-Nov-2025

Client PO: 64463

Project Description: PE7253

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Metals, ICP-MS	EPA 200.8 - ICP-MS	19-Nov-25	19-Nov-25
PHC F1	CWS Tier 1 - P&T GC-FID	20-Nov-25	20-Nov-25
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	21-Nov-25	22-Nov-25
REG 153: PAHs by GC-MS	EPA 625 - GC-MS, extraction	21-Nov-25	21-Nov-25
REG 153: VOCs by P&T GC/MS	EPA 624 - P&T GC-MS	20-Nov-25	20-Nov-25

Certificate of Analysis

Report Date: 24-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 18-Nov-2025

Client PO: 64463

Project Description: PE7253

Client ID:	BH3-25-GW1	BH4-25-GW1	BH103-25-GW1	DUP-1		
Sample Date:	14-Nov-25 09:00	14-Nov-25 09:00	14-Nov-25 09:00	14-Nov-25 09:00	-	-
Sample ID:	2547226-01	2547226-02	2547226-03	2547226-04		
Matrix:	Ground Water	Ground Water	Ground Water	Ground Water		
MDL/Units						

Metals

Antimony	0.5 ug/L	-	-	<0.5	-	-
Arsenic	1 ug/L	-	-	<1	-	-
Barium	1 ug/L	-	-	157	-	-
Beryllium	0.5 ug/L	-	-	<0.5	-	-
Boron	10 ug/L	-	-	150	-	-
Cadmium	0.1 ug/L	-	-	<0.1	-	-
Chromium	1 ug/L	-	-	<1	-	-
Cobalt	0.5 ug/L	-	-	0.6	-	-
Copper	0.5 ug/L	-	-	2.1	-	-
Lead	0.1 ug/L	-	-	<0.1	-	-
Molybdenum	0.5 ug/L	-	-	2.1	-	-
Nickel	1 ug/L	-	-	2	-	-
Selenium	1 ug/L	-	-	<1	-	-
Silver	0.1 ug/L	-	-	<0.1	-	-
Sodium	200 ug/L	-	-	3890000	-	-
Thallium	0.1 ug/L	-	-	<0.1	-	-
Uranium	0.1 ug/L	-	-	0.6	-	-
Vanadium	0.5 ug/L	-	-	<0.5	-	-
Zinc	5 ug/L	-	-	12	-	-

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	-

Certificate of Analysis

Report Date: 24-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 18-Nov-2025

Client PO: 64463

Project Description: PE7253

Client ID:	BH3-25-GW1	BH4-25-GW1	BH103-25-GW1	DUP-1	-	-
Sample Date:	14-Nov-25 09:00	14-Nov-25 09:00	14-Nov-25 09:00	14-Nov-25 09:00	-	-
Sample ID:	2547226-01	2547226-02	2547226-03	2547226-04	-	-
Matrix:	Ground Water	Ground Water	Ground Water	Ground Water	-	-
MDL/Units						

Volatiles

Carbon Tetrachloride	0.2 ug/L	<0.2	<0.2	-	<0.2	-	-
Chlorobenzene	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
Chloroform	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
Dibromochloromethane	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
Dichlorodifluoromethane	1.0 ug/L	<1.0	<1.0	-	<1.0	-	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
1,3-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
1,1-Dichloroethane	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
1,2-Dichloroethane	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
1,1-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
1,2-Dichloropropane	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
Ethylene dibromide (dibromoethane,	0.2 ug/L	<0.2	<0.2	-	<0.2	-	-
Ethylbenzene	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
Hexane	1.0 ug/L	<1.0	<1.0	-	<1.0	-	-
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	<5.0	-	<5.0	-	-
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	<5.0	-	<5.0	-	-
Methyl tert-butyl ether	2.0 ug/L	<2.0	<2.0	-	<2.0	-	-
Methylene Chloride	5.0 ug/L	<5.0	<5.0	-	<5.0	-	-
Styrene	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-

Certificate of Analysis

Report Date: 24-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 18-Nov-2025

Client PO: 64463

Project Description: PE7253

Client ID:	BH3-25-GW1	BH4-25-GW1	BH103-25-GW1	DUP-1		
Sample Date:	14-Nov-25 09:00	14-Nov-25 09:00	14-Nov-25 09:00	14-Nov-25 09:00	-	-
Sample ID:	2547226-01	2547226-02	2547226-03	2547226-04		
Matrix:	Ground Water	Ground Water	Ground Water	Ground Water		
MDL/Units						

Volatiles

1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
Tetrachloroethylene	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
Toluene	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
1,1,1-Trichloroethane	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
Trichloroethylene	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
Trichlorofluoromethane	1.0 ug/L	<1.0	<1.0	-	<1.0	-	-
Vinyl chloride	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
m,p-Xylenes	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
o-Xylene	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
Xylenes, total	0.5 ug/L	<0.5	<0.5	-	<0.5	-	-
Dibromofluoromethane	Surrogate	109%	107%	-	107%	-	-
4-Bromofluorobenzene	Surrogate	92.3%	89.7%	-	88.3%	-	-
Toluene-d8	Surrogate	89.6%	91.8%	-	91.8%	-	-

Hydrocarbons

F1 PHCs (C6-C10)	25 ug/L	<25	<25	-	<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	-	-

Semi-Volatiles

Acenaphthene	0.05 ug/L	-	-	<0.05	-	-	-
Acenaphthylene	0.05 ug/L	-	-	<0.05	-	-	-
Anthracene	0.01 ug/L	-	-	<0.01	-	-	-
Benzo [a] anthracene	0.01 ug/L	-	-	<0.01	-	-	-

Certificate of Analysis

Report Date: 24-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 18-Nov-2025

Client PO: 64463

Project Description: PE7253

Client ID:	BH3-25-GW1	BH4-25-GW1	BH103-25-GW1	DUP-1		
Sample Date:	14-Nov-25 09:00	14-Nov-25 09:00	14-Nov-25 09:00	14-Nov-25 09:00	-	-
Sample ID:	2547226-01	2547226-02	2547226-03	2547226-04		
Matrix:	Ground Water	Ground Water	Ground Water	Ground Water		
MDL/Units						

Semi-Volatiles

Benzo [a] pyrene	0.01 ug/L	-	-	<0.01	-	-
Benzo [b] fluoranthene	0.05 ug/L	-	-	<0.05	-	-
Benzo [g,h,i] perylene	0.05 ug/L	-	-	<0.05	-	-
Benzo [k] fluoranthene	0.05 ug/L	-	-	<0.05	-	-
Chrysene	0.05 ug/L	-	-	<0.05	-	-
Dibenzo [a,h] anthracene	0.05 ug/L	-	-	<0.05	-	-
Fluoranthene	0.01 ug/L	-	-	<0.01	-	-
Fluorene	0.05 ug/L	-	-	<0.05	-	-
Indeno [1,2,3-cd] pyrene	0.05 ug/L	-	-	<0.05	-	-
1-Methylnaphthalene	0.05 ug/L	-	-	<0.05	-	-
2-Methylnaphthalene	0.05 ug/L	-	-	<0.05	-	-
Methylnaphthalene (1&2)	0.10 ug/L	-	-	<0.10	-	-
Naphthalene	0.05 ug/L	-	-	<0.05	-	-
Phenanthrene	0.05 ug/L	-	-	<0.05	-	-
Pyrene	0.01 ug/L	-	-	<0.01	-	-
2-Fluorobiphenyl	Surrogate	-	-	75.3%	-	-
Terphenyl-d14	Surrogate	-	-	85.9%	-	-

Certificate of Analysis

Report Date: 24-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 18-Nov-2025

Client PO: 64463

Project Description: PE7253

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					
Metals								
Antimony	ND	0.5	ug/L					
Arsenic	ND	1	ug/L					
Barium	ND	1	ug/L					
Beryllium	ND	0.5	ug/L					
Boron	ND	10	ug/L					
Cadmium	ND	0.1	ug/L					
Chromium	ND	1	ug/L					
Cobalt	ND	0.5	ug/L					
Copper	ND	0.5	ug/L					
Lead	ND	0.1	ug/L					
Molybdenum	ND	0.5	ug/L					
Nickel	ND	1	ug/L					
Selenium	ND	1	ug/L					
Silver	ND	0.1	ug/L					
Sodium	ND	200	ug/L					
Thallium	ND	0.1	ug/L					
Uranium	ND	0.1	ug/L					
Vanadium	ND	0.5	ug/L					
Zinc	ND	5	ug/L					
Semi-Volatiles								
Acenaphthene	ND	0.05	ug/L					
Acenaphthylene	ND	0.05	ug/L					
Anthracene	ND	0.01	ug/L					
Benzo [a] anthracene	ND	0.01	ug/L					
Benzo [a] pyrene	ND	0.01	ug/L					
Benzo [b] fluoranthene	ND	0.05	ug/L					
Benzo [g,h,i] perylene	ND	0.05	ug/L					

Certificate of Analysis

Report Date: 24-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 18-Nov-2025

Client PO: 64463

Project Description: PE7253

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzo [k] fluoranthene	ND	0.05	ug/L					
Chrysene	ND	0.05	ug/L					
Dibenzo [a,h] anthracene	ND	0.05	ug/L					
Fluoranthene	ND	0.01	ug/L					
Fluorene	ND	0.05	ug/L					
Indeno [1,2,3-cd] pyrene	ND	0.05	ug/L					
1-Methylnaphthalene	ND	0.05	ug/L					
2-Methylnaphthalene	ND	0.05	ug/L					
Methylnaphthalene (1&2)	ND	0.10	ug/L					
Naphthalene	ND	0.05	ug/L					
Phenanthrene	ND	0.05	ug/L					
Pyrene	ND	0.01	ug/L					
Surrogate: 2-Fluorobiphenyl	15.1		%	75.3	50-140			
Surrogate: Terphenyl-d14	17.5		%	87.7	50-140			
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					

Certificate of Analysis

Report Date: 24-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 18-Nov-2025

Client PO: 64463

Project Description: PE7253

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
trans-1,2-Dichloroethylene	ND	0.5	ug/L					
1,2-Dichloropropane	ND	0.5	ug/L					
cis-1,3-Dichloropropylene	ND	0.5	ug/L					
trans-1,3-Dichloropropylene	ND	0.5	ug/L					
1,3-Dichloropropene, total	ND	0.5	ug/L					
Ethylbenzene	ND	0.5	ug/L					
Ethylene dibromide (dibromoethane, 1,2-)	ND	0.2	ug/L					
Hexane	ND	1.0	ug/L					
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L					
Methyl Isobutyl Ketone	ND	5.0	ug/L					
Methyl tert-butyl ether	ND	2.0	ug/L					
Methylene Chloride	ND	5.0	ug/L					
Styrene	ND	0.5	ug/L					
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L					
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L					
Tetrachloroethylene	ND	0.5	ug/L					
Toluene	ND	0.5	ug/L					
1,1,1-Trichloroethane	ND	0.5	ug/L					
1,1,2-Trichloroethane	ND	0.5	ug/L					
Trichloroethylene	ND	0.5	ug/L					
Trichlorofluoromethane	ND	1.0	ug/L					
Vinyl chloride	ND	0.5	ug/L					
m,p-Xylenes	ND	0.5	ug/L					
o-Xylene	ND	0.5	ug/L					
Xylenes, total	ND	0.5	ug/L					
Surrogate: 4-Bromofluorobenzene	69.7		%	87.2	50-140			
Surrogate: Dibromofluoromethane	84.3		%	105	50-140			
Surrogate: Toluene-d8	74.8		%	93.4	50-140			

Certificate of Analysis

Report Date: 24-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 18-Nov-2025

Client PO: 64463

Project Description: PE7253

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	
Metals									
Antimony	ND	0.5	ug/L	ND			NC	20	
Arsenic	ND	1	ug/L	ND			NC	20	
Barium	176	1	ug/L	172			2.3	20	
Beryllium	ND	0.5	ug/L	ND			NC	20	
Boron	1700	41	ug/L	1690			0.6	20	
Cadmium	ND	0.1	ug/L	ND			NC	20	
Chromium	1.4	1	ug/L	1.3			4.3	20	
Cobalt	ND	0.5	ug/L	ND			NC	20	
Copper	ND	0.5	ug/L	ND			NC	20	
Lead	ND	0.1	ug/L	ND			NC	20	
Molybdenum	0.51	0.5	ug/L	0.51			0.3	20	
Nickel	1.3	1	ug/L	1.3			4.0	20	
Selenium	ND	1	ug/L	ND			NC	20	
Silver	ND	0.1	ug/L	ND			NC	20	
Sodium	68600	200	ug/L	68900			0.5	20	
Thallium	ND	0.1	ug/L	ND			NC	20	
Uranium	1.5	0.1	ug/L	1.4			1.8	20	
Vanadium	1.55	0.5	ug/L	1.57			1.1	20	
Zinc	ND	5	ug/L	ND			NC	20	
Volatiles									
Acetone	ND	5.0	ug/L	ND			NC	30	
Benzene	ND	0.5	ug/L	ND			NC	30	
Bromodichloromethane	2.80	0.5	ug/L	2.54			9.7	30	
Bromoform	0.52	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	2.94	0.5	ug/L	2.91			1.0	30	

Certificate of Analysis

Report Date: 24-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 18-Nov-2025

Client PO: 64463

Project Description: PE7253

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Dibromochloromethane	2.54	0.5	ug/L	2.36			7.4	30	
Dichlorodifluoromethane	ND	1.0	ug/L	ND			NC	30	
1,2-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,3-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,4-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,1-Dichloroethane	ND	0.5	ug/L	ND			NC	30	
1,2-Dichloroethane	ND	0.5	ug/L	ND			NC	30	
1,1-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
cis-1,2-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
trans-1,2-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
1,2-Dichloropropane	ND	0.5	ug/L	ND			NC	30	
cis-1,3-Dichloropropylene	ND	0.5	ug/L	ND			NC	30	
trans-1,3-Dichloropropylene	ND	0.5	ug/L	ND			NC	30	
Ethylbenzene	ND	0.5	ug/L	ND			NC	30	
Ethylene dibromide (dibromoethane, 1,2-)	ND	0.2	ug/L	ND			NC	30	
Hexane	ND	1.0	ug/L	ND			NC	30	
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L	ND			NC	30	
Methyl Isobutyl Ketone	ND	5.0	ug/L	ND			NC	30	
Methyl tert-butyl ether	ND	2.0	ug/L	ND			NC	30	
Methylene Chloride	ND	5.0	ug/L	ND			NC	30	
Styrene	ND	0.5	ug/L	ND			NC	30	
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	ND			NC	30	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	ND			NC	30	
Tetrachloroethylene	ND	0.5	ug/L	ND			NC	30	
Toluene	ND	0.5	ug/L	ND			NC	30	
1,1,1-Trichloroethane	ND	0.5	ug/L	ND			NC	30	
1,1,2-Trichloroethane	ND	0.5	ug/L	ND			NC	30	
Trichloroethylene	ND	0.5	ug/L	ND			NC	30	
Trichlorofluoromethane	ND	1.0	ug/L	ND			NC	30	
Vinyl chloride	ND	0.5	ug/L	ND			NC	30	
m,p-Xylenes	ND	0.5	ug/L	ND			NC	30	

Certificate of Analysis

Report Date: 24-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 18-Nov-2025

Client PO: 64463

Project Description: PE7253

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
o-Xylene	ND	0.5	ug/L	ND			NC	30	
Surrogate: 4-Bromofluorobenzene	70.4		%		88.1	50-140			
Surrogate: Dibromofluoromethane	88.2		%		110	50-140			
Surrogate: Toluene-d8	72.2		%		90.2	50-140			

Certificate of Analysis

Report Date: 24-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 18-Nov-2025

Client PO: 64463

Project Description: PE7253

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	1810	25	ug/L	ND	105	85-115			
F2 PHCs (C10-C16)	1610	100	ug/L	ND	101	60-140			
F3 PHCs (C16-C34)	4410	100	ug/L	ND	112	60-140			
F4 PHCs (C34-C50)	2740	100	ug/L	ND	111	60-140			
Metals									
Antimony	42.5	0.5	ug/L	ND	84.6	80-120			
Arsenic	62.7	1	ug/L	ND	124	80-120			QM-07
Barium	208	1	ug/L	172	72.2	80-120			QM-07
Beryllium	46.8	0.5	ug/L	ND	93.6	80-120			
Boron	49	10	ug/L	ND	98.9	80-120			
Cadmium	44.2	0.1	ug/L	ND	88.4	80-120			
Chromium	57.1	1	ug/L	1.3	112	80-120			
Cobalt	52.2	0.5	ug/L	ND	103	80-120			
Copper	45.1	0.5	ug/L	ND	90.0	80-120			
Lead	43.5	0.1	ug/L	ND	86.9	80-120			
Molybdenum	52.6	0.5	ug/L	0.51	104	80-120			
Nickel	49.4	1	ug/L	1.3	96.1	80-120			
Selenium	41.2	1	ug/L	ND	81.5	80-120			
Silver	31.9	0.1	ug/L	ND	63.9	80-120			QM-07
Sodium	75200	200	ug/L	68900	63.1	80-120			QM-07
Thallium	45.6	0.1	ug/L	ND	91.2	80-120			
Uranium	48.1	0.1	ug/L	1.4	93.3	80-120			
Vanadium	59.1	0.5	ug/L	1.57	115	80-120			
Zinc	43	5	ug/L	ND	83.7	80-120			
Semi-Volatiles									
Acenaphthene	4.93	0.05	ug/L	ND	98.5	50-140			
Acenaphthylene	4.85	0.05	ug/L	ND	96.9	50-140			
Anthracene	4.98	0.01	ug/L	ND	99.7	50-140			
Benzo [a] anthracene	5.03	0.01	ug/L	ND	101	50-140			
Benzo [a] pyrene	5.17	0.01	ug/L	ND	103	50-140			

Certificate of Analysis

Report Date: 24-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 18-Nov-2025

Client PO: 64463

Project Description: PE7253

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzo [b] fluoranthene	4.97	0.05	ug/L	ND	99.3	50-140			
Benzo [g,h,i] perylene	4.91	0.05	ug/L	ND	98.2	50-140			
Benzo [k] fluoranthene	5.57	0.05	ug/L	ND	111	50-140			
Chrysene	4.87	0.05	ug/L	ND	97.3	50-140			
Dibenzo [a,h] anthracene	3.44	0.05	ug/L	ND	68.7	50-140			
Fluoranthene	5.07	0.01	ug/L	ND	101	50-140			
Fluorene	4.30	0.05	ug/L	ND	85.9	50-140			
Indeno [1,2,3-cd] pyrene	4.88	0.05	ug/L	ND	97.6	50-140			
1-Methylnaphthalene	4.33	0.05	ug/L	ND	86.6	50-140			
2-Methylnaphthalene	4.05	0.05	ug/L	ND	81.0	50-140			
Naphthalene	4.71	0.05	ug/L	ND	94.2	50-140			
Phenanthrene	5.15	0.05	ug/L	ND	103	50-140			
Pyrene	5.04	0.01	ug/L	ND	101	50-140			
Surrogate: 2-Fluorobiphenyl	16.1		%		80.3	50-140			
Surrogate: Terphenyl-d14	16.8		%		84.1	50-140			
Volatiles									
Acetone	96.1	5.0	ug/L	ND	96.1	50-140			
Benzene	44.4	0.5	ug/L	ND	111	60-130			
Bromodichloromethane	44.0	0.5	ug/L	ND	110	60-130			
Bromoform	45.3	0.5	ug/L	ND	113	60-130			
Bromomethane	47.4	0.5	ug/L	ND	119	50-140			
Carbon Tetrachloride	46.8	0.2	ug/L	ND	117	60-130			
Chlorobenzene	43.9	0.5	ug/L	ND	110	60-130			
Chloroform	41.4	0.5	ug/L	ND	104	60-130			
Dibromochloromethane	47.9	0.5	ug/L	ND	120	60-130			
Dichlorodifluoromethane	48.2	1.0	ug/L	ND	121	50-140			
1,2-Dichlorobenzene	36.7	0.5	ug/L	ND	91.8	60-130			
1,3-Dichlorobenzene	36.8	0.5	ug/L	ND	92.1	60-130			
1,4-Dichlorobenzene	34.3	0.5	ug/L	ND	85.7	60-130			
1,1-Dichloroethane	46.9	0.5	ug/L	ND	117	60-130			
1,2-Dichloroethane	44.6	0.5	ug/L	ND	112	60-130			

Certificate of Analysis

Report Date: 24-Nov-2025

Client: Paterson Group Consulting Engineers (Ottawa)

Order Date: 18-Nov-2025

Client PO: 64463

Project Description: PE7253

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,1-Dichloroethylene	48.9	0.5	ug/L	ND	122	60-130			
cis-1,2-Dichloroethylene	46.3	0.5	ug/L	ND	116	60-130			
trans-1,2-Dichloroethylene	49.2	0.5	ug/L	ND	123	60-130			
1,2-Dichloropropane	43.4	0.5	ug/L	ND	108	60-130			
cis-1,3-Dichloropropylene	48.6	0.5	ug/L	ND	122	60-130			
trans-1,3-Dichloropropylene	45.9	0.5	ug/L	ND	115	60-130			
Ethylbenzene	42.7	0.5	ug/L	ND	107	60-130			
Ethylene dibromide (dibromoethane, 1,2-)	46.9	0.2	ug/L	ND	117	60-130			
Hexane	40.3	1.0	ug/L	ND	101	60-130			
Methyl Ethyl Ketone (2-Butanone)	99.3	5.0	ug/L	ND	99.3	50-140			
Methyl Isobutyl Ketone	96.0	5.0	ug/L	ND	96.0	50-140			
Methyl tert-butyl ether	98.2	2.0	ug/L	ND	98.2	50-140			
Methylene Chloride	49.1	5.0	ug/L	ND	123	60-130			
Styrene	46.7	0.5	ug/L	ND	117	60-130			
1,1,1,2-Tetrachloroethane	41.4	0.5	ug/L	ND	104	60-130			
1,1,2,2-Tetrachloroethane	41.6	0.5	ug/L	ND	104	60-130			
Tetrachloroethylene	44.0	0.5	ug/L	ND	110	60-130			
Toluene	39.8	0.5	ug/L	ND	99.6	60-130			
1,1,1-Trichloroethane	48.3	0.5	ug/L	ND	121	60-130			
1,1,2-Trichloroethane	49.4	0.5	ug/L	ND	124	60-130			
Trichloroethylene	45.2	0.5	ug/L	ND	113	60-130			
Trichlorofluoromethane	48.3	1.0	ug/L	ND	121	60-130			
Vinyl chloride	43.8	0.5	ug/L	ND	109	50-140			
m,p-Xylenes	80.9	0.5	ug/L	ND	101	60-130			
o-Xylene	40.8	0.5	ug/L	ND	102	60-130			
Surrogate: 4-Bromofluorobenzene	67.6		%		84.5	50-140			
Surrogate: Dibromofluoromethane	92.5		%		116	50-140			
Surrogate: Toluene-d8	69.3		%		86.6	50-140			

Certificate of Analysis

Client: Paterson Group Consulting Engineers (Ottawa)

Client PO: 64463

Report Date: 24-Nov-2025

Order Date: 18-Nov-2025

Project Description: PE7253

Qualifier Notes:**QC Qualifiers:**

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on other acceptable QC.

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.

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

