1055 Bloor Street, Mississauga

Geotechnical Engineering Report

Project Location:
1055 Bloor Street, Mississauga, Ontario

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August 11, 2025

MTE File No.: 62263_001

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1.0 INTRODUCTION

MTE Consultants Inc. (MTE) was retained by CAPREIT Limited Partnership to carry out a geotechnical investigation at 1055 Bloor Street, Mississauga, Ontario. The location of the site is shown on **Figure 1** in **Appendix A**.

Based on the architectural drawings prepared by Kohn Partnership Architects Inc., dated August 11, 2025, it is understood that the proposed re-development includes four (4) stacked townhouse blocks on unencumbered areas of the site. The locations of the proposed townhouses are present on **Figure 1** in **Appendix A**.

The purpose of the geotechnical investigation is to assess the subsurface soil and groundwater conditions at the site by means of advancing a limited number of boreholes, conducting in-situ tests as well as laboratory tests of selected soil samples, and to provide geotechnical engineering recommendations for the proposed development.

It should be noted that the fieldwork for this investigation was carried out in conjunction with a Hydrogeological (HG) Investigation. This report addresses the geotechnical aspects of the proposed development only and the HG report will be issued under separate cover.

The general recommendations and comments made in this report are based on factual information available and are intended for use by the design engineers only. The number of boreholes, depths, tests data and their interpretation presented in this report may not be sufficient to determine all the factors that may have effects on the design and construction of the proposed development.

The report is prepared on the condition that the design will be in accordance with all applicable standards and codes, regulations of authorities having jurisdiction, and good engineering practice. It is important to remember that on-going liaison with MTE is recommended during both the detailed design and construction stages of the project to ensure that the general recommendations in this report are applicable and/or correctly interpreted and implemented. Also, any queries concerning the geotechnical aspects of the proposed development should be directed to MTE for further elaboration and/or clarification.

2.0 PREVIOUS INVESTIGATIONS

A geotechnical investigation was previously carried out by EXP Services Inc. (EXP) at the subject site, titled "***Proposed Residential Development, 1055 Bloor Street, Mississauga, Ontario***" and dated December 19, 2019.

A phase two environmental site assessment was conducted by Premier Environmental Services Inc. (PREMIER) at the subject site, titled "***Phase Two Environmental Site Assessment, 1055 Bloor Street, Mississauga, Ontario***" and dated May 25, 2020.

The results of the above investigation/assessment were reviewed in conjunction with the preparation of this report. The approximate locations of the relevant boreholes and monitoring wells are shown on **Figure 1** in **Appendix A** and the corresponding borehole logs are attached in **Appendix D**.

3.0 SITE DESCRIPTION

The site is located at the north quadrant of the intersection of Bloor Street and Riverspray Crescent, in City of Mississauga, Ontario.

The subject site is irregular in shape and currently occupied by a 17-storey apartment building. The site is bounded by Riverspray Crescent to the west, Bloor Street to the southeast and commercial properties to the northeast.

4.0 FIELD AND LABORATORY PROGRAM

The fieldwork for the investigation was carried out on April 28, 2025 and consisted of advancing four (4) boreholes (denoted as MW101-25 to MW104-25). The boreholes were drilled to depths ranging from 4.7 to 4.8 m below ground surface (mBGS). The approximate locations of the boreholes are shown on **Figure 1** in **Appendix A**.

Public utility companies were contacted prior to drilling activities to identify potential conflicts with underground utilities near the borehole locations. A Private Utility Locator was also retained to locate underground private utility lines adjacent to the borehole locations to ensure that the lines will not be damaged and safety of the worker during the investigation work.

The boreholes were drilled with a truck mount drill rig equipped with solid stem continuous flight auger, supplied and operated by a specialized drilling contractor. Standard penetration testing (SPT) and sampling was carried out at regular intervals during drilling operations using conventional split spoon sampling equipment. The SPT in accordance with ASTM D1586 consisted of freely dropping a 63.5 kg hammer for a vertical distance of 0.76 m to drive a 51 mm outer diameter (O.D.) split-barrel (split-spoon) sampler into the ground. The number of blows of the hammer required to drive the sampler into the ground by a vertical distance of 0.30 m was recorded as SPT ‘N’ value of the soil which indicates the consistency of cohesive soils or the relative density/compactness of non-cohesive soils.

On completion of drilling, 51 mm diameter monitoring wells were installed in all boreholes and the boreholes were backfilled in accordance with Ontario Regulation 468/10 (formerly O. Reg. 903) under the province’s Water Resources Act.

The fieldwork was monitored throughout by an experienced MTE geotechnical personnel, who directed the drilling operations, documented the SPT tests and the soil stratigraphy, observed the groundwater conditions and transported the soil samples to our office for further examination and classification.

All soil samples obtained were tested for water content and a select sample was tested for ***particle size distribution analysis.***

The detailed borehole logs are presented in **Appendix B.** The results of the laboratory tests are provided in **Appendix C**. The soil samples will be stored for a period of 1 month and will be discarded at that time unless prior request from the client to extend storage time has been received.

The ground surface elevation at borehole locations were surveyed by MTE personnel with reference to a geodetic benchmark. However, it should be noted that the ground surface elevations at the as-drilled borehole locations were not provided by a professional surveyor and should be considered to be approximate. Contractors performing any work referenced to the borehole elevations should confirm the borehole elevations for their work. The borehole locations plotted on Borehole Location Plan are based on the measurements of the Site features and should be considered approximate.

5.0 REGIONAL GEOLOGY

For the purposes of regional characterization of the subsoil conditions in the general area of the Site, select geological publications and maps were reviewed. The findings are summarized for reference in the following paragraphs.

Physiographic mapping for Southwestern Ontario (*Chapman, L.J. and Putnam, D.F. 2007; Physiography of Southern Ontario; Ontario Geological Survey, Miscellaneous Release - Data 228*) identifies that the subject site is located within the Physiographic Region known as known as South Slope of Drumlinized Till Plains. The overburden immediately below ground surface within the South Slope generally consists of clayey/silty tills and at depth consists of alternating deposits of dense lacustrine sands and silts and over consolidated lacustrine clays and clay tills overlying the bedrock.

In addition, quaternary geology mapping (*Ontario Geological Survey 2000. Quaternary Geology, seamless coverage of the Province of Ontario; Ontario Geological Survey, Data Set 14---Revised*) indicates that the study area is characterized by Halton Till which predominantly consists of silt to silty clay matrix.

Bedrock geology mapping for Southwestern Ontario (*Ontario Geological Survey 2011. 1:250 000 scale bedrock geology of Ontario; Ontario Geological Survey, Miscellaneous Release---Data 126-Revision 1*) indicates that bedrock in the general area of the site consists of shale, limestone, dolostone and siltstone from Georgian Bay Formation.

Geological publications and well records in the general area of the site indicate that the bedrock surface can be expected at depths between 4 to 5 mBGS. Bedrock was inferred during the current field investigation, as described in Section 6.2.6 of this report.

6.0 SOIL AND GROUNDWATER CONDITIONS

6.1 General

The subsurface soil and groundwater conditions were established at the borehole locations only. Subsurface conditions should be expected to vary, in some instances significantly, between and beyond the borehole locations. The stratigraphic boundaries shown on the borehole logs have been inferred from non-continuous sampling and, as such, are approximate and typically represent transitions between soil types and do not necessarily represent exact planes of geological change.

6.2 Soil Conditions

Reference is made to the appended borehole logs for soil stratigraphy details, SPT N-values, groundwater observations and laboratory classification testing. The subsurface conditions encountered in the boreholes generally consisted of ground surface cover (topsoil and asphalt pavement) overlying existing fills, which in turn was underlain by native silt till, silt till/shale complex and highly weather shale, respectively.

6.2.1 Topsoil

Topsoil was encountered surficially in MW101-25 and MW102-25, with a thickness of 160 and 110 mm, respectively.

6.2.2 Asphalt Pavement

MW103-25 and MW104-25 were advanced through the existing asphalt pavement, consisting of approximately 100 to 140 mm thick asphaltic concrete and 80 to 100 mm thick granular base.

6.2.3 Existing Fill Materials

Fill materials were encountered below topsoil and asphalt pavement in all boreholes and extended to depths ranging from approximately 1.5 to 1.8 mBGS. The fill is typically comprised of clayey silt with some sand and a trace of gravel. Organics and rootlets were also observed within the fills.

SPT N-values recorded in the fills ranged from 6 to 10 blows per 300 mm penetration of the split spoon sampler, indicating firm to stiff consistencies. The in-situ water contents of the fill ranged from about 11 to 23%.

6.2.4 Silt Till

Deposits of silt till were encountered below fills in all boreholes and extended to depths ranging from approximately 2.3 to 3.1 mBGS.

SPT N-values measured in the till ranged from 16 to 33 blows per 300 mm penetration of the split spoon sampler, indicating compact to dense state of compactness. In-situ water contents of the obtained samples ranged from about 11 to 18%.

Geotechnical laboratory test consisting of Grain Size Analysis (Hydrometer) was carried out on a selected soil sample from silt till. The results are provided in **Appendix C** and summarized in the table below:

Table 6.1: Results of Silt Till Particle Size Distribution Analyses

Borehole No.	Sample No.	Sample Depth (mMGS)	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
MW104-25	SS4	2.3 – 2.9	5	17	50	18

6.2.5 Silt Till/Shale Complex

A stratum of silt till/shale complex was encountered below silt till in all boreholes and extended to a depth of approximately 4.6 mBGS.

SPT N-values measured in the till/shale complex ranged from 44 to over 100 blows per 300 mm penetration of the split spoon sampler, indicating dense to very dense state of compactness. In-situ water contents of the obtained samples ranged from about 12 to 14%.

6.2.6 Shale

Highly weathered shale was encountered/inferred below silt till/shale complex in all boreholes. All boreholes were terminated in the weathered shale bedrock at depths ranging from approximately 4.7 to 4.8 mBGS. It should, however, be noted that coring of the shale bedrock to confirm its presence and quality is not included in the current scope of work.

6.3 Groundwater Conditions

Groundwater seepage conditions were observed in the boreholes during drilling and upon completion of drilling and are summarized on the borehole logs. The water levels measured in the installed monitoring wells are summarized in the following table:

Table 6.2: Groundwater Observation

Borehole/Monitoring Well No.	Surface Elevation (mASL)	Monitoring Well Depth (mBGS)	Groundwater Depth (mBGS) /Elevation (mASL)
			May 14, 2025
MW101-25	131.64	4.6	3.06/128.58
MW102-25	132.23	4.6	3.09/129.14
MW103-25	131.90	4.6	2.17/129.73
MW104-25	130.75	4.6	2.77/127.98
BH5*	132.11	5.2	2.10/130.01
BH9*	131.51	9.2	3.45/128.06
BH10*	130.87	6.0	3.05/127.82

Notes: mBGS: meter Below Ground Surface; mASL: meter Above Sea Level
**: Monitoring wells installed by EXP in 2019*

Groundwater levels will also vary seasonally and in response to significant precipitation events. For further details on the site groundwater conditions, reference is provided to MTE's hydrogeological investigation report.

7.0 DISCUSSION AND RECOMMENDATIONS

7.1 General

As forementioned, it is understood that the proposed re-development includes four (4) stacked townhouse blocks on unencumbered areas of the site, as present on **Figure 1** in **Appendix A**.

It should be noted that detailed design drawings (such as foundation general arrangement plans) of the proposed development were not available to MTE at the time of preparation of this report. Therefore, on-going liaison with the design team is recommended and MTE should be provided with the opportunity to further review the recommendations provided below.

Based on the borehole findings, the subsurface conditions encountered in the boreholes generally consisted of ground surface cover (topsoil and asphalt pavement) overlying existing fills, which in turn was underlain by native silt till, silt till/shale complex and highly weather shale, respectively.

Stabilized groundwater level measurements were recorded in the installed monitoring wells at the subject site, at depths ranging from 2.10 to 3.45 mBGS, corresponding to Elevations between 127.82 and 130.01 mASL.

This section of the report provides geotechnical engineering recommendations for the design of the proposed development. These recommendations are intended for use by the project designers and are based on our interpretation of the factual information obtained.

Where comments are made related to construction, they are provided to draw attention to aspects that could affect the design. Contractors bidding on or carrying out the work should make their own interpretation of the factual information contained in this report and draw their own conclusions from that information to assess how it may affect means and methods, equipment selection, staging, costing and the like.

The investigation and comments are necessarily on-going as new information of the underground conditions becomes available. For example, more specific information is available with respect to conditions between boreholes when foundation construction is underway. The interpretation between boreholes and the recommendations of this report must therefore be checked through field inspections provided by MTE to validate the information for use during the construction stage.

The following discussion and recommendations should be revised or supplemented where necessary when the conditions of the proposed development are different from the noted conditions/assumptions.

7.2 Site Preparation

Proper site preparation is very important for the success of any planned development. As parts of effective and efficient design and construction of the proposed development, following items highlight the fundamental geotechnical requirements with details to be considered during site preparation.

All ground surface cover (pavement, topsoil, grass, trees, etc.) should be stripped and removed from the area of the proposed development. It is recommended that topsoil be separated from other deleterious materials and stockpiled.

Any existing infrastructures (e.g., manholes, catch basins, buried structures, etc.) should be sub-excavated and removed from the area of the proposed development.

Subsequent to stripping of ground surface cover and required removals, any exposed soils which contain excessive organics and other soft/loose/wet compressible and deleterious materials should be sub-excavated and removed. Given the fill materials are heterogeneous and their placement and degree of compaction are unknown, the existing fills within the proposed building footprint, should be sub-excavated.

Care must be taken during the excavation near the vicinity of the existing structures and any underground utility services located within or adjacent to the excavation. Foundations of heavily loaded settlement sensitive structures and utilities located within the close proximity to the proposed excavation should be accurately located and supported adequately with the suitable temporary or permanent support system where required, prior to excavation, to preserve the integrity of these structures. Similarly, the excavation near the vicinity of any existing structure should be carried out without disturbing and/or undermining their foundations.

The base of excavation at design subgrade level should be inspected and approved by a geotechnical engineer from MTE. During inspection, any soft/loose and wet spots identified, should be sub-excavated and replaced with compacted approved material as directed by the geotechnical engineer.

Surface water runoff from the area outside the proposed development should not be permitted to enter and/or pond within the construction area. Consideration should be given to redirecting the surface water runoff from the neighboring area (temporary and/or permanent) if there would be a down gradient and grade difference between site grades and existing neighboring property grades.

Positive grades should be maintained during site grading activities to promote drainage and minimize ponding of surface water within the construction area. This is especially important to the success of the planned construction.

7.3 Foundations

Based on the provided architectural drawings, the proposed Finish Floor Elevation (FFE) and founding elevations of each block are summarized in the table below.

Table 7.1: Proposed FFE and Founding Elevation

Block No.	Level 1 FFE (mASL)	Basement FFE (mASL)	Proposed Founding Elevation (mASL)
Block A	133.03	129.90	128.40 ± 0.5
Block B	133.55	130.42	128.92 ± 0.5
Block C	133.45	130.32	128.82 ± 0.5
Block D	132.74	129.61	128.11 ± 0.5

Considering the subsurface soil and groundwater conditions encountered within the boreholes, the proposed townhouses can be supported by conventional spread/strip footings founded on competent undisturbed native soils. The following geotechnical bearing resistances can be used, subject to inspection and adequate groundwater control implemented according to the hydrogeological study during construction.

Table 7.2: Geotechnical Bearing Resistance – Strip/Spread Footings

BH No.	Ground Elevation (mASL)	Minimum Footing Depth/Elevation (mBGS/mASL)	Geotechnical Bearing Resistance at SLS (kPa)	Factored Geotechnical Bearing Resistance at ULS (kPa)	Anticipated Founding Soils
Block A					
MW104-25	130.75	2.0/128.8 3.1/127.7	150 300	225 450	Compact Silt Till Very Dense Silt Till/Shale Complex
BH7(EXP)	131.38	2.0/129.4 3.1/128.3	150 300	225 450	Compact Silt Till Dense Silt Till
BH9(EXP)	131.51	1.7/129.8 2.3/129.2	150 300	225 450	Compact Silt Till Dense Silt Till
Block B					
MW103-25	131.90	1.7/130.2	300	450	Dense Silt Till
BH8(EXP)	131.70	1.7/130.0	300	450	Very Dense Silt Till
Block C					
BH5(EXP)	132.11	1.7/130.4 2.6/129.5	150 300	225 450	Compact Silt Till Dense Silt Till

BH No.	Ground Elevation (mASL)	Minimum Footing Depth/Elevation (mBGS/mASL)	Geotechnical Bearing Resistance at SLS (kPa)	Factored Geotechnical Bearing Resistance at ULS (kPa)	Anticipated Founding Soils
Block D					
MW101-25	131.64	2.0/129.6	300	450	Dense Silt Till
BH2(EXP)	131.40	1.5/129.9 2.3/129.1	200 300	300 450	Compact Silt Till Dense Silt Till

Total and differential settlements for conventional spread/strip footings founded on the recommended competent native soils and designed as outlined above should not exceed 25 and 19 mm respectively, provided that the founding subgrade is not loosened or softened by construction activities or prolonged exposure to the weather.

All foundation exposed to seasonal freezing conditions should be provided with at least 1.2 m of earth cover after final grading or equivalent of frost protection, in order to minimize the potential for damage due to frost action.

The minimum footing sizes, footing thickness, excavations and other footing requirements should be designed in accordance with the latest edition of the Ontario Building Code. However, a minimum width of 600 mm is recommended for the strip footings.

Should the below grade construction works extend below the groundwater level, an appropriate positive dewatering of the site to at least 1.0 m below foundation elevation will be necessary prior to excavation, in order to preserve the structural integrity of the natural soils. If dewatering of the subsurface is not carried out prior to excavation, the native soils will become disturbed and recommended bearing resistances will not be reliable. In no case should the footing be placed on dilated or disturbed subgrade.

All founding soils must be inspected by the geotechnical engineer prior to pouring concrete to confirm that the soil conditions encountered during construction are consistent with the conditions anticipated and that they suitable to support the geotechnical resistances noted above. Any loose, disturbed, organic and/or deleterious material identified during the inspection should be removed from the formwork and replaced with engineered fill or concrete. If construction is completed during cold weather, the subgrade soil and concrete should be protected from freezing. Concrete testing should be performed onsite to determine the slump, temperature, and air entrainment; and concrete cylinders should be cast for compressive strength testing.

The footing subgrade should be protected, immediately after excavation and inspection, with a 50 mm thick concrete mud-slab, if water seepage is encountered or the excavation is to remain open for more than a day.

Where it is necessary to place foundations at different levels, the upper foundation must be founded below an imaginary 10 horizontal to 7 vertical lines drawn up from the base of the lower foundation. The lower footing must be installed first to help minimize the risk of undermining the upper footing.

7.4 Earthquake Consideration

In conformance to the criteria in Table 4.1.8.4.A, Part 4, Division B of the Ontario Building Code (OBC) 2024, the project site may be classified as Site Class “C – Very Dense Soil”.

To confirm the applicable Seismic Site Classification for the proposed building and the site specific Vs value, a Multichannel Analysis of Surface Waves (MASW) Seismic Survey is recommended once the proposed conceptual foundation general arrangements are defined by the Structural Designer.

7.5 Floor Slabs

The floor slabs of the proposed townhouse can be designed and constructed as a conventional slab-on-grade method.

Provided the subgrade will be prepared to a uniform high density and subsequent inspection and approval by the geotechnical engineer, floor slabs should be supported by at least 150mm of OPSS.MUNI 1010 Granular A compacted to 98% of standard Proctor maximum dry density (SPMDD), or its approved equivalent.

If a moisture-sensitive floor finish is to be applied to the slab, a polyethylene vapour barrier should be installed directly beneath the slab. Joints in the vapour barrier should be lapped not less than 100mm.

A modulus of subgrade reaction of 10 MPa/m can be used in the design of the floor slab, provided that the construction is in accordance with the recommendations provided herein.

The thickness of the concrete slab and the reinforcement (if any) should be designed by a structural engineer. The floor slab should not be tied to any load-bearing walls or columns unless they have been designed accordingly. Contraction and expansion joints should be provided for the slabs as required by the structural engineer.

The water to cement ratio and slump of the concrete should be strictly controlled to minimize shrinkage of the slab. Control joints should be sawed into the slabs at regular intervals within 12 hours of initial concrete placement to prelocate shrinkage cracks.

7.6 Permanent Drainage

It is understood that the proposed dwelling will be constructed with a basement, it is anticipated the basement will be constructed up to 3 m below grade. Basements at this site must be provided with perimeter weeping tile systems as per the OBC 2024, Section 9.14. The drain tile or pipe should be laid on undisturbed or well-compacted soil so that the top of the tile or pipe (minimum 100 mm diameter) is below the bottom of the basement floor slab. The top and sides of the drain tile or pipe shall be surrounded with not less than 150 mm of crushed stone or other clean coarse granular material containing no more than 10% of material that will pass the 4 mm sieve. The crushed stone should be wrapped with filter cloth. The weeping tile must drain to a suitable frost-free outlet or sump equipped with an automatic pump that will discharge water into a storm sewer service.

The portion of the exterior basement wall and floor slab below finished ground level must be waterproofed as per OBC 2024, Subsection 9.13.3. Free-draining sand materials should be used for basement wall backfill. The basement wall backfill should be graded to allow drainage away from the foundation.

Considering the subsurface soils, groundwater measurements in the monitoring wells and moisture content profiles of recovered soil samples, underfloor drainage system will also be required. The underfloor drainage system should be kept separate from the perimeter drainage system.

Conceptual designs of Permanent Perimeter & Under-floor Drainage System with open cut are provided on **Figure 2** in **Appendix A**.

The anticipated volumes of water to be pumped post construction should be based on the findings of the Hydrogeological Investigation Report.

It should be noted that upon completion of the detailed design of the below grade structure, the underfloor drainage system design shall be reviewed and finalized.

7.7 Lateral Earth Pressure

The lateral pressures acting on basement walls, may be calculated from the following expression:

$$P = K[\gamma(H-h_w) + \gamma' h_w + q] + \gamma_w h_w$$

Where,	P = Lateral earth pressure at depth H (m)	kPa
	K = Lateral earth pressure coefficient	0.50
	Γ = Bulk unit weight of the soil	21 kN/m^3
	γ' = Submerged unit weight of soil	kN/m^3
	γ_w = Unit weight of water	9.8 kN/m^3
	H = Depth of the wall below the outer finish grade	m
	h_w = Depth of the wall below the groundwater level	m
	q = Equivalent value of all surcharge loads on the ground surface	kPa

When the development of hydrostatic pressure is eliminated, the above expression can be simplified as follows:

$$P = K (\gamma H + q)$$

Surcharge and point loads at the ground surface (e.g. from the heavy construction equipment, etc.) should also be considered in the structural design.

7.8 Foundation Excavations

It is expected that the proposed excavations will extend through existing fills and native silt till deposit, which can be excavated using heavy hydraulic excavators. It should be noted that cobbles and boulders may be anticipated within the glacial till deposits during excavation. Provisions must be made in the excavation contract for the removal of possible boulders.

All excavations must be carried out in accordance with the Occupational Health and Safety Act (OHSA) and Regulation 213/1991 for Construction Projects. Under the Act, the soils to be excavated can be classified as follows:

Existing Fills	Type 3	When submerged/saturated	Type 4
Silt Till	Type 2;	When saturated and/or fissured	Type 3

For excavations which extend through Type 3 soils, a bank slope of 1H:1V is required. For Type 2 soils, a 1.2 m high vertical cut at the bottom of excavation may generally be used. Near the ground surface, occasional 3H:1V slopes may be required due to disturbed surficial soils. If an excavation contains more than one soil type, the excavation slope geometry shall be governed by the highest soil type number.

It is anticipated that the excavation for the proposed foundations can be installed in open cuts. Depending on groundwater levels during construction and the prevailing weather conditions, it may be necessary to flatten and/or blanket the excavation side slopes with free draining material to enhance stability.

Should site conditions be such that open cuts cannot be used, temporary shoring, designed by a shoring consultant, will be required to permit the use of vertical cuts. Further, the depths of shoring walls should be extended sufficiently below the base of the excavation to ensure that the toe resistance is maintained when the soil is excavated. Detailed recommendations regarding temporary support systems can be provided during detailed design stage on request.

Proper support should be provided for all existing infrastructure within the zone of influence of the excavation as defined by a line inclined at 45 degrees extending upwards and outwards from the base of the excavation.

7.9 Dewatering

Perched water may be encountered within the earth fills and water bearing pockets or seams of cohesionless soils present within the glacial till deposits above the groundwater level. The amount of free water from these sources is anticipated to be minor and the water accumulated in the excavation can readily be handled by using temporary filtered sump and pump.

The magnitude of groundwater ingress will depend upon the dimensions of an excavation, thickness of water bearing seams/pockets and composite hydraulic conductivity of the soil deposits.

Stabilized groundwater level measurements were recorded in the installed monitoring wells at the subject site, at depths ranging from 2.10 to 3.45 mBGS, corresponding to Elevations between 127.82 and 130.01 mASL. Therefore, it is anticipated that the excavation extending deeper than Elevation of 130.01 mASL may encounter groundwater during excavation. For excavation extending below the groundwater level, an appropriate positive groundwater control measure should be implemented, and groundwater should be kept at least 1 m below the base of excavation (i.e., lowest depth of excavation), before the excavation deepens and the base of excavation should be kept dry all the time. Detailed discussions on groundwater and construction dewatering are provide in the Hydrogeological Investigation report.

Dewatering requirements will be governed by the time of year the construction is performed. It is the responsibility of the contractor to propose a suitable dewatering system based on the time of construction and the groundwater levels. The method used should not undermine adjacent structures.

Seasonal variations in the water table should be anticipated, with higher levels occurring during wet weather conditions (spring thaw and late fall) and lower levels occurring during dry weather conditions.

Consideration should be given to carrying out the construction during the drier seasons of the year to reduce the need for dewatering and disturbances to the founding soils caused by the excavation below prevailing groundwater table.

7.10 Site Servicing

7.10.1 Excavations and Dewatering

It is considered that the proposed excavation for site servicing will not exceed 4.0 m below grades. Trench excavation should be carried out in accordance with the most recent version of the Ontario Occupational Health and Safety Act & Regulations for Construction Projects. The boreholes show that the trenches, generally, will be dug through existing fills and native silt till and silt till/shale complex deposits. Normal conventional excavation equipment will be suitable for excavating trenches within these materials.

Cobbles and boulders may be anticipated within the glacial till deposits during excavation. Provisions must be made in the excavation contract for the removal of possible boulders.

The side-slopes of excavation should be maintained as noted in Section 7.8

In areas where an open excavation slope cannot be maintained, the excavation within the overburden should be supported by using a temporary shoring system (e.g., tight wooden bracing, etc.), designed by a shoring consultant. Excavations can also be carried out at steeper side slopes by using trench box, designed in accordance with the Safety Regulations, for the protection of the workers.

Proper support should be provided for all existing infrastructure within the zone of influence of the excavation as defined by a line inclined at 45 degrees extending upwards and outwards from the base of the excavation.

Groundwater seepage into the excavations may occur from perched groundwater or surface water flow. Dewatering should be achievable by properly filtered sumps and pumps.

The groundwater level in the trench should be kept below the bottom of the excavation by dewatering. Ideally, to prevent disturbance of the soil at the bedding level, the groundwater table must be lowered to at least 0.6 m below the base of the trench. In no case should the pipes be placed on disturbed subsoil.

7.10.2 Pipe Bedding

The boreholes generally show, the anticipated subgrade soil for pipe bedding may comprise of firm to stiff fills and compact to dense silt till. The native soils and properly constructed engineered fills are considered to be suitable for supporting the pipes, provided the integrity of the base of the trench can be maintained during construction. However, the suitability of the existing fill materials, to support the pipes at the base of the trenches, should be further assessed during construction. This assessment will require inspection during construction by qualified geotechnical personnel from MTE to determine the suitability of the fill materials, if any, for supporting the pipes.

Pipe bedding should be in accordance with the pipe manufacture recommendations, appropriate local municipality requirements and standards (e.g., OPS). However, as a guideline, normal Class ‘B’ Type bedding (OPSD-802) may be considered. The thickness of the bedding material, however, may have to be increased depending on the pipe diameter or if wet or weak subgrade conditions are encountered. Subject to assessment by the geotechnical engineer on Site, the bedding used to support the pipes in weak soils (if any) may need to be wrapped by a geotextile (e.g., Terrafix 270R or equivalent). In general, a minimum of 150 mm thick of OPSS.MUNI 1010 Granular A bedding is recommended for pipes 450 mm diameter or less; for large diameter pipes, the thickness of the bedding should be increased to 200 mm. The bedding should be uniformly compacted to 95% SPMDD.

In the event that seepage is such that the Granular ‘A’ cannot be compacted, well-graded clear stone such as OPSS.MUNI 1003 HL4 coarse aggregate could be used as bedding below the spring line of the pipe. Regardless of the presence of water, all clear stone aggregate used as bedding should be fully encapsulated within a non-woven geotextile to prevent migration of fine soil particles into the bedding which could result in loss of support for the pipe and related settlements.

The sewer alignment is such that a hydraulic connection between groundwater regimes that are not currently connected could occur.

To prevent the movement of water along the pipe bedding, it is recommended that concrete or clay cutoff collars be installed. The cutoff collars should be 1m long and installed in place of the bedding material.

7.10.3 Trench Backfilling

In general, the excavated inorganic materials are suitable for reuse as trench backfill provided that some post construction settlements can be tolerated. The magnitude of the settlement(s) will be dependent on material type, placement water content and construction practices. Some settlement will occur regardless of the type of backfill, but settlements can be reduced if granular backfill is used.

The backfill above the bedding should consist of imported or inorganic onsite soils placed in 200 mm thick lifts and uniformly compacted to 95% SPMDD. The upper 1 m of the backfill that will form any pavement subgrades should be uniformly compacted to 98% SPMDD. Excessively wet native soils are not considered suitable for reuse as trench backfill unless these soils are allowed to dry to an appropriate water content. The clayey excavated materials are expected to have a blocky or lumpy texture and a sheepsfoot roller should be used for compaction. Any shortfall in backfill should be addressed with imported granular material such as OPSS.MUNI 1010 Granular B Type I.

Backfilling operations should follow closely after excavation such that only a short length of open trench is exposed. Care should be taken to protect side slopes of excavations by diverting surface run-off away from the excavations. If construction extends into the winter, care should be taken to prevent the backfill from. Frozen material should not be permitted in the backfill.

7.11 Pavements

The pavement component thicknesses in the following table are recommended based on the Design Requirements of City of Mississauga (effective January 2009):

Table 7.3: Pavement Structures

Pavement Component	City of Mississauga Design Requirements for Internal Private Roadways	City of Mississauga Design Requirements for Internal Private Driveways
OPSS HL3 Surface Asphalt	40	-
OPSS HL3F Surface Asphalt	-	25
OPSS HL8 Binder Asphalt	65	50
OPSS.MUNI 1010 Granular ‘A’ Base	200	150
OPSS.MUNI 1010 Granular ‘B’ Subbase	250	-

The pavement design(s) provided are not intended to support heavy construction traffic. Depending on staging, the contractor may need to increase the thickness of the granular materials to support the equipment and construction vehicles or construct a dedicated off-line haul route.

Prior to pavement construction, the subgrade should be properly prepared and shaped to provide drainage to the catch basin locations. The subgrade should be proof rolled under the direction of the geotechnical engineer and any loose, soft or poorly performing areas be addressed.

Short perforated stub drains should be provided at all catch basin locations. Subdrains should be in accordance with OPSS.MUNI 405 and OPSD 216.021. The subdrain should be 100 or 150mm diameter perforated pipe and wrapped with geotextile conforming to OPSS.MUNI 1860.

Samples of aggregates should be checked for conformance with the contract requirements prior to bringing the materials to site. Additional confirmatory testing should be carried out during construction. The Granular 'B' subbase and Granular 'A' base courses should be compacted to 100% SPMDD and confirmed by in situ density testing.

The asphaltic concrete paving materials should conform to the requirements of OPSS.MUNI 1151. The asphalt should be placed and compacted in accordance with OPSS.MUNI 310. Performance graded asphalt cement (PGAC) 58-28 should be used in the binder course and PGAC 64-28 should be used in the surface course.

Consideration should be given to deferring placing the surface asphalt until the season after the binder asphalt has been placed to permit any impact(s) from settlement of the backfill to be addressed before paving surface course.

The pavement thickness considers that construction will be carried out during the drier time of the year and that the subgrade is competent. If the subgrade becomes excessively wet or rutted during construction activities and if construction occurs in wet inclement weather condition, it may be necessary to provide additional subgrade support for construction traffic by increasing the thickness of the granular sub-base. The need for additional subbase material is best determined during construction.

8.0 GEOTECHNICAL INPUT AND INSPECTION

MTE recommends that input continue throughout the design of the project. It would be beneficial for MTE to review and provide input to the contract documents prior to bidding.

Full time geotechnical inspections and testing are required during construction of any engineered fill. Regular geotechnical inspections and materials testing should be carried out during construction to confirm that the project and material specifications are consistently being met. MTE offers geotechnical inspection, soil, aggregate and asphalt compaction testing, testing of plastic and hardened concrete and laboratory testing services through our Toronto office.

9.0 LIMITATIONS OF REPORT

Services performed by MTE Consultants Inc. (MTE) were conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the Geotechnical Engineering & Consulting profession practicing under similar conditions in the same geographic area were the services are provided. No other warranty or representation expressed or implied as to the accuracy of the information, conclusions or recommendations is included or intended in this report.

This report was completed for the sole use of the Client. This report is not intended to be exhaustive in scope or to imply a risk-free site. As such, this report may not deal with all issues potentially applicable to the site and may omit aspects which are or may be of interest to the reader.

In addition, it should be recognized that a soil sample result represents one distinct portion of a site at the time it is collected, and that the findings of this report are based on conditions as they existed during the time period of the investigation. The material in the report reflects our best judgment using the information available at the time the report was written. The soil and groundwater conditions between and beyond the test holes may differ from those encountered in the test holes. Should subsurface conditions arise that are different from those in the test holes MTE should be notified to determine whether or not changes should be made as a result of these conditions.

It should be recognized that the passage of time may affect the views, conclusions and recommendations (if any) provided in this report because groundwater conditions of a property can change, along with regulatory requirements. All design details were not known at the time of submission of this report and it is recommended MTE should be retained to review the final design documents prior to construction to confirm they are consistent with our report recommendations. Should additional or new information become available, MTE recommends that it be brought to our attention in order that we may determine whether it affects the contents of this report.

Any use which another party makes of this report, or any reliance on, or decisions to be made based upon it, are the responsibility of such parties. MTE accepts no responsibility for liabilities incurred by or damages, if any, suffered by another party as a result of decisions made or actions taken, based upon this report. Others with interest in the site should undertake their own investigations and studies to determine how or if the condition affects them or their plans. The contractors bidding on this project or undertaking the construction should make their own interpretation of the factual information and draw their own conclusions as to how subsurface conditions may affect their work.

The benchmark and elevations provided in this report are primarily established to identify differences between the test hole locations and should not be used for other purposes such as, planning, development, grading, and excavation.

All of which is respectfully submitted,

MTE Consultants Inc.



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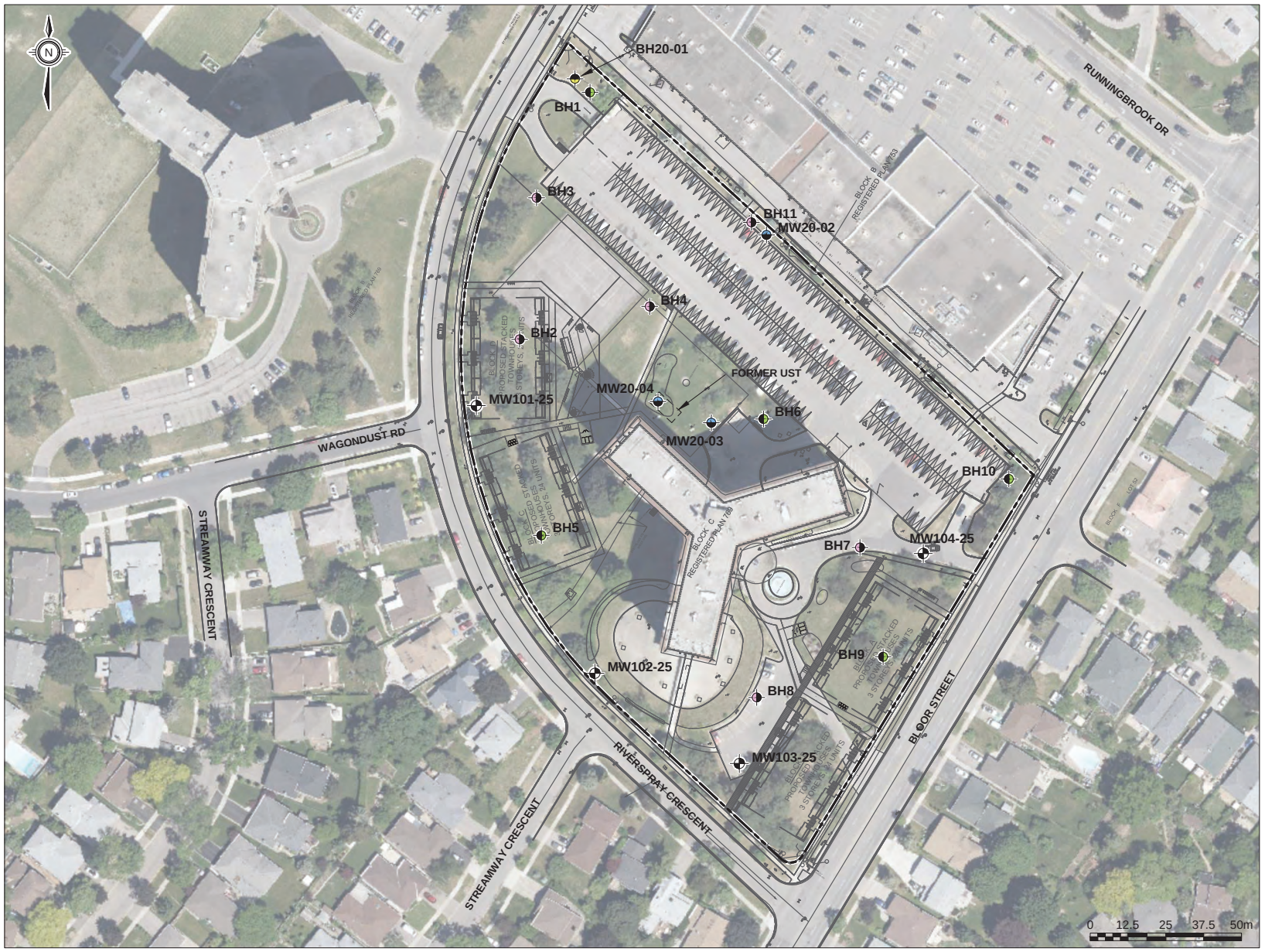
https://mte85.sharepoint.com/sites/62263_001/Shared Documents/Geo/62263_001_Geo Report_1055 Bloor St._FINAL.docx

Appendix A

Figures

Figure 1 - Site Plan

Figure 2 – Permanent Perimeter & Under-Floor Drainage System (Conceptual for Open Excavation)





KEY PLAN (nts)

LEGEND

- SITE
- BOREHOLE/MONITORING WELL
- MONITORING WELL (PREMIER,2020)
- MONITORING WELL (EXP,2019)
- BOREHOLE (PREMIER,2020)
- BOREHOLE (EXP,2019)

REFERENCES

BING IMAGERY AS MAY 8, 2025 (IMAGE DATE UNKNOWN); AND CITY OF MISSISSAUGA, PARCEL, ROAD, RAIL, AND WATER NETWORK, OPEN DATA SET.
PREMIER ENVIRONMENTAL SERVICES INC, SITE PLAN SHOWING BOREHOLES AND MONITORING WELL LOCATIONS, PROJECT NO. 620017.CE, MAY 2020, IN PDF FORMAT.
EXP SERVICES INC, BOREHOLE LOCATION PLAN, PROJECT NO. BRM-00607430-AO, DEC 2019, IN PDF FORMAT.
SITE PLAN AND SITE STATISTICS, KOHN PARTNERSHIP ARCHITECTS INC, DRAWING NO. A 100, AUGUST 08, 2025, IN PDF FORMAT.

NOTES

THIS FIGURE IS SCHEMATIC ONLY AND TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

MTE
Engineers, Scientists, Surveyors

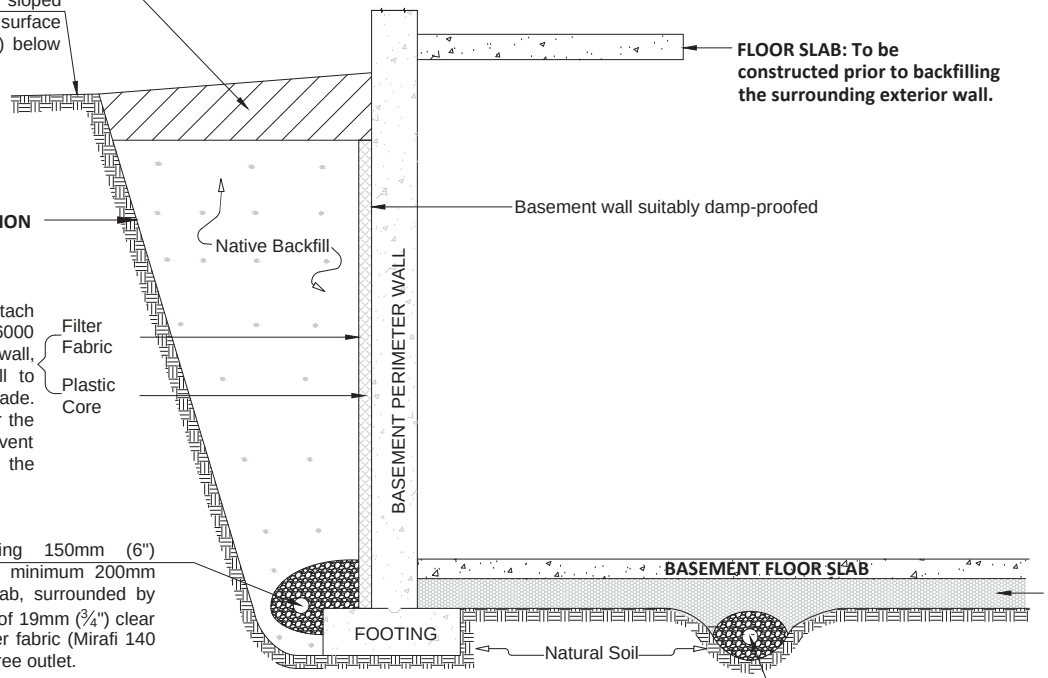
PROJECT
GEOTECHNICAL INVESTIGATION
1055 BLOOR STREET EAST,
MISSISSAUGA, ONTARIO

TITLE
SITE PLAN

Drawn: IC	Scale: 1:1,250	Figure: 1
Checked:	Project No.: 62263_001	
Date: 2025-08-11	Rev No.: 0	

CAD: P:\P\62263_001\62263_001-GE01.1.DWG
Plot Date: August 11, 2025 - 2:47 PM

CAD: P:\P\62263_001\62263_001-GEO1.2.DWG
Plot Date: May 15, 2025 - 9:20 PM



SURFACE SEAL: 600 (2') thick Relatively impervious clayey soils. May be deleted, if adjacent native soil is sand/gravel or if the surface is paved tight to the building.

EXTERIOR GRADE: Positively sloped away from building to promote surface drainage. Minimum 300mm (12") below the interior floor slab.

PRE-FABRICATED DRAIN: Attach pre-fabricated drain (Miradran 6000 or equivalent) to basement wall, continuous from bottom of wall to 0.6m (2') below the exterior grade. Fold all terminal fabric flaps over the core edge and fasten to prevent intrusion of soils/gravels into the drainage core.

PERIMETER DRAIN: Comprising 150mm (6") diameter perforated pipe, invert minimum 200mm (8") below underside of floor slab, surrounded by minimum 150mm (6") thick layer of 19mm (¾") clear stone wrapped in a synthetic filter fabric (Mirafi 140 or equivalent) draining to a frost free outlet.

GRANULAR BASE: Minimum 150mm (6") thick well compacted Granular A or approved eqivalent.

UNDER-FLOOR DRAIN (If Required): Comprising 75 (3") - 100mm (4") diameter perforated pipes placed in regular intervals, surrounded by minimum 150mm (6") thick layer of 19mm (¾") clear stone wrapped in a synthetic filter fabric (Mirafi 140 or equivalent) draining to a frost free outlet. Invert should be at least 300mm (12") below the underside of the floor slab. (REFER GEOTECHNICAL REPORT).

NOTES

THIS FIGURE IS SCHEMATIC ONLY AND TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

MTE
Engineers, Scientists, Surveyors

PROJECT
GEOTECHNICAL INVESTIGATION
1055 BLOOR STREET EAST,
MISSISSAUGA, ONTARIO

TITLE
PERMANENT PERIMETER & UNDER-FLOOR DRAINAGE SYSTEM (CONCEPTUAL FOR OPEN EXCAVATION)

Drawn	Scale	Figure
IC	NOT TO SCALE	2
Checked	Project No. 62263_001	
Date 2025-05-08	Rev No. 0	

Appendix B

Borehole Logs

Notes to Record of Boreholes

Record of Borehole

DRILLING METHOD		SAMPLE TYPE		LABORATORY DATA	
SSA	Solid Stem Auger	SS	Split Spoon	W	Water Content
HSA	Hollow Stem Auger	AS	Auger Flight Sample	W_p	Plastic Limit
WB	Wash Boring	TW	Thin Wall Open	W_l	Liquid Limit
		TP	Thin Wall Piston	y	Natural Unit Weight (kN/m^3)
		WS	Washed Sample	C_u	Undrained Shear Strength (kPa)
		VT	Vane Test	PP	Pocket Penetrometer
		GS	Grab Sample	UC	Unconfined Compression
		RC	Rock Core	UU	Unconsolidated Undrained
		PH	Sample Advanced Hydraulically	CU	Consolidated Undrained
		PM	Sample Advanced Manually	CD	Consolidated Drained
		CC	Continuous Core	TOV	Total Organic Vapors

STANDARD PENETRATION TEST (SPT 'N'): The number of blows required to advance a standard 51 mm outer diameter split spoon sampler to penetrate 0.3 m distance into the undisturbed ground in a borehole driven by means of a 63.5 kg hammer falling freely from a distance of 0.76m.

DYNAMIC CONE PENETRATION TEST (DCPT): The number of blows required to advance a 51 mm diameter – 60-degree cone fitted to the end of the drill rods to penetrate 0.3 m distance into the undisturbed ground driven by 475 Joules driving energy per blow.

SOILS ARE DESCRIBED BY THEIR COMPOSITION AND CONSISTENCY OR RELATIVE DENSITY

CONSISTENCY: Cohesive soils are described on the basis of their undrained shear strength (Cu) or 'N' values as follows:

N (blows/0.3m)	0 - 2	2 - 4	4 - 8	8 - 15	15 - 30	>30
Consistency	VERY SOFT	SOFT	FIRM	STIFF	VERY STIFF	HARD
Cu (kPa)	0 - 12	12 - 25	25 - 50	50 - 100	100 - 200	>200

RELATIVE DENSITY: Cohesionless soils are described on the basis of their relative density as indicated by 'N' values as follows:

N (blows/0.3m)	0 - 4	4 - 10	10 - 30	30 - 50	>50
Relative Density	VERY LOOSE	LOOSE	COMPACT	DENSE	VERY DENSE

ROCKS ARE DESCRIBED BY THEIR COMPOSITION AND STRUCTURAL FEATURES AND/OR STRENGTH

RECOVERY: Sum of the lengths of all recovered rock core pieces divided by the total length of the core run (expressed as a percent).

ROCK QUALITY DESIGNATION (RQD): Sum of the lengths of intact rock core pieces, 100 mm or more in lengths, divided by the total length of the core run (expressed as a percent). Classifications of a rock based on the RQD value are as follows:

RQD (%)	0 - 25	25 - 50	50 - 75	75 - 90	90 - 100
Quality	VERY POOR	POOR	FAIR	GOOD	EXCELLENT

JOINTING AND BEDDING:

SPACING	50 Millimeters	50 - 300 Millimeters	0.3 – 1.0 Metres	1.0 – 3.0 Metres	> 3.0 Metres
JOINTING	VERY CLOSE	CLOSE	MOD. CLOSE	WIDE	VERY WIDE
BEDDING	VERY THIN	THIN	MEDIUM	THICK	VERY THICK

RECORD OF BOREHOLE No. MW101-25

Project Number:	62263_001	Drilling Location:	See BH Location Plan	Logged by:	FJ
Project Client:	CAPREIT	Drilling Method:	100 mm Solid Stem Augering	Compiled by:	FJ
Project Name:	Geotechnical and Hydrogeological Investigations	Drilling Machine:	Truck Mounted Drill	Reviewed by:	AC
Project Location:	1055 Bloor Street, Mississauga, ON	Date Started:	Apr 28, 25	Date Completed: Apr 28, 25	Revision No.: 0, 5/16/25

Geodetic Ground Surface Elevation: 131.64 m

Depth (m)	Description	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	Elevation (m)
	TOPSOIL: 160 mm thick					
0.2	131.48					
	FILL: clayey silt, some sand, trace gravel, trace rootlets, brown, moist, stiff	SS	1	79	8	
		SS	2	92	8	
1.8	129.81					
	SILT TILL: some clay, some sand, trace gravel, brown, moist, dense	SS	3	100	31	
2.3	129.35					
	SILT TILL/SHALE COMPLEX: trace clay, trace sand, trace gravel, brown to grey, moist, dense to very dense	SS	4	92	44	
		SS	5	95	66	
	- auger grinding at 3.96 m bgs					
4.6	127.07					
	INFERRED SHALE: highly weathered, grey, dry	SS	6	53	60/15 cm	
4.7	126.92					
	End of Borehole					

Notes:
1. Borehole was open upon completion of drilling.
2. Borehole was dry upon completion of drilling.
3. Ground water level reading at 3.06 m bgs on May 14, 2025.

FIELD TESTING: Penetration Testing (SPT, DCPT); MTO Vane* (Intact, Remould); Nilcon Vane* (Intact, Remould); * Undrained Shear Strength (kPa) 20 40 60 80

LAB TESTING: Rinse pH Values 2 4 6 8 10 12; Soil Vapour Reading, parts per million (ppm) 100 200 300 400; Lower Explosive Limit (LEL); W_P W W_L; Plastic Liquid; 20 40 60 80

INSTRUMENTATION INSTALLATION

COMMENTS

MTE Consultants Inc.
970 Lawrence Avenue West, Suite 600
Toronto, Ontario M6A 3B6
Canada
T: 416-489-7888
F: 416-489-7666

Groundwater depth on completion of drilling: Dry m.

Groundwater depth observed on 5/14/2025 at a depth of: 3.06 m.

Borehole details as presented, do not constitute a thorough understanding of all potential conditions present and requires interpretative assistance from a qualified Geotechnical Engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commisioned and the accompanying'Notes to Record of Boreholes'.

RECORD OF BOREHOLE No. MW102-25

Project Number:	62263_001	Drilling Location:	See BH Location Plan	Logged by:	FJ
Project Client:	CAPREIT	Drilling Method:	100 mm Solid Stem Augering	Compiled by:	FJ
Project Name:	Geotechnical and Hydrogeological Investigations	Drilling Machine:	Truck Mounted Drill	Reviewed by:	AC
Project Location:	1055 Bloor Street, Mississauga, ON	Date Started:	Apr 28, 25	Date Completed: Apr 28, 25	Revision No.: 0, 5/16/25

Geodetic Ground Surface Elevation: 132.23 m

Depth (m)	Description	Elevation (m)	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	Field Testing	Lab Testing	Instrumentation Installation	Comments
	TOPSOIL: 110 mm thick (132.12)									
0.1	**FILL:** clayey silt, some sand, trace gravel, trace rootlets, brown, dry to moist, stiff	132	SS	1	33	9				
1		131	SS	2	84	10				
1.7	(130.55)									
	SILT TILL: some clay, some sand, trace gravel, brown, moist, compact		SS	3	100	16				
2.3	(129.94)	130								
	SILT TILL/SHALE COMPLEX: trace clay, trace sand, trace gravel, brown to grey, moist, very dense		SS	4	83	82				
3		129	SS	5	93	89				
	- auger grinding from 3.35 m bgs to 3.66 m bgs									
4		128								
	- auger grinding from 4.27 m bgs to 4.57 m bgs									
4.66	(127.66)									
4.7	**INFERRED SHALE:** highly weathered, grey, (127.56)		SS	6	80	50/10 cm	50 / 10 cm			
	End of Borehole									

Notes:
1. Borehole was open upon completion of drilling.
2. Borehole was dry upon completion of drilling.
3. Ground water level reading at 3.09 m bgs on May 14, 2025.

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Groundwater depth on completion of drilling: Dry m.

Groundwater depth observed on 5/14/2025 at a depth of: 3.09 m.

Borehole details as presented, do not constitute a thorough understanding of all potential conditions present and requires interpretative assistance from a qualified Geotechnical Engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commisioned and the accompanying'Notes to Record of Boreholes'.

RECORD OF BOREHOLE No. MW103-25

Project Number:	62263_001	Drilling Location:	See BH Location Plan	Logged by:	FJ
Project Client:	CAPREIT	Drilling Method:	100 mm Solid Stem Augering	Compiled by:	FJ
Project Name:	Geotechnical and Hydrogeological Investigations	Drilling Machine:	Truck Mounted Drill	Reviewed by:	AC
Project Location:	1055 Bloor Street, Mississauga, ON	Date Started:	Apr 28, 25 Date Completed: Apr 28, 25	Revision No.:	0, 5/16/25

Geodetic Ground Surface Elevation: 131.90 m

Description	Elevation (m)	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	Field Testing	Lab Testing
ASPHALT PAVEMENT: 100 mm asphalt over 100 mm granular base	131.70						
FILL: clayey silt, some sand, trace gravel, brown, moist, firm to stiff	0.2	SS	1	71	6		18
		SS	2	62	9		18
SILT TILL: some clay, some sand, trace gravel, brown, moist, dense	130.38 / 1.5	SS	3	100	33		11
SILT TILL/SHALE COMPLEX: trace clay, trace sand, trace gravel, brown to grey, moist, very dense	129.61 / 2.3	SS	4	84	56		14
- auger grinding from 3.05 m bgs to 3.35 m bgs		SS	5	100	50/13 cm	50 / 13 cm	
- auger grinding from 4.11 m bgs to 4.57 m bgs							
INFERRED SHALE: highly weathered, grey, dry	127.33 / 4.6	SS	6	63	50/8 cm	50 / 8 cm	
End of Borehole	127.25 / 4.7						

Notes:
1. Borehole was open upon completion of drilling.
2. Borehole was dry upon completion of drilling.
3. Ground water level reading at 2.17 m bgs on May 14, 2025.

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Groundwater depth on completion of drilling: Dry m.

Groundwater depth observed on 5/14/2025 at a depth of: 2.17 m.

Borehole details as presented, do not constitute a thorough understanding of all potential conditions present and requires interpretative assistance from a qualified Geotechnical Engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commisioned and the accompanying'Notes to Record of Boreholes'.

Scale: 1 : 42

RECORD OF BOREHOLE No. MW104-25

Project Number:	62263_001	Drilling Location:	See BH Location Plan	Logged by:	FJ
Project Client:	CAPREIT	Drilling Method:	100 mm Solid Stem Augering	Compiled by:	FJ
Project Name:	Geotechnical and Hydrogeological Investigations	Drilling Machine:	Truck Mounted Drill	Reviewed by:	AC
Project Location:	1055 Bloor Street, Mississauga, ON	Date Started:	Apr 28, 25	Date Completed: Apr 28, 25	Revision No.: 0, 5/16/25

Geodetic Ground Surface Elevation: 130.75 m

Description	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	Depth (m)	Elevation (m)	Field Testing	Lab Testing	Comments
ASPHALT PAVEMENT: 140 mm asphalt over 80 mm granular base (130.53)									
FILL: clayey silt, some sand, trace gravel, some organics, black to dark grey, moist/damp, firm (0.2)	SS	1	87	6				23	
	SS	2	70	6	1	130		18	
(129.07)									
SILT TILL: some clay, some sand, trace gravel, brown, moist, compact (1.7)	SS	3	100	18		129		14	
	SS	4	100	25	2			13	Gr: 5%, Sa: 17%, Si: 50%, Cl: 18%
(127.70)						128			
SILT TILL/SHALE COMPLEX: trace clay, trace sand, trace gravel, brown to grey, moist, very dense (3.1)	SS	5	100	81	3			13	
- auger grinding from 3.35 m bgs to 3.66 m bgs									
- auger grinding from 3.96 m bgs to 4.72 m bgs					4	127			
(126.18)									
INFERRED SHALE: highly weathered, grey, dry (4.6) (126.00)	SS	6	44	50/3 cm		126	50 3 cm		
End of Borehole 4.8									

Notes:
1. Borehole was open upon completion of drilling.
2. Borehole was dry upon completion of drilling.
3. Ground water level reading at 2.77 m bgs on May 14, 2025.

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T: 416-489-7888
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Groundwater depth on completion of drilling: Dry m.

Groundwater depth observed on 5/14/2025 at a depth of: 2.77 m.

Borehole details as presented, do not constitute a thorough understanding of all potential conditions present and requires interpretative assistance from a qualified Geotechnical Engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commisioned and the accompanying'Notes to Record of Boreholes'.

Appendix C

Laboratory Testing Results

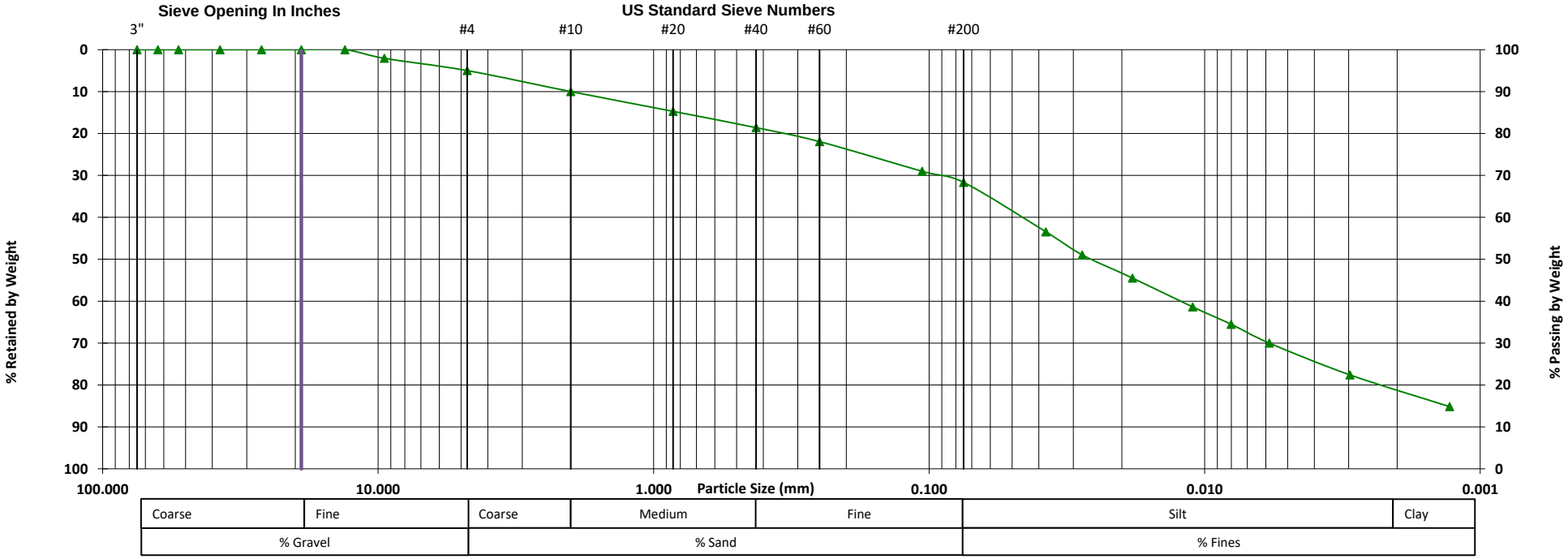
Particle Size Distribution Analysis Test Results

Project Name: 1055 Bloor Updated Geotech & HydroG
Client: CAPREIT Limited Partnership
Project Location: Toronto

Date Sampled: April 28, 2025
Date Tested: May 9 to 13, 2025

MTE File No.: 62263_001
Table No: 101

Unified Soil Classification



Symbol	Borehole ID	Sample #	Sample Depth	Description
—▲—	BH104-25	SS4	2.3 - 2.9 mbgs	SILT, some Clay and Sand, trace Gravel

CERTIFIED BY CCIL Canadian Council of Independent Laboratories For specific tests as listed on www.ccil.com

NOTES:

Appendix D

Previous Log of Borehole (EXP and PREMIER)

Log of Borehole 1

Project No. BRM-00607430-A0

Project: Geotechnical and Hydrogeological Investigation

Location: 1055 Bloor Street, Mississauga, Ontario

Drawing No. 2

Sheet No. 1 of 1

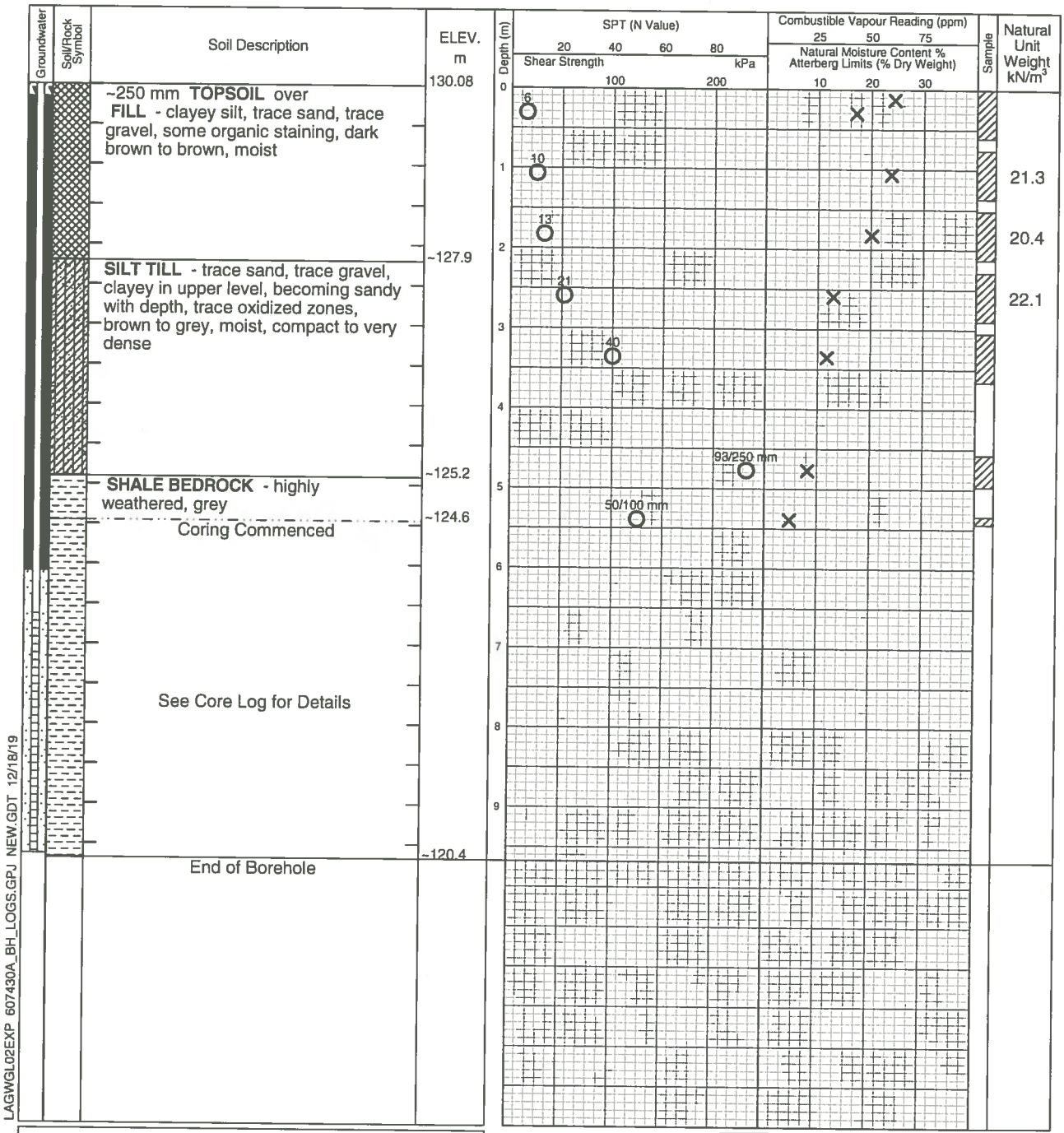
Date Drilled: December 2, 2019

Drill Type: Solid Stem Augers

Datum: Geodetic

Auger Sample
SPT (N) Value
Dynamic Cone Test
Shelby Tube
Field Vane Test (S)

Combustible Vapour Reading
Natural Moisture
Plastic and Liquid Limit
Undrained Triaxial at % Strain at Failure
Penetrometer



LAGWGL02EXP 607430A_BH_LOGS.GPJ NEW.GDT 12/18/19

Notes:
1. Borehole advanced to completion at ~9.7 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: BRM-00607430-A0); borehole data requires interpretation assistance by exp professional staff before use by others.

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Elapsed Time	Water Level (m)	Hole Open to (m)
December 7, 2019	~3.5	Well
December 12, 2019	~3.6	Well

ROCK CORE LOG

BH 1

PROJECT Geotechnical and Hydrological Investigations	**ORIENTATION** Vertical	**ELEVATION (m)** 130.1	**DATUM** Geodetic	**PROJECT NUMBER** BRM-00607430-A0
LOCATION 1055 Bloor Street, Mississauga, Ontario	**DATE STARTED** 12/02/19	**COMPLETED** 12/02/19	**LOGGED BY** D. Panchal	**DRAWING NUMBER** 2A
CLIENT CAPREIT	**DRILLER** Davis	**DRILL TYPE** CME 55 - Track	**CORE BARREL** HQ	**SHEET** 1 of 1

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
125.1	5																	
			See Borehole Log for Details															
124.6		///	**GEORGIAN BAY FORMATION**															
124.4					F	V												
124.4					F	V												
124.4	6		Shale with interbedded siltstone, and clay layers.	1	F	D	VC	RU						1	94	71	95	Grey
124.3					B	F	C	RP										
124.2			Shale (89%) thinly bedded or laminated, grey, low strength, alternating between highly and slightly weathered to ~8.2 m and between moderately weathered and unweathered below.															
124.0																		
123.8																		
123.6																		
123.6					F	D												
123.4					F	V												
123.4	7		Limestone (2%) fine grained, grey, medium strength, unweathered.															
123.3																		
123.1			Siltstone (9%) fine grained, grey, medium strength, unweathered.															
122.9				1	B	F	VC	RP						2	100	75	100	Grey
122.6					F	V	C	SU										
122.6			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
122.5																		
122.4	8																	
122.4			Vertical fractures were noted at ~5.67, 5.70, 6.74, 7.56, 8.09 and 8.22 m.		F	V												
122.1					F	V												
122.0			Dipping fractures were noted at ~5.75 and 6.70 m.															
122.0																		
121.9																		
121.8			Rubble layers were noted at ~5.56 (190 mm), 7.69 (80 mm) and 8.76 m (30 mm).															
121.7	9			1	B	F	C	SU						3	99	91	100	Grey
121.6							M	SP										
121.4																		
121.3																		
121.3																		
120.8			End of Borehole at 9.7 m															
120.4	10																	
	11																	
	12																	
	13																	

EXP_ROCKCORE 1055 BLOOR ST ROCK LOG.GPJ CORE_LOG.GDT 12/18/19

exp.

Log of Borehole 2

Project No. BRM-00607430-A0

Project: Geotechnical and Hydrogeological Investigation

Location: 1055 Bloor Street, Mississauga, Ontario

Drawing No. 3

Sheet No. 1 of 1

Date Drilled: November 28, 2019

Drill Type: Solid Stem Augers

Datum: Geodetic

Auger Sample ⊠
SPT (N) Value ○ ▨
Dynamic Cone Test ——
Shelby Tube ■
Field Vane Test ✚ S

Combustible Vapour Reading □
Natural Moisture ×
Plastic and Liquid Limit ⊢—○
Undrained Triaxial at % Strain at Failure ⊕
Penetrometer ▲

Groundwater	Soil/Rock Symbol	Soil Description	ELEV. m	Depth (m)
		~150 mm **TOPSOIL** over **FILL** - clayey silt, trace sand, trace gravel with stone fragments, some organic staining, dark brown to brown, moist	131.40	0
		SILT TILL - trace sand, trace gravel, clayey in upper level, becoming sandy with depth, trace oxidized zones, brown to grey, moist, compact to very dense	~129.9	1
		SHALE BEDROCK - highly weathered, grey	~126.4	5
		Coring Commenced	~125.9	
		See Core Log for Details		7
		End of Borehole	~121.7	9

SPT (N Value): 20 40 60 80 — Shear Strength: 100 200 kPa

Combustible Vapour Reading (ppm): 25 50 75

Natural Moisture Content % / Atterberg Limits (% Dry Weight): 10 20 30

SPT values: 10, 23, 20, 44, 40, 50/100 mm, 60/50 mm

Sample | Natural Unit Weight kN/m³: 22.8, 22.8, 22.1

Notes:
1. Borehole advanced to completion at ~9.7 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: BRM-00607430-A0); borehole data requires interpretation assistance by exp professional staff before use by others.

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Elapsed Time	Water Level (m)	Hole Open to (m)

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ROCK CORE LOG

BH 2

PROJECT Geotechnical and Hydrological Investigations	**ORIENTATION** Vertical	**ELEVATION (m)** 131.4	**DATUM** Geodetic	**PROJECT NUMBER** BRM-00607430-A0
LOCATION 1055 Bloor Street, Mississauga, Ontario	**DATE STARTED** 11/28/19	**COMPLETED** 11/28/19	**LOGGED BY** D. Panchal	**DRAWING NUMBER** 3A
CLIENT CAPREIT	**DRILLER** Davis	**DRILL TYPE** CME 55 - Track	**CORE BARREL** HQ	**SHEET** 1 of 1

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
126.4	5																	
			See Borehole Log for Details															
125.9			**Core Lost**															
125.8			**GEORGIAN BAY FORMATION**															
125.7																		
125.6																		
125.6	6																	
125.5			Shale with interbedded siltstone, and clay layers.	1	B	F	VC C	RU RP	SO SO SO	20 mm 10 mm 20 mm				1	84	32	90	Grey
125.5																		
125.5			Shale (86%) thinly bedded or laminated, grey, low strength, alternating between highly and slightly weathered to ~7.1 m and between moderately weathered and unweathered below.		F F F	V V V												
125.4																		
125.4																		
125.3																		
125.3	7																	
125.2			Limestone (6%) fine grained, grey, medium strength, unweathered															
125.2				1	B	F	VC C	RP SU						2	90	59	100	Grey
125.2			Siltstone (7%) fine grained, grey, medium strength, unweathered.		F	V												
125.1																		
125.1																		
124.8			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
124.7	8																	
124.6																		
124.6			Vertical fractures were noted at ~6.73, 6.75. 6.82, 7.58 and 8.96 m.															
124.5																		
124.5			Clay (1%) layers, highly weathered, very low strength were noted at ~5.93, 6.03 and 6.20 m.															
124.4																		
124.3																		
124.3	9		Rubble layers were noted at ~5.66 (60 mm), 5.83 (70 mm), 6.33 (20 mm), 6.64 (130 mm), 6.89 (30 mm), 7.28 (60 mm) and 7.65 m (100 mm).		F	V	C M							3	100	87	100	Grey
124.2																		
124.1																		
124.1																		
124.0																		
123.8			End of Borehole at 9.7 m															
123.8																		
123.7	10																	
123.3																		
123.2																		
122.8																		
122.5																		
122.4																		
122.2																		
122.1	11																	
121.7																		
	12																	
	13																	

EXP_ROCKCORE 1055 BLOOR ST ROCK LOG.GPJ CORE_LOG.GDT 12/18/19

exp.

Log of Borehole 3

Project No. BRM-00607430-A0

Drawing No. 4

Project: Geotechnical and Hydrogeological Investigation

Sheet No. 1 of 1

Location: 1055 Bloor Street, Mississauga, Ontario

Date Drilled: December 2, 2019

Drill Type: Solid Stem Augers

Datum: Geodetic

Auger Sample
SPT (N) Value
Dynamic Cone Test
Shelby Tube
Field Vane Test

Combustible Vapour Reading
Natural Moisture
Plastic and Liquid Limit
Undrained Triaxial at % Strain at Failure
Penetrometer

Groundwater	Soil/Rock Symbol	Soil Description	ELEV. m	Depth (m)
		~150 mm **TOPSOIL** over **FILL** - clayey silt, trace sand, trace gravel, some organic inclusions, dark brown to black, moist	130.87	0
			~128.7	2
		SILT TILL - trace sand, trace gravel, clayey in upper level, becoming sandy with depth, trace oxidized zones, brown to grey, moist, compact to very dense		3
			~125.4	5
		SHALE BEDROCK - highly weathered, grey	~124.7	6
		End of Borehole		

SPT (N Value) 20 40 60 80 — Shear Strength kPa 100 200

Combustible Vapour Reading (ppm) 25 50 75 — Natural Moisture Content % Atterberg Limits (% Dry Weight) 10 20 30

Sample

Natural Unit Weight kN/m³: 21.1; 22.0; 22.5

SPT values: 6; 11; 5; 18; 34; 76; 50/75 mm; 60/25 mm

Notes:
1. Borehole advanced to completion at ~6.1 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: BRM-00607430-A0); borehole data requires interpretation assistance by exp professional staff before use by others.

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Elapsed Time	Water Level (m)	Hole Open to (m)
On Completion	~5.3	~6.1

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Log of Borehole 4

Project No. BRM-00607430-A0

Drawing No. 5

Project: Geotechnical and Hydrogeological Investigation

Sheet No. 1 of 1

Location: 1055 Bloor Street, Mississauga, Ontario

Date Drilled: November 29, 2019

Drill Type: Solid Stem Augers

Datum: Geodetic

Auger Sample
SPT (N) Value
Dynamic Cone Test
Shelby Tube
Field Vane Test (S)

Combustible Vapour Reading
Natural Moisture
Plastic and Liquid Limit
Undrained Triaxial at % Strain at Failure
Penetrometer

Groundwater	Soil/Rock Symbol	Soil Description	ELEV. m	Depth (m)	SPT (N Value) / Shear Strength kPa	Combustible Vapour Reading (ppm) / Natural Moisture Content % / Atterberg Limits (% Dry Weight)	Sample	Natural Unit Weight kN/m³
		~175 mm **TOPSOIL** over **FILL** - clayey silt, trace sand, trace gravel, trace rootlets, some organic inclusions, dark brown to brown, moist	131.09	0	7			
				1	7			21.6
				2	11			
		SILT TILL - trace sand, trace gravel, clayey in upper level, becoming sandy with depth, trace oxidized zones, brown to grey, moist, compact to very dense	~128.9		9			22.3
				3	35			22.3
				4	50/50 mm			
		SHALE BEDROCK - highly weathered, grey	~126.4	5	50/100 mm			
				6	50/100 mm			
		End of Borehole	~124.9					

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Notes:
1. Borehole advanced to completion at ~6.2 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: BRM-00607430-A0); borehole data requires interpretation assistance by exp professional staff before use by others.

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Elapsed Time	Water Level (m)	Hole Open to (m)
On Completion	~6.0	~6.1

Log of Borehole 5

Project No. BRM-00607430-A0

Drawing No. 6

Project: Geotechnical and Hydrogeological Investigation

Sheet No. 1 of 1

Location: 1055 Bloor Street, Mississauga, Ontario

Date Drilled: November 28, 2019

Drill Type: Solid Stem Augers

Datum: Geodetic

Auger Sample
SPT (N) Value
Dynamic Cone Test
Shelby Tube
Field Vane Test

Combustible Vapour Reading
Natural Moisture
Plastic and Liquid Limit
Undrained Triaxial at % Strain at Failure
Penetrometer

Soil Description	ELEV. m	Depth (m)
~200 mm **TOPSOIL** over **FILL** - clayey silt, trace sand, trace gravel, trace rootlets, some organic inclusions, dark brown to brown, moist	132.11	0
	~130.6	1
SILT TILL - trace sand, trace gravel, clayey in upper level, becoming sandy with depth, trace oxidized zones, brown to grey, moist, compact to very dense		2
	~127.0	3
SHALE BEDROCK - highly weathered, grey	~126.7	4
End of Borehole		5

SPT (N Value): 20 40 60 80
Shear Strength: 100 200 kPa
Combustible Vapour Reading (ppm): 25 50 75
Natural Moisture Content % / Atterberg Limits (% Dry Weight): 10 20 30

SPT values: 13, 13, 16, 27, 42, 50/150 mm, 50/75 mm

Sample | Natural Unit Weight kN/m³: 21.9, 21.9, 23.0

Notes:
1. Borehole advanced to completion at ~5.4 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: BRM-00607430-A0); borehole data requires interpretation assistance by exp professional staff before use by others.

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Elapsed Time	Water Level (m)	Hole Open to (m)
On Completion	No Free Water	~6.1
December 7, 2019	~4.6	Well
December 12, 2019	~3.6	Well

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Log of Borehole 6

Project No. BRM-00607430-A0

Drawing No. 7

Project: Geotechnical and Hydrogeological Investigation

Sheet No. 1 of 1

Location: 1055 Bloor Street, Mississauga, Ontario

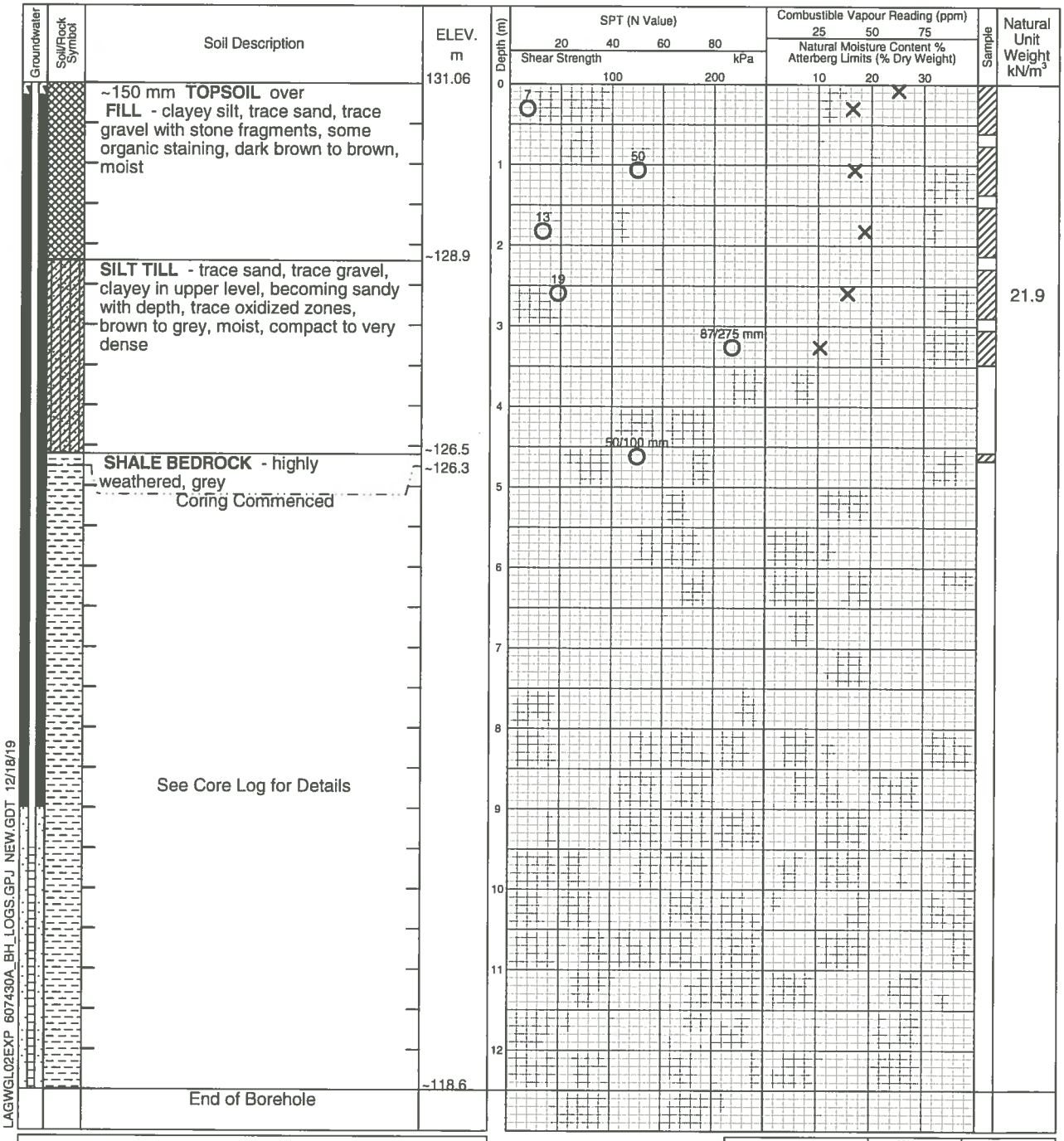
Date Drilled: December 6, 2019

Drill Type: Solid Stem Augers

Datum: Geodetic

Auger Sample
SPT (N) Value
Dynamic Cone Test
Shelby Tube
Field Vane Test

Combustible Vapour Reading
Natural Moisture
Plastic and Liquid Limit
Undrained Triaxial at % Strain at Failure
Penetrometer



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Notes:
1. Borehole advanced to completion at ~12.5 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: BRM-00607430-A0); borehole data requires interpretation assistance by exp professional staff before use by others.

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Elapsed Time	Water Level (m)	Hole Open to (m)
December 7, 2019	~2.6	Well
December 12, 2019	~3.2	Well

ROCK CORE LOG

BH 6

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical and Hydrological Investigations	Vertical	131.1	Geodetic	BRM-00607430-A0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
1055 Bloor Street, Mississauga, Ontario	12/06/19	12/06/19	D. Panchal	7A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
CAPREIT	Davis	CME 55 - Track	HQ	1 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
126.5																		
126.3			See Borehole Log for Details															
126.3			**GEORGIAN BAY FORMATION**	1	B	F	VC	RU						1	100	25	100	Grey
126.2	-5						VC	RU										
126.2																		
126.1			Shale with interbedded siltstone, and clay layers.		F	V												
126.0					F	V												
125.9			Shale (82%) thinly bedded or laminated, grey, low strength, alternating between highly and slightly weathered to ~7.65 m and between moderately weathered and unweathered below.															
125.9				1	F	V	VC	RU	SO	20 mm				2	81	22	90	Grey
125.9					B	F	VC	RP	NC	50 mm								
125.8	-6				F	V			NC									
125.8					F	V			NC	80 mm								
125.8			Limestone (5%) fine grained, grey, medium strength, unweathered						SO									
125.7									SO	40 mm								
125.6																		
125.6			Siltstone (9%) fine grained, grey, medium strength, unweathered.							50 mm								
125.6																		
125.4	-7		Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
125.3				1	B	F	C	RP		20 mm				3	100	87	100	Grey
125.3							M	SP										
125.3			Vertical fractures were noted at `5.29, 5.35, 5.82, 5.85, 6.20, 7.63, 9.24 and 10.04 m.															
125.2					F	V												
125.2			Dipping fractures was noted at 10.96 m.															
125.1																		
125.0	-8		clay (4%) layers, highly weathered, very low strength were noted at ~5.76 (20 mm), 6.00 (50 mm), 6.14 (80 mm), 6.23 (40 mm), 6.36 (50 mm) and 6.60 m (20 mm).															
125.0																		
125.0																		
124.9																		
124.9			Rubble layers were noted at ~4.76 (70 mm), 5.09 (90 mm), 5.20 (40 mm), 5.41 (40 mm), 5.71 (90 mm) and 6.04 m (30 mm).															
124.8				1	B	F	C	SP						4	100	73	100	Grey
124.8							C	SP										
124.7	-9																	
124.7			- R0' Zone - Possible shale rubble layer, low recovery possibly due to clay being washed out.															
124.6					F	V												
124.5																		
124.5																		
124.4																		
124.3																		
124.2	-10																	
124.0					F	V												
123.9				1	B	F	M	SP						5	96	92	100	Grey
123.6							M	SP										
123.5																		
123.4																		
123.0																		
122.9	-11																	
122.9					F	D												
122.8																		
122.5																		
122.0																		
121.9																		
121.8				1	B	F	M	SP						6	100	100	100	Grey
121.5	-12						W	SP										
121.4																		
121.3																		
121.3																		
121.1			End of Borehole at 12.5 m															
121.0																		
120.7																		
120.7	-13																	

exp.

ROCK CORE LOG

BH 6

PROJECT Geotechnical and Hydrological Investigations	**ORIENTATION** Vertical	**ELEVATION (m)** 131.1	**DATUM** Geodetic	**PROJECT NUMBER** BRM-00607430-A0	
LOCATION 1055 Bloor Street, Mississauga, Ontario	**DATE STARTED** 12/06/19	**COMPLETED** 12/06/19	**LOGGED BY** D. Panchal	**DRAWING NUMBER** 7A	
CLIENT CAPREIT	**DRILLER** Davis	**DRILL TYPE** CME 55 - Track	**CORE BARREL** HQ	**SHEET** 2 of 2	

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS							WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
				NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
120.6																		
120.5																		
120.2																		
120.0																		
119.9																		
118.9																		
118.6	14																	
	15																	
	16																	
	17																	
	18																	
	19																	
	20																	
	21																	

exp.

Log of Borehole 7

Project No. BRM-00607430-A0

Drawing No. 8

Project: Geotechnical and Hydrogeological Investigation

Sheet No. 1 of 1

Location: 1055 Bloor Street, Mississauga, Ontario

Date Drilled: December 6, 2019

Drill Type: Solid Stem Augers

Datum: Geodetic

Auger Sample
SPT (N) Value
Dynamic Cone Test
Shelby Tube
Field Vane Test (S)

Combustible Vapour Reading
Natural Moisture
Plastic and Liquid Limit
Undrained Triaxial at % Strain at Failure
Penetrometer

Groundwater	Soil/Rock Symbol	Soil Description	ELEV. m	Depth (m)	SPT (N Value) / Shear Strength kPa	Combustible Vapour Reading (ppm) / Natural Moisture Content % / Atterberg Limits (% Dry Weight)	Sample	Natural Unit Weight kN/m³
		~125 mm **ASPHALT** over **FILL** - sand and gravel, brown, moist	131.38 ~131.0	0	13			
		FILL - clayey silt, trace sand, trace gravel, trace organic inclusions, brown to grey, moist	~129.6	1	14			21.2
		SILT TILL - trace sand, trace gravel, clayey in upper level, becoming sandy with depth, trace oxidized zones, brown to grey, moist, compact to dense		2	14			21.2
				3	19			
		- auger grinding			33			
		SHALE BEDROCK - highly weathered, grey	~127.3	4	50/125 mm			
				5	50/75 mm			
		End of Borehole	~125.9					

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Notes:
1. Borehole advanced to completion at ~5.4 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: BRM-00607430-A0); borehole data requires interpretation assistance by exp professional staff before use by others.

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Elapsed Time	Water Level (m)	Hole Open to (m)
On Completion	No Free Water	~5.3

Log of Borehole 8

Project No. BRM-00607430-A0

Drawing No. 9

Project: Geotechnical and Hydrogeological Investigation

Sheet No. 1 of 1

Location: 1055 Bloor Street, Mississauga, Ontario

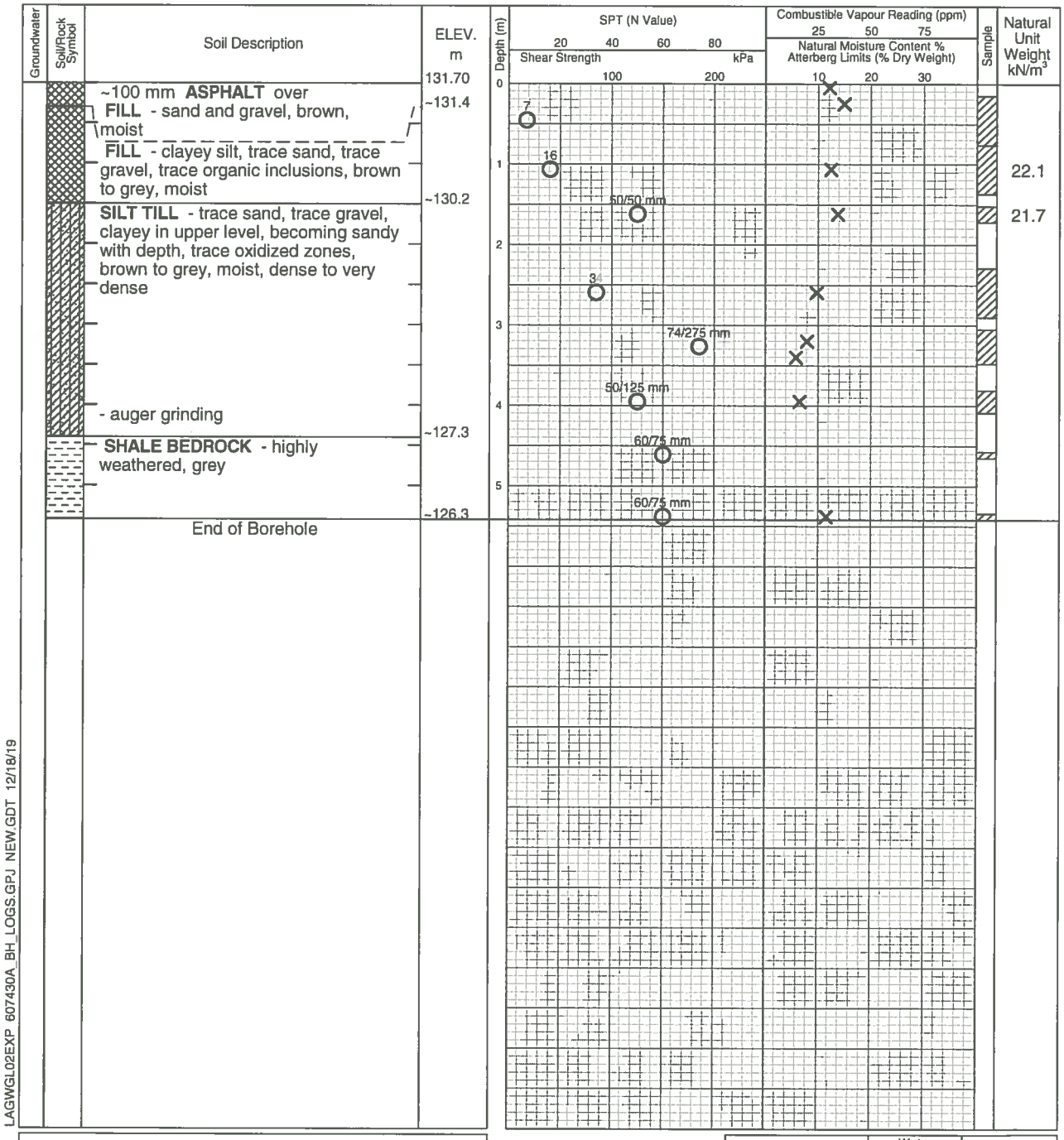
Date Drilled: December 6, 2019

Drill Type: Solid Stem Augers

Datum: Geodetic

Auger Sample
SPT (N) Value
Dynamic Cone Test
Shelby Tube
Field Vane Test

Combustible Vapour Reading
Natural Moisture
Plastic and Liquid Limit
Undrained Triaxial at % Strain at Failure
Penetrometer



LAGWGL02EXP 607430A_BH_LOGS.GPJ NEW.GDT 12/18/19

Notes:
1. Borehole advanced to completion at ~5.4 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: BRM-00607430-A0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
On Completion	~3.8	~5.3

Log of Borehole 9

Project No. BRM-00607430-A0

Drawing No. 10

Project: Geotechnical and Hydrogeological Investigation

Sheet No. 1 of 1

Location: 1055 Bloor Street, Mississauga, Ontario

Date Drilled: November 29, 2019

Drill Type: Solid Stem Augers

Datum: Geodetic

Auger Sample
SPT (N) Value
Dynamic Cone Test
Shelby Tube
Field Vane Test (S)

Combustible Vapour Reading
Natural Moisture
Plastic and Liquid Limit
Undrained Triaxial at % Strain at Failure
Penetrometer

Groundwater	Soil/Rock Symbol	Soil Description	ELEV. m
		~150 mm **TOPSOIL** over **FILL** - clayey silt, trace sand, trace gravel with stone fragments, some organic staining, dark brown to brown, moist	131.51
		SILT TILL - trace sand, trace gravel, clayey in upper level, becoming sandy with depth, trace oxidized zones, brown to grey, moist, compact to very dense	~130.0
		SHALE BEDROCK - highly weathered, grey	~127.4
		Coring Commenced	~126.0
		See Core Log for Details	
		End of Borehole	~121.8

Depth (m)

SPT (N Value) 20 40 60 80
Shear Strength kPa 100 200

6
50/75 mm
19
38
69
60/75 mm
50/50 mm

Combustible Vapour Reading (ppm) 25 50 75
Natural Moisture Content % Atterberg Limits (% Dry Weight) 10 20 30

Sample

Natural Unit Weight kN/m³
21.8

Notes:
1. Borehole advanced to completion at ~9.7 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: BRM-00607430-A0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
December 7, 2019	~3.1	Well
December 12, 2019	~3.3	Well

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ROCK CORE LOG

BH 9

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical and Hydrological Investigations	Vertical	131.5	Geodetic	BRM-00607430-A0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
1055 Bloor Street, Mississauga, Ontario	11/29/09	11/29/09	D. Panchal	10A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
CAPREIT	Davis	CME 55 - Trauck	HQ	1 of 1

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
126.5	5		See Borehole Log for Details															
126.0			Core Lost															
125.9			GEORGIAN BAY FORMATION		F	V			SO	20 mm								
125.9									NC									
125.8	6																	
125.8			Shale with interbedded siltstone, and clay layers.	1	B	F	VC	RU		10 mm				1	87	31	95	Grey
125.8							C	RP										
125.7					F	V												
125.6			Shale (78%) thinly bedded or laminated, grey, low strength, alternating between highly and slightly weathered to ~7.62 m and between moderately weathered and unweathered below.		F	V												
125.6																		
125.6									SO	10 mm								
125.6																		
125.5	7		Limestone (5%) fine grained, grey, medium strength, unweathered															
125.4																		
125.2																		
125.1			Siltstone (16%) fine grained, grey, medium strength, unweathered.	1	F	V	C	RP						2	100	63	100	Grey
125.1					B	F	C	SP										
125.1			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
125.0	8																	
125.0				1	B	F	W	SP										
125.0							M	SP										
124.9			Vertical fractures were noted at ~5.60, 6.41, 6.54 and 7.34 m.															
124.9																		
124.8			Clay (1%) layers, highly weathered, very low strength were noted at ~5.72 (20 mm), 5.90 (10 mm) and 6.80 m (10 mm).															
124.7																		
124.7	9													3	100	100	100	Grey
124.7			Rubble layers were noted at ~5.63 (50 mm) and 6.53 m (20 mm).															
124.7																		
124.6																		
124.3																		
124.3																		
124.2																		
124.2			End of Borehole at 9.7 m															
124.2	10																	
124.1																		
124.0																		
123.9																		
123.7																		
123.6																		
123.4																		
123.2	11																	
123.1																		
122.8																		
122.6																		
122.4																		
122.3																		
122.3																		
121.8	12																	
	13																	

EXP_ROCKCORE 1055 BLOOR ST_ROCK LOG.GPJ CORE_LOG.GDT 12/18/19

exp.

Log of Borehole 10

Project No. BRM-00607430-A0

Drawing No. 11

Project: Geotechnical and Hydrogeological Investigation

Sheet No. 1 of 1

Location: 1055 Bloor Street, Mississauga, Ontario

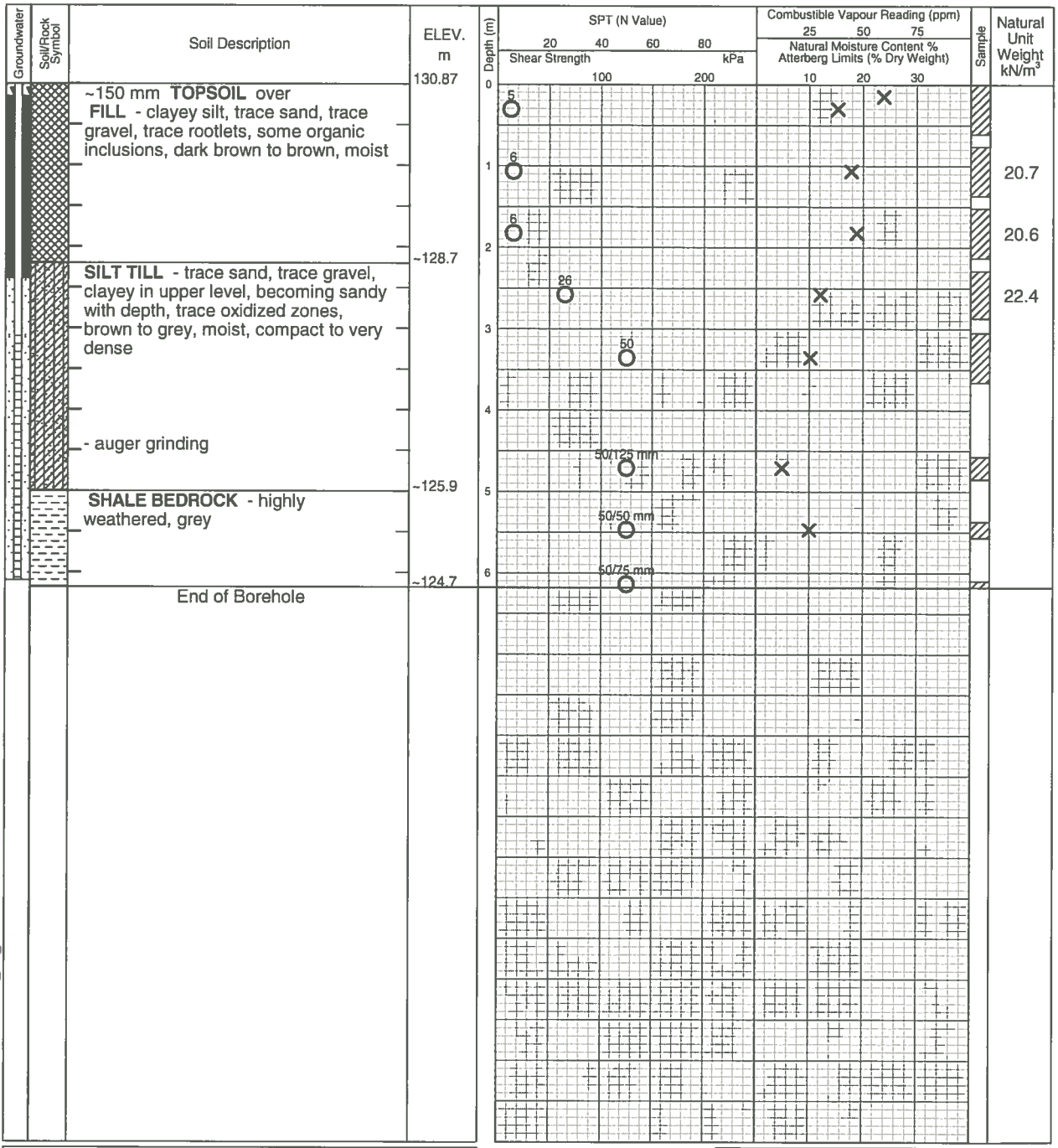
Date Drilled: November 29, 2019

Drill Type: Solid Stem Augers

Datum: Geodetic

Auger Sample
SPT (N) Value
Dynamic Cone Test
Shelby Tube
Field Vane Test (S)

Combustible Vapour Reading
Natural Moisture
Plastic and Liquid Limit
Undrained Triaxial at % Strain at Failure
Penetrometer



Notes:
1. Borehole advanced to completion at ~6.2 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: BRM-00607430-A0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
On Completion	No Free Water	~6.1
December 7, 2019	~2.9	Well
December 12, 2019	~2.9	Well

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Log of Borehole 11

Project No. BRM-00607430-A0

Drawing No. 12

Project: Geotechnical and Hydrogeological Investigation

Sheet No. 1 of 1

Location: 1055 Bloor Street, Mississauga, Ontario

Date Drilled: December 2, 2019

Drill Type: Solid Stem Augers

Datum: Geodetic

Auger Sample
SPT (N) Value
Dynamic Cone Test
Shelby Tube
Field Vane Test (S)

Combustible Vapour Reading
Natural Moisture
Plastic and Liquid Limit
Undrained Triaxial at % Strain at Failure
Penetrometer

Groundwater	Soil/Rock Symbol	Soil Description	ELEV. m
		~175 mm **TOPSOIL** over **FILL** - clayey silt, trace sand, trace gravel, trace rootlets, some organic inclusions, dark brown to brown, moist	130.42
		SILT TILL - trace sand, trace gravel, clayey in upper level, becoming sandy with depth, trace oxidized zones, brown to grey, moist, compact to very dense	~128.7
		SHALE BEDROCK - highly weathered, grey	~125.6
		End of Borehole	~124.2

SPT (N Value) 20 40 60 80
Shear Strength kPa 100 200
Combustible Vapour Reading (ppm) 25 50 75
Natural Moisture Content % Atterberg Limits (% Dry Weight) 10 20 30

Depth (m) 0 1 2 3 4 5 6

SPT values: 4, 5, 13, 37, 48, 50/100 mm, 50/100 mm

Sample

Natural Unit Weight kN/m³: 19.7, 21.9, 22.0

Notes:
1. Borehole advanced to completion at ~6.2 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: BRM-00607430-A0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp. Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
On Completion	No Free Water	~6.1

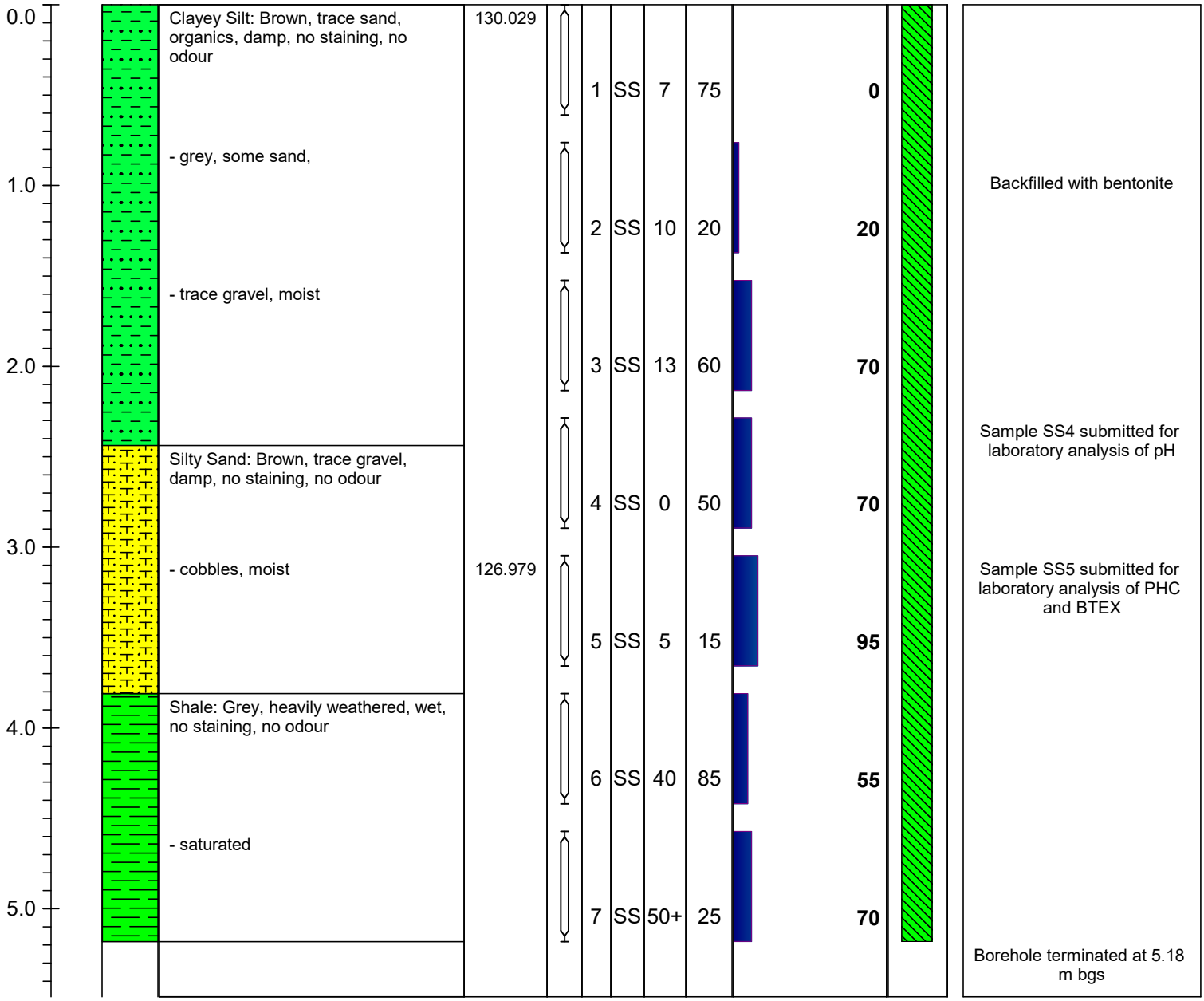
LAGWGL02EXP 607430A_BH_LOGS.GPJ NEW.GDT 12/18/19

Project No: 620017.CE
Project: Phase Two ESA
Client: CAPREIT
Location: 1055 Bloor Street W, Mississauga

Log of Borehole: BH20-01

Checked By: DM/MC
Field Technician: AG

PREMIER ENVIRONMENTAL SERVICES



Drilled By: Geo Environmental Drilling Inc.
Drill Method: Dietrich D120
Hole Size: 152.4 mm
Well Information: N/A
Drill Date: 14/04/20

Premier Environmental Services
244 Montrose Street North
Unit 1 Upper
Cambridge, Ontario
N3H 2H7

Groundsurface Elevation: 130.029 m
Top of Riser Elevation: N/A
Groundwater Elevation: N/A
Datum: Local
Sheet: 1 of 1

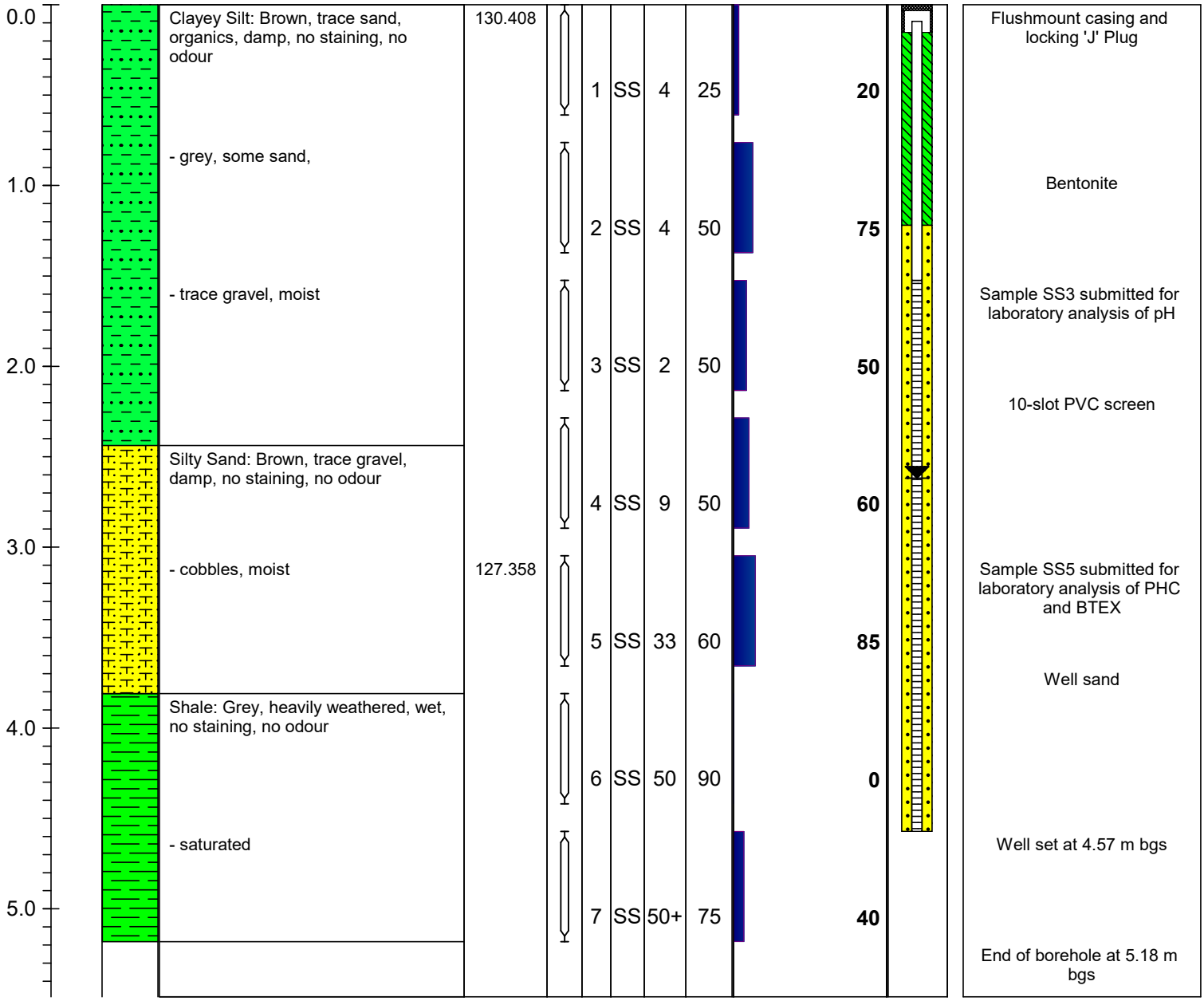
Note: *This borehole log is not suitable for geotechnical purposes*

Project No: 620017.CE
Project: Phase Two ESA
Client: CAPREIT
Location: 1055 Bloor Street W, Mississauga

Log of Borehole: MW20-02

Checked By: DM/MC
Field Technician: AG

PREMIER ENVIRONMENTAL SERVICES



Drilled By: Geo Environmental Drilling Inc.
Drill Method: Dietrich D120
Hole Size: 152.4 mm
Well Information: 50.8 mm
Drill Date: 14/04/20

Premier Environmental Services
244 Montrose Street North
Unit 1 Upper
Cambridge, Ontario
N3H 2H7

Groundsurface Elevation: 130.408 m
Top of Riser Elevation: -
Groundwater Elevation: 127.788 m
Datum: Local
Sheet: 1 of 1

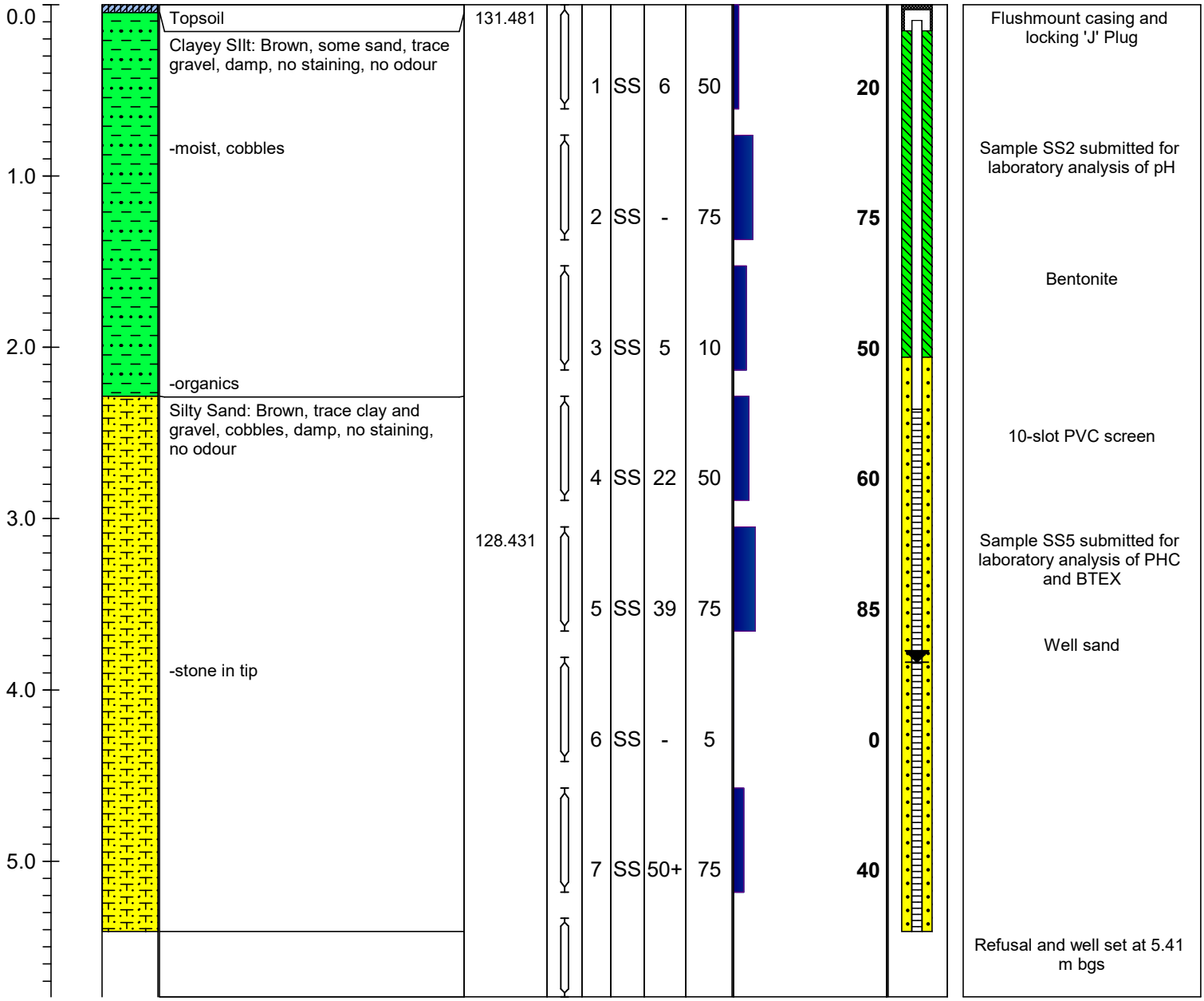
Note: *This borehole log is not suitable for geotechnical purposes*

Project No: 620017.CE
Project: Phase Two ESA
Client: CAPREIT
Location: 1055 Bloor Street W, Mississauga

Log of Borehole: MW20-03

Checked By: DM/MC
Field Technician: AG

PREMIER ENVIRONMENTAL SERVICES



Drilled By: Geo Environmental Drilling Inc.
Drill Method: Dietrich D120
Hole Size: 152.4 mm
Well Information: 50.8 mm
Drill Date: 14/04/20

Premier Environmental Services
244 Montrose Street North
Unit 1 Upper
Cambridge, Ontario
N3H 2H7

Groundsurface Elevation: 131.481 m
Top of Riser Elevation: 127.511 m
Groundwater Elevation: 127.641 m
Datum: Local
Sheet: 1 of 1

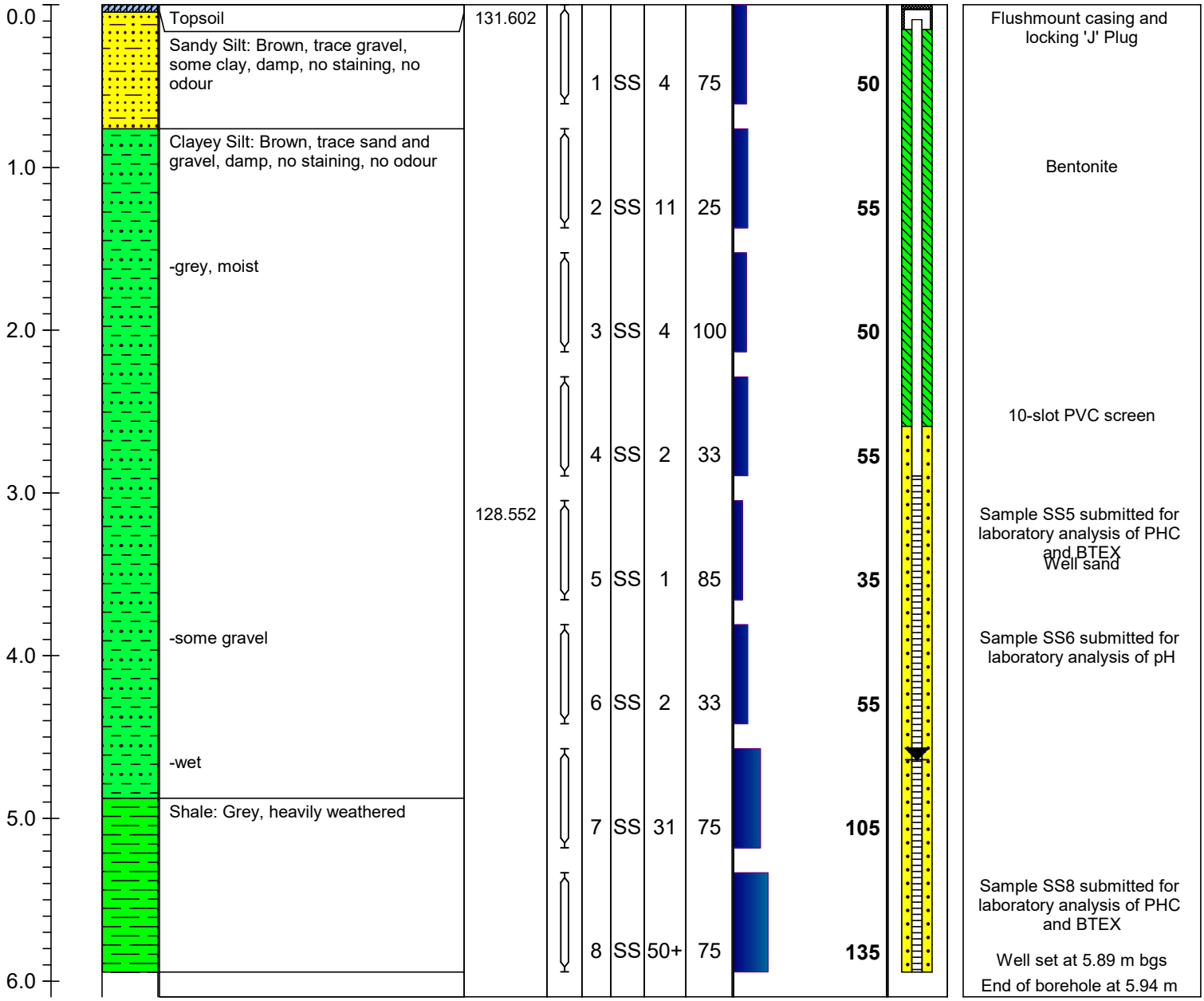
Note: *This borehole log is not suitable for geotechnical purposes*

Project No: 620017.CE
Project: Phase Two ESA
Client: CAPREIT
Location: 1055 Bloor Street W, Mississauga

Log of Borehole: MW20-04

Checked By: DM/MC
Field Technician: AG

PREMIER ENVIRONMENTAL SERVICES



Drilled By: Geo Environmental Drilling Inc.
Drill Method: Dietrich D120
Hole Size: 152.4 mm
Well Information: 50.8 mm
Drill Date: 14/04/20

Premier Environmental Services
244 Montrose Street North
Unit 1 Upper
Cambridge, Ontario
N3H 2H7

Groundsurface Elevation: 131.602 m
Top of Riser Elevation: 131.472 m
Groundwater Elevation: 126.962 m
Datum: Local
Sheet: 1 of 1

Note: *This borehole log is not suitable for geotechnical purposes*