Erin Mills Twon Centre
Proposed Mixed-Use Development
5100 Erin Mills Parkway, Missisauga, Ontario

Type of Document:
Geotechnical Investigation

Client:
Mr. Barry Stern
The Muzzo Group of Companies
50 Confederation Parkway
Concord, Ontario
L4K 4T8

Project Number:
GTR-00257769-H0

Submitted By:
EXP Services Inc.
1595 Clark Boulevard
Brampton, ON
L6T 4V1

t: +1.905.793.9800
f: +1.905.793.0641

Date Submitted:
March 21, 2024

Table of Contents

1. Introduction

This report presents the results of a Geotechnical Investigation carried out at the Erin Mills Town Centre located at 5100 Erin Mills Parkway in Mississauga, Ontario. The Site, which covers an area of about 12.4 acres, is situated at the northwest corner of the existing Erin Mills Town Centre in the City Mississauga, Ontario.

EXP Services Inc. (EXP) understands that the proposed development will comprise of a total of nine (9) residential towers (with some commercial space) and a parkland area. The proposed structures will be between 20 and 44 storeys in height. The development will include three (3) levels of underground parking (P3 is assumed to extend up to 10 m below ground surface). The site is currently occupied in part by a single-storey commercial building along with paved surface parking and landscape areas.

EXP carried out a preliminary geotechnical investigation at the Erin Mills Town Centre in the spring of 2020. At that time, a total of twenty (20) boreholes were advanced to depths ranging from about 1.5 to 6.7 m throughout the entire Erin Mills Town Centre area. The findings were presented in our report BRM-00257769-A1 dated March 27, 2020. In the fall of 2022, a supplementary geotechnical investigation (Report BRM-00257769-G0 dated November 10, 2022) was carried out when six (6) boreholes were advanced to about 10.1 to 13.8 m below existing grade. The logs for previous boreholes that fall within the boundary of the current site are included in Appendix C.

The purpose of this investigation was to determine the subsurface conditions at the site by drilling a limited number of new and deeper boreholes and based on this information, supplemented by information obtained in the preliminary investigation, to provide geotechnical engineering guidelines for the design and construction of the proposed development. Specifically, recommendations and/or comments regarding foundation type, allowable bearing pressures, groundwater conditions, excavation and backfill, slab-on-grade construction, permanent drainage requirements and earthquake considerations were to be provided.

The information contained in this report in no way reflects the environmental aspects of the soil and groundwater as this is beyond our terms of reference. The comments and recommendations given in this report are based on the assumption that the above-described design concept will proceed into construction. If changes are made either in the design phase or during construction, this office must be retained to review these modifications. The result of this review may be a modification of our recommendations or the requirement of additional field or laboratory work to check whether the changes are acceptable from a geotechnical viewpoint.

A Phase II Environmental Site Assessment (ESA) and Hydrogeological Investigation were carried out concurrently with the Geotechnical Investigation. The findings of the Phase II ESA and Hydrogeological investigation will be reported under separate covers.

2. Procedure

The fieldwork for this investigation was carried out during the period of January 4 to 22, 2024. A total of fourteen (14) boreholes, Boreholes 201 to 214, were drilled for the Geotechnical Investigation at the approximate locations shown on the attached Borehole Location Plan (Drawing No. 1). The boreholes were extended to depth of about 15.3 to 15.9 m below existing ground surface.

Prior to the commencement of drilling operations, Ontario OneCall was contacted for clearing underground services in the investigation areas. In addition, a private locator was also retained to scan around each borehole location to minimize the risk of contacting any buried utilities.

All boreholes were advanced using a drill rig adapted for soil sampling purposes owned and operated by a specialist drilling contractor. A representative of EXP was present throughout the drilling operations to monitor and direct the drilling and sampling operations, logged the borings, made groundwater observations during and upon completion of drilling, processed the recovered samples and prepared the borehole logs. Representative samples of the subsurface soils were recovered at regular intervals using conventional 50 mm O.D. split spoon sampling equipment driven in accordance with Standard Penetration Test (SPT) procedures (ASTM D1586). Coring of the shale bedrock was carried out using a HQ size core barrel at all borehole locations. All split spoon and rock core samples were returned to EXP's Brampton laboratory for testing which included moisture content, unit weight determinations and grain size analysis on selected samples.

Water level observations were carried out in the open boreholes during the course of the fieldwork. Subsequent water level observations were carried out in a monitoring well installed in each borehole for Phase II ESA and Hydrogeological purposes.

The locations of the boreholes were established in the field by EXP personnel based on a drawing provided by the client. Ground surface elevations (Geodetic) at each borehole location was derived from SOKKIA TopNET Live RTK Network with the use of a SOKKIA GCX3 Controller.

3. Surface Conditions

3.1 Soil

The detailed soil profile encountered in each borehole and the results of laboratory moisture content determinations are indicated on the attached borehole logs. It should be noted the soil boundaries indicated on the borehole logs are inferred from non-continuous sampling and observations during drilling. These boundaries are intended to reflect approximate transition zones for the purpose of geotechnical design and should not be interpreted as exact planes of geological change.

The "Notes on Sample Descriptions" and “Explanatory Sheet to Core Log” preceding the borehole logs form an integral part of and should be read in conjunction with this report.

The following is a brief description of the soil conditions encountered during the investigation:

3.1.1 Asphalt and Topsoil

Asphalt with thickness ranging from about 70 to 140 mm was encountered at the surface of Boreholes 201, 202, 203, 204, 205, 206 and 209D.

At the ground surface of Boreholes 207, 210, 211, 212, 213 and 214D, topsoil cover with thickness ranging from about 100 to 200 mm was encountered.

At Borehole 208, a topsoil layer of about 125 mm thick was encountered below the surficial pebble layer.

3.1.2 Fill

Fill, comprising sand and gravel, silty sand and clayey silt was encountered below the asphalt or topsoil at all borehole locations. The fill extends to depths ranging from about 0.7 to 2 m below existing ground surface (El. ~176.1 to 173.3 m).

3.1.3 Silt

The fill in Borehole 205 is underlain by a silt deposit which is brown to grey in colour, contains a trace of clay and gravel. It is in a dense to very dense state of compactness (recorded ‘N’-values of 41 to over 100) and extends to a depth of about 8.5 m below existing grade (El. ~166.8 m).

3.1.4 Sandy Silt to Silty Sand

A sandy silt to silty sand deposit was encountered below the fill in Borehole 206. This deposit is brown in colour and is in a compact state of compactness. The sandy silt to silty sand extends to a depth of about 2.5 m below existing ground surface (El. ~173.5 m).

3.1.5 Silt Till

A silt till deposit was encountered below the silt in Borehole 205, below the sandy silt to silty sand in Borehole 206 and below the fill in the remaining boreholes. The silt till is generally reddish brown in colour, contains some clay, a trace of sand with a trace of shale fragments at lower level of the deposit. It has moisture contents of about 5 to 11 percent of dry mass and is in a dense to very dense state of compactness (recorded 'N'-values of 38 to over 100). The silt till extends to depths of about 2.6 to 10.1 m below existing ground surface (El. ~174.2 to 165.2 m).

Grain size analyses were carried out on seven (7) representative samples recovered from the boreholes. The test results are presented in Appendix A and summarized in Table 1 below:

Table 1: Summary of Grain Size Analysis Results

Sample	Depth (m)	Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Description
BH203 SS2	0.8 – 1.4	0.0	3.7	83.8	12.5	Silt, some Clay, trace Sand
BH205 SS5	3.1 – 3.7	0.7	11.8	79.9	7.6	Silt, some Sand, trace Clay & Gravel
BH205 SS8	7.6 - 8.0	3.6	50.8	42.6	3.0	Sand & Silt, trace Clay & Gravel
BH207 SS3	1.5 – 2.1	0.0	4.8	68.0	27.2	Clayey Silt, trace Sand
BH211 SS2	0.8 – 1.4	0.0	2.4	73.1	24.5	Clayey Silt, trace Sand
BH212 SS4	2.3 – 2.8	0.0	6.5	78.8	14.7	Silt, some Clay, trace Sand
BH214 SS7	4.6 – 5.0	0.0	12.7	80.0	7.3	Silt, some Sand, trace Clay

3.1.6 Shale Bedrock

Shale bedrock of the Queenston Formation was encountered below the silt till at all borehole locations. The approximate elevation for the bedrock encountered in each borehole is presented in the individual borehole and core logs and summarized in Table 2 on the following page.

Approximately 4.7 to 12.6 m of shale bedrock was cored in the boreholes and the detailed findings from the rock cores are presented in the respective rock core logs for each borehole. Based on the rock core information, the shale bedrock comprises about 62 to 98% shale, 1 to 11% limestone, 1 to 26% siltstone and 1 to 2% clay seams. The core recovery ranged from 92 to 100%. The Rock Quality Designation (RQD), a rock quality indicator, is defined as the sum of core lengths of 100 mm or greater divided by the total length of the drill run. The recorded RQD ranged from about 0 to 100% with the lower values recorded in the weathered or rubble zones within the shale bedrock. In general, the RQD values beyond the weathered or rubble zones ranged from about 56 to 100%, indicating a fair quality. The shale bedrock generally consists of moderately soft bedded red shale with some limestone interbeds and is highly weathered in the upper zones and becomes sound with depth. All 14 deep boreholes were terminated in the shale bedrock at depths ranging from about 15.3 to 15.9 m below existing ground surface (El. 161.6 to 159.8 m).

Table 2: Summary of Shale Bedrock Level

Borehole No.	Top of Borehole Elevation (m)	Approximate Depth to Shale Bedrock below Existing Grade/Elevation (m)
201	176.84	~2.7 / ~174.1
202	176.76	~2.6 / 174.2
203	176.31	~3.4 / ~172.9
204	176.51	~3.3 / ~173.2
205	175.26	~10.1 / ~165.2
206	176.02	~4.6 / ~171.4
207	176.12	~3.0 / ~173.1
208	176.52	~3.2 / ~173.3
209D	176.87	~3.1 / ~173.8
210	176.76	~3.2 / ~173.6
211	176.86	~3.2 / ~173.7
212	176.12	~4.0 / ~172.1
213	176.15	~4.7 / ~171.4
214D	175.97	~5.8 / ~170.2

The Queenston Formation consists of red shale with interbeds of limestone and siltstone. Typically, the hard layers comprise about 15 to 20 percent of the unit. The hard layers are usually less than about 100 to 150 mm thick, but some layers are much thicker. The thicker layers have been observed to be as much as 750 to 900 mm at other sites. The layers are actually lenses and they can vary significantly in thickness over short distances.

Stress relief features such as folds and faults are common in the Queenston Formation. In these features the rock is heavily fractured and sheared and contains layers of shale rubble and clay. Due to the fracturing, these features may also be groundwater conduits, which could result in excessive water flow into excavations. Weathering is much deeper than the surrounding rock in these features and often there can be a lateral displacement of the stress relief features resulting in sound un-weathered bedrock overlying fractured and weather bedrock. The stress relief features are usually in the order of 4 to 6 m wide, but the depth can vary from 4 to 5 m to in excess of 10 m. Such zones were not encountered in the boreholes cored at the site.

3.2 Groundwater Condition

Groundwater conditions were assessed by taking readings in open holes during the course of the fieldwork and in monitoring wells installed in selected boreholes. Short-term groundwater level observations are recorded on the attached borehole logs and summarized in Table 3 below.

Table 3: Summary of Observed Groundwater Levels

Borehole Number	Date of Completion	Well Depth (m)	Depth to Groundwater Level Below Existing Grade/Elevation (m)	
			January 29, 2024	February 4, 2024
202	January 18, 2024	~7.2 (~169.6)	~5.9 (~170.8)	~6.0 (~170.8)
203	January 19, 2024	~6.9 (~169.4)	~6.5 (~169.8)	~6.2 (~170.2)
205	January 12, 2024	~15.4 (~159.9)	~5.3 (~169.9)	~5.6 (~169.7)
207	January 11, 2024	~15.5 (~160.6)	~6.1 (~170.0)	~5.1 (~108.4)
209D	January 15, 2024	~15.2 (~161.7)	~7.9 (~169.0)	~8.0 (~168.9)
209S	January 15, 2024	~6.9 (~170.0)	No Free Water (>170.0)	No Free Water (>170.0)
212	January 5, 2024	~15.4 (~160.7)	~5.7 (~170.4)	~5.8 (~170.3)
214D	January 4, 2024	~15.7 (~160.3)	~6.1 (~169.9)	~6.3 (~169.7)
214S	January 4, 2024	~6.1 (~169.9)	~5.9 (~170.1)	~6.0 (~170.0)

Seasonal fluctuations in groundwater levels should be anticipated.

Groundwater conditions are discussed in detail in the hydrogeological study report which was issued under separate cover.

4. Engineering Discussion and Recommendations

The site is part of the existing Erin Mills Town Centre located at 5100 Erin Mills Parkway in Mississauga, Ontario. The proposed development, which covers an area of about 12.4 acres, is situated at the northwest corner of the Erin Mills Town Centre in the City Mississauga, Ontario.

EXP understands that the proposed development will comprise of a total of nine (9) residential towers (with some commercial space) and a parkland area. All proposed structures will be between 20 and 44 storeys in height. The development will include three (3) levels of underground parking (P3 is assumed to extend up to 10 m below ground surface). The site is currently occupied in part by a single-storey commercial building along with paved surface parking and landscape areas.

The following recommendations are provided for preliminary consideration. When the development plan is finalized, additional boreholes and testing may be required to refine the preliminary recommendations provided.

4.1 Foundation

Based on the findings in the 14 boreholes, shale bedrock was encountered between El. ~174.1 m in Borehole 201 and El. ~165.2 m in Borehole 205 – a bedrock level differential of about 9 m. In general, the average bedrock level was found to be around El. 173.5 m in the central part of the site, dipping down to El. ~170.2 m in Borehole 214 (towards the southwest) and to El. ~165.2 m in Borehole 205 (towards the northeast).

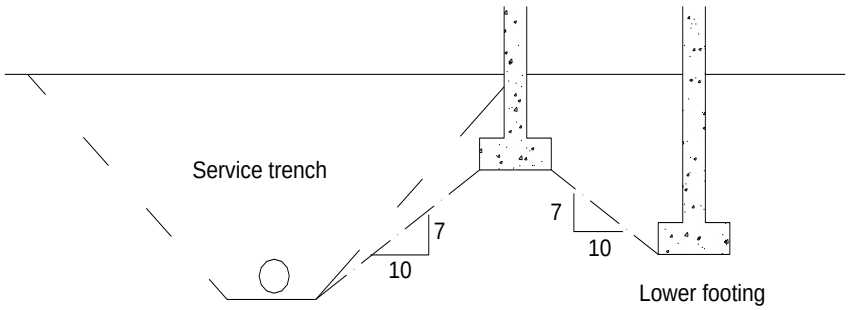
For the proposed condominium structures with 3 levels of common below grade parking, the anticipated lowest basement level (P3) will be set at about 10 m below grade. The footings are therefore expected to be at about 1.5 m below the P3 slab, i.e. ~11.5 m below existing ground level ~El. ~164.5 m (assuming existing grade is at El. ~176.0 m).

At this level, the footings will be well into the shale bedrock except for Borehole 205 which is just into the shale bedrock. The proposed structures may be supported on conventional spread and strip footings founded on the sound shale bedrock below any disturbed or weathered zones. Based on the rock core information, the footings in the vicinity of Borehole 205 may have to be extended to below the weathered/fractured zones to at least El. ~162.5 m to found on sound shale. A factored ULS bearing value of 3750 kPa can be used for the footing design. The SLS bearing value does not apply for foundations founded on sound shale bedrock. All footing bases must be hand cleaned and evaluated by this office at the time of construction. In the event where rubble zones, faults, etc. are encountered in the shale bedrock, the footings would have to be lowered to competent rock.

During excavation, care is needed to avoid fracturing, loosening or softening the shale at the foundation level. Loose, broken or remolded shale under the foundation, unless removed, may cause excessive differential settlements. Shale bedrock, immediately above the foundation level (thickness of about 1 m) should be removed carefully at the latest possible stage before concreting and construction to minimize exposure to the weather and to reduce the risk of rock slab heave resulting from high horizontal stresses. Footing bases should be protected by a concrete skim coat (~50 mm thick) if concrete placement does not occur on the same day after excavation.

4.2 Foundation General

Footings which are to be placed at different elevations should be located such that the higher footing is set below a line drawn up at 10 horizontal to 7 vertical from the near edge of the lower footing. This concept should also be applied to excavations for new foundations in relation to existing footings or underground services.



FOOTINGS NEAR SERVICE TRENCHES OR AT DIFFERENT ELEVATIONS

All footings exposed to seasonal freezing conditions should be protected from frost action by at least 1.2 m of soil cover or equivalent insulation for frost protection, depending on the final grade requirements. There is no official rule governing the required founding depth for footings below unheated basement floors. Certainly it will not be greater than the 1.2 m required in Southern Ontario for exterior footings. Unmonitored experience in the last few years indicates that a shallower depth ranging from about 0.82 to 0.9 m for interior footings and 0.4 m for wall footings has been successful where 2 or more basement levels apply. Adjacent to air shafts and entrance and exit doors, a footing depth of 1.2 m below floor surface level is required or, alternatively, insulation protection must be provided.

The total and differential settlements of well designed and constructed footings placed on sound shale bedrock in accordance with the above recommendations are expected to be 12 mm and 6 mm, respectively.

It should be noted that the recommended bearing capacity has been calculated by EXP from the borehole information for the design stage only. The investigation and comments are necessarily ongoing as new information on underground conditions becomes available. For example, it should be appreciated modification to the bearing levels may be required if unforeseen subsoil conditions are revealed after the excavation is exposed to full view or if final design decisions differ from those assumed in this report. As stated before, the results of this geotechnical study should therefore be regarded as very preliminary at best due to the limited number of boreholes drilled to the required depth for the proposed development.

4.3 Temporary Shoring

Based on the anticipated building elevations and assumed plans for excavation to extend to the property boundaries, site constraints will not allow for an open cut excavation. Therefore, temporary shoring and localized shallow excavations will be required during footing and elevator pit installations.

The shoring should be designed to resist lateral load imposed by the adjacent soils and surcharge loadings. A shoring system comprising soldier pile and lagging, may be considered for the proposed development. A stiffer system, such as caisson walls, should be considered for groundwater cut-off purposes as well as to support the existing structures and roadways.

For a soldier pile and lagging system through the sand layer, the space behind the lagging boards must be filled with concrete sand. The lagging boards should retain all soil while allowing groundwater seepage from wet sand seams to drain from behind. Dewatering of the sand will be required if the seepages and significant and caused the sand to wash into the excavation.

Assuming that the lagging boards will be installed in 1.2 m lifts, the filter fabric should be nailed to the excavated face of the lowest lagging and then line the fabric up behind the lagging in a continuous sheet. At the junction of the upper lagging, the spaces should be filled with filter fabric so that no soil particles can escape from behind the lagging boards.

Unshored excavation heights should not exceed 1.2 m in the excavation as per the Occupational Health and Safety Act. However, the side slopes should be flattened where instability is noted.

The temporary shoring of the soil boundaries for this project should be designed on the basis of the state-of-the-art information given in the fourth edition of the Canadian Foundation Engineering Manual (CFEM).

A rectangular pressure distribution as outlined in the CFEM can be used for calculating the earth pressures. If the shoring system does not extend up to the top of the ground, the sloped bank should either be treated as a surcharge to the shoring system or alternatively, a higher K_a value, reflecting the sloping ground, should be used.

The parameters that are considered to be applicable for this project and have been used successfully on many other deep excavations in the greater Toronto area, are as follows:

Earth pressure coefficient

= 0.25 (where small movements are permissible)

= 0.35 (where utilities, roads, sidewalks must be protected from significant movement, or where vibration from traffic is a factor)

= 0.40 (where adjacent building footings or movement sensitive services, i.e., gas and water mains, are above a line 60 degrees from the horizontal extending from the bottom edge of the excavation)

Approximate soil unit weight (γ)	= 22.0 kN/m^3
Approximate soil unit weight of shale	= 24.5 kN/m^3
Bond resistance for rock anchors in sound shale	= 400 kPa

It should be noted that water bearing sand seams exist in the native deposits at this site and as such, the tieback holes should be cased to minimize loss of soil during tieback installation.

The recommended design parameters should be confirmed by load testing a number of anchors to 200% design load in accordance with the current edition of the CFEM. As a minimum for this site, at least four (4) anchor load tests should be carried out to verify the capacity of the anchors. The design for the production anchors should then be modified based on the test results, where necessary. All remaining anchors must be installed in similar procedures and proof tested to 1.33 times the design load.

It is recommended that the contract have a performance specification limiting movement. A maximum of 13 mm is generally acceptable for a street where movement sensitive utilities are not nearby. Otherwise, the engineering departments of the utility companies must be contacted to assess what movement is acceptable. Anchor spacing and elevation, and the timing of the excavation and anchoring operations are critical in determining the movements.

During winter months, the shoring walls should be covered with thermal blankets to prevent frost penetration behind the shoring system which may result in unacceptable movements.

EXP should be retained to review the shoring design, to monitor installation and testing of the system, and to monitor the shoring movements during all phases of the excavation. Inclinometers should be installed at locations where sensitive buildings or services lie close to the excavation. Careful monitoring is needed in any shored excavation, especially when buildings are located in close proximity. This is necessary not only to anticipate when and if additional support is needed, but also to provide data to meet claims from adjacent property owners. In this regard, it is essential that detailed precondition surveys be carried out on adjacent buildings.

4.4 Earth Pressure

The lateral earth pressure acting on basement walls may be calculated from the following equation:

$$p = K(\gamma h + q)$$

where p = lateral earth pressure in kPa acting at depth h;
K = earth pressure coefficient a value of 0.4 is recommended;
γ = unit weight of retained soil, a value of 22 kN/m^3 is recommended
h = depth to point of interest in m; and
q = equivalent value of any surcharge on the ground surface in kPa.

The above expression assumes that the perimeter drainage system is effective to prevent hydrostatic pressure build-up behind the perimeter walls.

If water is retained such as in the case of tanking the underground structure, submerged unit weight can be used for the retained soil below the groundwater table and full hydrostatic pressure should be added. The lateral earth pressures acting on basement walls may be calculated from the following expression:

$$p = K(\gamma h_1 + \gamma' h_2 + q) + \gamma_w h_2$$

where p = lateral earth pressure in kPa acting at depth h;
K = earth pressure coefficient a value of 0.4 is recommended;
γ = unit weight of retained soil, a value of 22 kN/m^3 may be assumed
h_1 = depth in meters above the water table
γ' = effective unit weight of soil, a value of 12 kN/m^3 may be assumed
γ_w = unit weight of water (10 kN/m^3)
h_2 = depth in metres below the water table; and
q = equivalent value of surcharge on the ground surface in kPa

The basement walls should be designed to resist hydrostatic pressure imposed by the recorded groundwater level. All basement walls must be waterproofed up to 1 m below the final exterior grade or at grade as per manufacturer's recommendations.

4.5 Excavation and Groundwater Control

Excavation for the proposed structure with 4 basement levels can be carried out utilizing conventional hydraulic type backhoe and must be carried out in accordance with the latest edition of the Occupational Health and Safety Act (OHSA). The soil encountered at this site can be classified as follows:

- Fill — Type 3
- Silt — Type 3
- Sandy Silt to Silty Sand (above groundwater table or dewatered) — Type 3
- Sandy Silt to Silty Sand (below groundwater table) — Type 4
- Silt Till — Type 2
- Shale Bedrock — Type 1

Excavation into shale bedrock is expected to be carried out by heavy dozers and backhoes equipped with ripping teeth. Because of the presence of hard limestone layers within the shale bedrock, rock breaking equipment will likely be required for removal in some areas. The trimming of excavation faces is generally carried out using a backhoe equipped with ripping teeth and/or vibrating breaker point. In mass excavation, it is possible to lift limestone slabs at joints and cracked edges and continue on with ripping and digging.

It should be noted that cobbles and boulders exist in glacial till deposits and their presence could influence the progress of excavation. Consequently, provisions should be made in the contract documents to cover any delays caused by boulder obstructions.

Some seepage of free water perched in the fill or from the more pervious seams within the native soil should be anticipated during construction. It should be possible to control and remove any such seepage by pumping from temporary sumps and ditches. Where water bearing sand seams are encountered on the side slopes, the area should be covered with filter fabric and a layer of riprap size rocks to allow drainage and to minimize surface erosion. The extent and requirements would have to be evaluated during the excavation.

4.6 Floor Slab and Permanent Drainage

Preliminary project information indicates that the P3 basement floor slab will be set at about 10 m below grade, i.e. El. ~166.0 m assuming the existing grade is at El. 176.0 m. At this level, the P3 slab is expected to be set in shale bedrock except for Borehole 205 which will be set in the very dense silt till. For slab-on-grade construction on shale bedrock, all disturbed or broken rock should be removed from the underfloor area. The silt till should be proof-rolled and any soft area identified should be sub-excavated. Any over excavated areas should be brought up to design grades using approved materials described in the “Backfill Considerations” section of this report.

A 200 mm layer of 19 mm clear crushed stone should be placed between the prepared subgrade and the floor slab to serve as a moisture barrier.

The conventional method in handling permanent drainage for the proposed structure with 3 levels of basement is to install a network of perimeter and underfloor drainage systems to collect groundwater in a sump and discharged into the City system. Recently the City is reviewing each discharge application using a more stringent guideline on the groundwater quality and quantity. The hydrogeological study will address the groundwater issues for this site.

If there is capacity in the City sewer, the groundwater quality meets the City of Mississauga stormwater guidelines and is allowed to discharge into the City system, the groundwater can be collected in a sump before being discharged. Since the excavation will probably come up to the boundary limits, commercially available wall drains, such as SITEDRAIN HQ240 by American Wick Drain or equivalent, will be required. The drains should extend continuously and from about 1.0 m below ground level to the base of the excavation. Prior to placing the wall drains, a Terrafix 600R or equivalent filter fabric should be nailed to the shoring wall to minimize the risk of plugging the wall drains.

A suggested perimeter drainage system against shoring is shown on the enclosed Drawing No. 18: Suggested Exterior Drainage Against Shoring System. Full coverage of the basement walls is recommended.

A solid pipe should be installed to within 1 m of the exterior wall to collect seepage from the wall drains. Underfloor drains and perimeter drains should not be connected into the same collector pipe. See Drawing Nos. 18 and 19 for a recommended perimeter and underfloor drainage systems, respectively. Further comments can be provided once design plans are finalized.

Shale bedrock can deteriorate and swell if it is submerged in water. As such, in order to minimize the risk of water accumulation under the slab, underfloor drainage pipes are recommended. As a minimum, a row of weeping tile should be placed within all utility trenches to remove any water seepages present in the bedrock. Depending on the spacing of the utility trenches, additional rows may be required. This can be evaluated once the foundation and mechanical pipe layouts are available. Since the underfloor drains will be installed in shale bedrock, clear stone or HPB may be used as backfill in the trenches. A minimum drain slope should suffice since the water can develop its own gradient within the drainage line. All underfloor drains should be connected to the interior sumps for removal off site.

The weeping tile should be connected into the storm sump for removal off site. The layout and details of the underfloor drainage system should be reviewed by this office prior to construction.

To minimize the risk of groundwater penetrating through the concrete, considerations can be given to waterproofing the walls in addition to the use of drainage boards. Around the perimeter of the building the ground surface should be sloped on a positive grade away from the structure to promote surface water run-off and reduce groundwater infiltration adjacent to the foundations.

The raft foundation option will have to be utilized if foundation drainage into the City's sewer system is not allowed. In this case, the basement needs to be designed as a watertight structure. For raft foundation, underfloor weeping tiles should not be installed under the raft slab and perimeter wall drains will not be required. If underground services are to be located above the raft, a layer of clear stone can be used on top of the raft foundation and a slab on grade placed over this clear stone layer. The foundation walls and the raft should be designed to resist full hydrostatic pressures and uplift based on the design groundwater level as determined in the Hydrogeological Study report.

4.7 Backfill Considerations

Given that the floor slab will be within the shale bedrock, 19 mm clear limestone can be used for backfilling under the floor slab.

If Granular B is used, it should be placed in maximum lift thickness of 200 mm in the loose state. Each lift should be compacted to at least 95% standard Proctor maximum dry density before subsequent lifts are placed. The degree of compaction achieved in the field should be checked by in-place density tests. 19 mm clear limestone do not require compaction.

4.8 Earthquake Considerations

The recommendations for the geotechnical aspects to determine the earthquake loading for design using the OBC 2012 (R2019) are presented below.

4.8.1 Subsoil Conditions

The subsoil and groundwater information at this site have been examined in relation to Section 4.1.8.4 of the OBC 2012 (R2019). The subsoils generally consist of fill, silt, sandy silt to silty sand, silt till and shale bedrock. The foundation of the proposed structures with 3 levels of underground parking will be supported on sound shale bedrock.

4.8.2 Depth of Boreholes

Table 4.1.8.4.A. Site Classification for Seismic Site Response in OBC 2012 (R2019) indicated that to determine the site classification, the average properties in the top 30 m (below the lowest basement level) are to be used. The boreholes advanced at this site terminated at depths of about 15.3 to 15.9 m below existing grade. Therefore, the site classification recommendation would be based on the available information as well as our interpretation of conditions below the boreholes based on our knowledge of the soil conditions in the area.

4.8.3 Site Classification

Based on the above assumptions and currently available information, the Site Class for the proposed structure with 4 levels of underground parking is “B” as per Table 4.1.8.4.A, Site Classification for Seismic Site Response, OBC 2012 (R2019).

4.9 Subsurface Concrete Structures

Two (2) native soil samples were analyzed for pH and sulphate concentrations and the test results are summarized in Table 4 below:

Table 4: Summary of pH and Sulphate Test Results

Sample Identification	Sample Location	pH	Sulphate (µg/g)
BH202 SS2 (5614359)	Borehole 202 – 0.8 to 1.0 m	7.45	13
BH205 SS6 (5614371)	Borehole 205 – 4.6 to 5.2 m	7.50	49

The sulphate content of the sample analyzed indicates a negligible degree of sulphate attack on buried concrete structures. The Certificate of Analysis is included in Appendix B.

For information regarding the selection of cement type for subsurface concrete structures, reference is made to CSA Standard CAN 3-A23.

5. General Comments

The information presented in this report is based on a limited investigation designed to provide information to support an overall assessment of the current geotechnical conditions of the subject property. The conclusions presented in this report reflect site conditions existing at the time of the investigation.

The comments given in this report are intended only for the guidance of design engineers. The number of boreholes required to determine the localized underground conditions between boreholes affecting construction costs, techniques, sequencing, equipment, scheduling, etc. could be greater than has been carried out for design purposes. Contractors bidding on or undertaking the works should, in this light, decide on their own investigations as well as their own interpretations of the factual borehole results so that they may draw their own conclusions as to how the subsurface conditions may affect them.

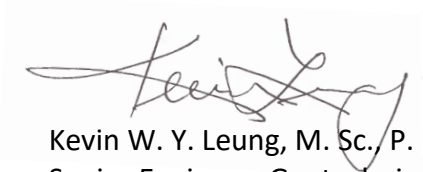
The information contained in this report in no way reflects on the environmental aspects of the soils, which has not been addressed in this report, since this is beyond our terms of reference. More specific information with respect to the conditions between samples or the lateral and vertical extent of materials may become apparent during excavation operations. The interpretation of the borehole information must, therefore, be validated during excavation operations. Consequently, during the future development of the property, conditions not observed during this investigation may become apparent; should this occur, EXP should be contacted to assess the situation and additional testing and reporting may be required. EXP has qualified personnel to provide assistance in regard to future geotechnical issues related to this property.

EXP Services Inc. should be retained for a general review of the final design and specifications to verify that this report has been properly interpreted and implemented. If not accorded the privilege of making this review, EXP Services Inc. will assume no responsibility for interpretation of the recommendations in the report.

We trust this report is satisfactory for your purposes. Should you have any questions or comments, please do not hesitate to contact this office.

Yours truly,

EXP Services Inc.



Stephen S. M. Cheng
Digitally signed by Stephen S. M. Cheng
Date: 2024.03.21 17:44:27 -04'00'

Kevin W. Y. Leung, M. Sc., P. Eng.
Senior Engineer, Geotechnical Division

Stephen S. M. Cheng, P. Eng.
Discipline Manager, Geotechnical Division

Drawings

Borehole Location Plan
Borehole and Core Logs
Suggested Exterior Drainage Against Shoring System
Drainage and Backfill Recommendations

SCALE:

0 20 40 60 80 100 m

exp.

DRAWN BY:	CHECKED BY:
JA	KL

NOTES:

1. THE BOUNDARIES AND SOIL TYPE HAVE BEEN ESTABLISHED ONLY AT THE BOREHOLE LOCATIONS. BETWEEN BOREHOLES BOUNDARIES ARE ASSUMED AND MAY BE SUBJECT TO CONSIDERABLE ERROR.
2. SOIL SAMPLES WILL BE RETAINED IN STORAGE FOR 3 MONTHS AND THEN DESTROYED UNLESS THE CLIENT ADVISES OTHERWISE.
3. TOPSOIL QUANTITIES AND/OR VOLUME OF UNSUITABLE FILL SHOULD NOT BE ESTABLISHED FROM THE INFORMATION PROVIDED AT THE BOREHOLE LOCATIONS.
4. BOREHOLE ELEVATION SHOULD NOT BE USED TO DESIGN BUILDING(S), OR FLOOR SLAB(S), OR PARKING LOT(S) GRADES.
5. THE DRAWING IS TO BE READ WITH SUBJECT REPORT, PROJECT NUMBER AS SHOWN BELOW.
6. SEE REPORT TEXT FOR SITE DATUM.
7. BOREHOLE LOCATIONS ARE APPROXIMATE.
8. DIMENSIONS SHOWN ON THIS DRAWING ARE IN METRIC UNITS, UNLESS OTHERWISE NOTED.

BOREHOLE LOCATION PLAN

DRAWING: 1

SUPPLEMENTARY GEOTECHNICAL INVESTIGATION
5100 ERIN MILLS PARKWAY
MISSISSAUGA, ONTARIO

PROJECT NUMBER: GTR-00257769-H0

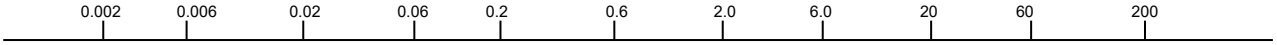
DATE: JANUARY 2024

Notes On Sample Descriptions Drawing 1A

1. All sample descriptions included in this report follow the Canadian Foundations Engineering Manual soil classification system. This system follows the standard proposed by the International Society for Soil Mechanics and Foundation Engineering. Laboratory grain size analyses provided by EXP Services Inc. also follow the same system. Different classification systems may be used by others; one such system is the Unified Soil Classification. Please note that, with the exception of those samples where a grain size analysis has been made, all samples are classified visually. Visual classification is not sufficiently accurate to provide exact grain sizing or precise differentiation between size classification systems.

ISSMFE SOIL CLASSIFICATION

CLAY	SILT			SAND			GRAVEL			COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE		



EQUIVALENT GRAIN DIAMETER IN MILLIMETRES

CLAY (PLASTIC) TO	FINE	MEDIUM	CRS.	FINE	COARSE
SILT (NONPLASTIC)	SAND			GRAVEL	

UNIFIED SOIL CLASSIFICATION

2. Fill: Where fill is designated on the borehole log it is defined as indicated by the sample recovered during the boring process. The reader is cautioned that fills are heterogeneous in nature and variable in density or degree of compaction. The borehole description may therefore not be applicable as a general description of site fill materials. All fills should be expected to contain obstruction such as wood, large concrete pieces or subsurface basements, floors, tanks, etc.; none of these may have been encountered in the boreholes. Since boreholes cannot accurately define the contents of the fill, test pits are recommended to provide supplementary information. Despite the use of test pits, the heterogeneous nature of fill will leave some ambiguity as to the exact composition of the fill. Most fills contain pockets, seams, or layers of organically contaminated soil. This organic material can result in the generation of methane gas and/or significant ongoing and future settlements. Fill at this site may have been monitored for the presence of methane gas and, if so, the results are given on the borehole logs. The monitoring process does not indicate the volume of gas that can be potentially generated nor does it pinpoint the source of the gas. These readings are to advise of the presence of gas only, and a detailed study is recommended for sites where any explosive gas/methane is detected. Some fill material may be contaminated by toxic/hazardous waste that renders it unacceptable for deposition in any but designated land fill sites; unless specifically stated the fill on this site has not been tested for contaminants that may be considered toxic or hazardous. This testing and a potential hazard study can be undertaken if requested. In most residential/commercial areas undergoing reconstruction, buried oil tanks are common and are generally not detected in a conventional geotechnical site investigation.

3. Till: The term till on the borehole logs indicates that the material originates from a geological process associated with glaciation. Because of this geological process the till must be considered heterogeneous in composition and as such may contain pockets and/or seams of material such as sand, gravel, silt or clay. Till often contains cobbles (60 to 200 mm) or boulders (over 200 mm). Contractors may therefore encounter cobbles and boulders during excavation, even if they are not indicated by the borings. It should be appreciated that normal sampling equipment cannot differentiate the size or type of any obstruction. Because of the horizontal and vertical variability of till, the sample description may be applicable to a very limited zone; caution is therefore essential when dealing with sensitive excavations or dewatering programs in till materials.

Explanatory Sheet To Core Log

Column No.	Description
1	Elevation of Geotechnical Boundary
2	Depth of Geotechnical Boundary in Borehole
3	Geological Symbol for Rock or Soil Material
4	General Description of Geotechnical Unit: Quantitative description including rock type (s), percentage of rock types, frequency and sizes of interbeds, colour, texture, weathering, strength and general joint spacing
5-11	Joint (Discontinuity) Characteristics
5	Number of Joints in Set: A rock mass can be intersected by a number of joint sets of varying orientations
6	Joint Type: B = Bedding Joint; F = Fault; C = Cross Joint; S = Shear Plane
7	Orientation: Only variations in dip can be identified in core; dip direction is obtained from field mapping or orientated core F = Flat = 0 - 20° D = Dipping = 20 - 50° V = Vertical = 50 - 90°
8	Joint Spacing: This is an approximate measure of spacing between joints in specific joint sets VW = Very Wide = >3 m W = Wide = 1 to 3 m M = Moderate = 30 cm to 1 m C = Close = 5 to 30 cm VC = Very Close = <5 cm
9	Roughness RU = Rough Undulating RP = Rough Planar SU = Smooth Undulating SP = Smooth Planar LU = Slickensided Undulating LP = Slickensided Planar
10	Filling:

	Approximate ϕ_r
T = Tight, hard, non softening	25° - 35°
O = Oxidation, surface staining only	25° - 30°
SA = Slightly altered; clay free	25° - 30°
S = Sandy particles; clay free	25° - 35°
Si = Sandy and silty' minor clay	20° - 25°
NC = Non softening clays (<5 mm)	16° - 24°
SO = Softening clays (<5 mm)	12° - 16°
SC = Swelling clay fillings (<5 mm)	6° - 12°

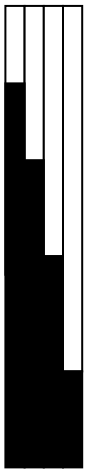
11	Aperture: Estimated size of joint opening
12	Degree of Weathering of Rock Material

Unweathered	= no signs of discolouration or oxidation
Slightly weathered	= partial discolouration; fractures (joints) typically oxidized
Moderately weathered	= total discolouration
Highly weathered	= total discolouration; typically friable & pitted
Completely weathered	= resembles soil; rock structure usually preserved

Explanatory Sheet To Core Log

Column No. **Description**

13 Strength of Rock Material



		Approx.Uniaxial Compressive Strength
Very High strength	= specimen can only be chipped by geological hammer	>200 MPa
High strength	= specimen requires a number of blows to fracture it: cannot be scrapped with a pocket knife	50 – 200 MPa
Medium strength	= specimen can be fractured by a single blow of geological hammer; can be scrapped with pocket knife, not peeled	15 – 50 MPa
Low strength	= shallow indentations made with a firm blow of geological hammer; can be peeled by pocket knife with difficulty	4 – 15 MPa
Very low strength	= crumbles under firm blow with point of geological hammer; can be peeled by pocket knife	1 – 4 MPa

14 Fracture Frequency: Number of natural joints occurring over a metre length of core. All natural joints are counted irrespective of the number of joint sets.

Fracture Frequency		Joint Spacing	
<0.3/m	=	Very wide	= 3 m
0.3 – 1/m	=	Wide	= 1 – 3 m
1 – 3/m	=	Moderate	= 30 cm – 1 m
3 – 20/m	=	Close	= 5 – 30 cm
>20/m	=	Very Close	= <5 cm

15 Run Number: Drill run number

16 Core Recovery: Core recovery is the total length of core pieces, irrespective of their individual lengths, obtained in a core run and expressed as a percentage of the length of that core run.

17 Rock Quality Designation (RQD): The total length of those pieces of sound core which are 10 cm or greater in length in a core run expressed as a percentage of the total length of that core run. Sound pieces of rack are those pieces separated by natural breaks and not machine breaks or subsequent artificial breaks.

RQD	Rock Mass Classification (After Deere)
0 - 25%	very poor
25 – 50%	poor
50 – 75%	fair
75 – 90%	good
90 – 100%	excellent

18 Water Recovery: The estimated water returning out of the casing

19 Water Colour: The colour of the water returning out of the casing

Log of Borehole 201

Project No. GTR-00257769-H0 | Drawing No. 2

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

Date Drilled: January 19 - 22, 2024

Drill Type: Hollow 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

Soil Description	ELEV. m	Depth (m)
~115 mm **ASPHALT** over **FILL** - sand and gravel granular, brown, moist	176.84 / ~176.3	0
FILL - clayey silt, trace sand, reddish brown, moist	~175.8	1
SILT TILL - some clay, trace sand, reddish brown, dense to very dense		2
- trace shale fragments	~174.1	3
SHALE BDEROCK - Queenston Formation, occasional limestone and sandstone layers, reddish brown	~173.8	4
Coring Commenced		5
		6
		7
		8
See Core Log for Details		9
		10
		11
		12
		13
		14
		15
End of Borehole	~161.4	

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

19
34
50/100 mm
50/125 mm
50/75 mm

Sample | Natural Unit Weight kN/m³

Notes:
1. Borehole advanced to completion at ~15.4 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.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp. Brampton

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

LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

ROCK CORE LOG

BH 201

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.8	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/22/23	01/22/23	D. Panchal	2A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	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
174.3																		
			See Borehole Log for Details															
173.8	3		**QUEENSTON FORMATION**		F	V												
173.7				1	B	F	C	RU						1	100	75	95	Red
173.7							C	RU										
173.3			Shale with interbedded siltstone, and clay layers.															
173.3																		
173.0			Shale (78%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~7.2 and between moderately weathered and unweathered below.															
172.9	4			1	B	F	C	RU						2	100	91	100	Red
172.4					F	V	M	RP										
172.4			Limestone (6%) fine grained, grey, medium strength, unweathered		F	V												
172.4																		
172.3			Siltstone (14%) fine grained, grey, medium strength, unweathered.															
171.8	5																	
171.8			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
171.5									SO	180 mm								
171.3			Vertical fractures were noted at ~3.1 m, 4.4 m, 4.5 m, 6.3 m and 6.5 m.															
171.2				1	B	F	VC	RP						3	100	56	90	Red
171.1							VC	RP	NC	20 mm								
171.0	6		Clay (2%) layers, heavily weathered, very low strength were noted at ~5.5 m, 5.9 m and 6.4 m.															
171.0																		
170.9					F	V												
170.8			Rubble layers, heavily weathered, very low strength were noted at ~5.1m (50 mm) and 6.3 m (40 mm).						NC	70 mm								
170.6					F	V												
170.5																		
170.4																		
170.4																		
170.3	7																	
170.3				1	B	F	C	RP						4	100	90	100	Red
170.1							M	SU										
170.1																		
169.6																		
169.6																		
169.5																		
169.3	8																	
169.0																		
168.9																		
168.7																		
168.5																		
168.1				1	B	F	W	SU						5	100	100	100	Red
168.0							W	SP										
167.7	9																	
167.6																		
167.2																		
167.1																		
166.8	10																	
166.8				1	B	F	W	SP						6	100	100	100	Red
							W	SP										

exp.

ROCK CORE LOG

BH 201

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.8	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/22/23	01/22/23	D. Panchal	2A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 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
166.3			**QUEENSTON FORMATION**															
166.1	11		Shale with interbedded siltstone, and clay layers.															
165.5			Shale (78%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~7.2 and between moderately weathered and unweathered below.	1	B	F	W W	SP SP						7	100	100	100	Red
165.4																		
165.1																		
165.1	12		Limestone (6%) fine grained, grey, medium strength, unweathered															
164.7																		
164.6			Siltstone (14%) fine grained, grey, medium strength, unweathered.															
164.0			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
163.6	13		Vertical fractures were noted at ~3.1 m, 4.4 m, 4.5 m, 6.3 m and 6.5 m.	1	B	F	W W	SP SP						8	100	100	100	Red
163.5			Clay (2%) layers, heavily weathered, very low strength were noted at ~5.5 m, 5.9 m and 6.4 m.															
163.1																		
163.0	14		Rubble layers, heavily weathered, very low strength were noted at ~5.1m (50 mm) and 6.3 m (40 mm).															
162.6																		
162.6				1	B	F	W W	SP SP						9	100	100	100	Red
161.7	15																	
161.6																		
161.4			End of Borehole at 15.4 m															
	16																	
	17																	
	18																	

Log of Borehole 202

Project No. GTR-00257769-H0 Drawing No. 3

Project: Geotechnical Investigation Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

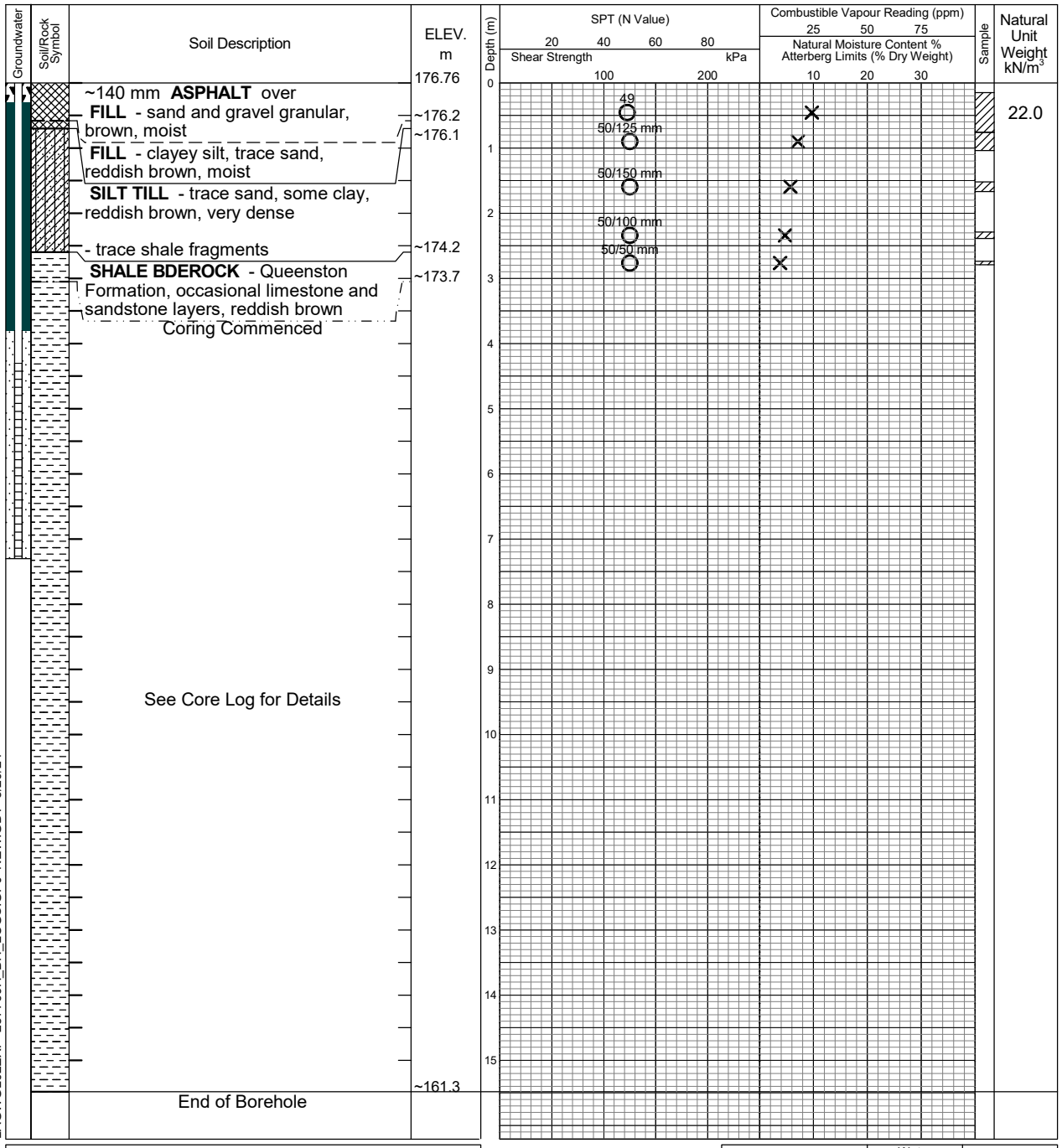
Date Drilled: January 17 - 18, 2024

Drill Type: Hollow 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 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

Notes:
1. Borehole advanced to completion at ~15.5 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.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
January 29, 2024	~5.9	Well
February 4, 2024	~6.0	Well

ROCK CORE LOG

BH 202

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.8	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/18/23	01/18/23	D. Panchal	3A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 75 - Truck	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
174.3			See Borehole Log for Details															
173.7	3		**QUEENSTON FORMATION**		F	V												
173.6					F	V												
173.6				1			C	RU						1	100	76	95	Red
173.5					B	F	C	RU										
173.4			Shale with interbedded siltstone, and clay layers.															
173.3																		
173.2			Shale (78%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.0 m and between moderately weathered and unweathered below.															
172.6	4																	
172.5				1	B	F	C	RU						2	98	94	100	Red
			Limestone (9%) fine grained, grey, medium strength, unweathered				C	RP										
171.9			Siltstone (13%) fine grained, grey, medium strength, unweathered.															
171.8	5																	
171.5			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
171.5																		
			Vertical fractures were noted at ~3.2 m, 3.3 m and 8.0 m.															
171.0																		
170.9	6			1	B	F	C	RP						3	100	100	100	Red
170.7							M	SU										
170.6																		
170.1																		
169.9																		
169.8	7																	
169.7																		
169.6				1	B	F	M	SU						4	100	98	100	Red
							C	SU										
169.1																		
168.8	8				F	V												
168.8																		
168.6																		
168.4																		
167.8	9			1	B	F	W	SU						5	100	100	100	Red
167.7							W	SP										
167.4																		
167.3																		
166.8	10																	
166.7																		
166.5																		
166.5				1	B	F	W	SP						6	100	100	100	Red

EXP_ROCKCORE 257769H_ROCK_LOGS.GPJ CORE_LOG.GDT 3/20/24

exp.

ROCK CORE LOG

BH 202

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.8	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/18/23	01/18/23	D. Panchal	3A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 75 - Truck	HQ	2 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
166.1			**QUEENSTON FORMATION**				W	SP										
165.9	11		Shale with interbedded siltstone, and clay layers.															
165.3			Shale (78%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.0 m and between moderately weathered and unweathered below.															
165.3																		
165.0																		
164.9	12			1	B	F	W	SP						7	100	100	100	Red
			Limestone (9%) fine grained, grey, medium strength, unweathered				W	SP										
164.4																		
164.4			Siltstone (13%) fine grained, grey, medium strength, unweathered.															
			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
163.9	13																	
163.6			Vertical fractures were noted at ~3.2 m, 3.3 m and 8.0 m.															
163.5																		
163.3				1	B	F	W	SP						8	100	100	100	Red
163.1							W	SP										
162.9	14																	
162.2																		
162.1																		
161.7	15			1	B	F	W	SP						9	100	100	100	Red
161.6							W	SP										
161.3			End of Borehole at 15.5 m															
	16																	
	17																	
	18																	

Log of Borehole 203

Project No. GTR-00257769-H0 | Drawing No. 4

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

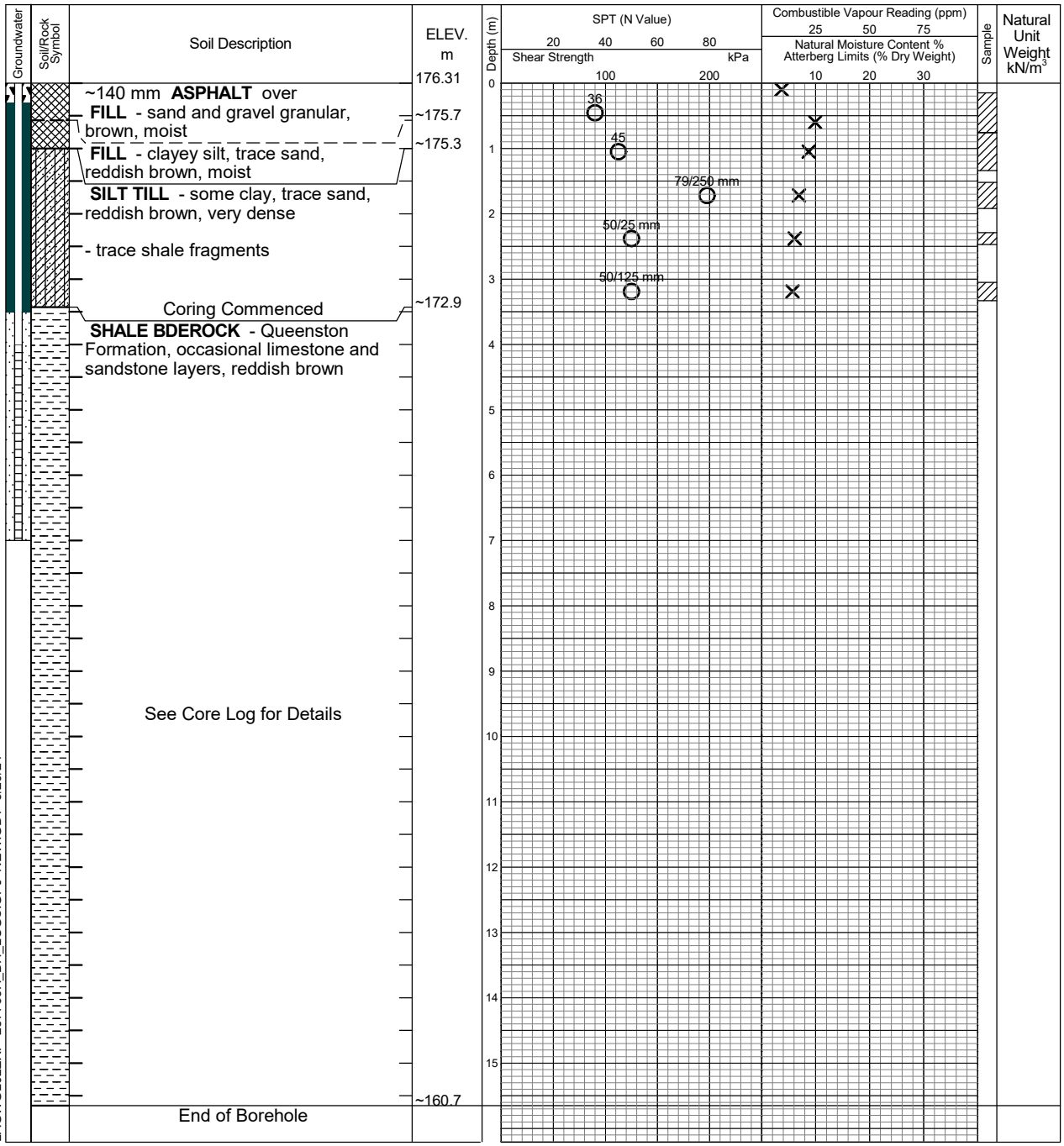
Date Drilled: January 17 - 19, 2024

Drill Type: Hollow 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 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

Notes:
1. Borehole advanced to completion at ~15.7 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.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
January 29, 2024	~6.5	Well
February 4, 2024	~6.2	Well

ROCK CORE LOG

BH 203

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.3	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/19/23	01/19/23	D. Panchal	4A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 75 - Truck	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
173.3	3		See Borehole Log for Details															
172.9			**QUEENSTON FORMATION**	1	B	F	C	RU						1	100	0	95	Red
172.8							C	RU										
172.6																		
172.6																		
	4		Shale with interbedded siltstone, and clay layers.															
			Shale (74%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.5 m and between moderately weathered and unweathered below.	1	B	F	M	RU						2	98	87	95	Red
							C	RP										
171.7																		
171.6			Limestone (6%) fine grained, grey, medium strength, unweathered															
171.3	5				F	V												
171.2			Siltstone (19%) fine grained, grey, medium strength, unweathered.		F	V												
171.2																		
171.1					F	V												
171.0			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
170.9																		
	6		Vertical fractures were noted at ~5.1 m, 5.2 m, 5.4 m, 6.4 m, 6.8 m, 7.0 m, 7.2 m, 8.4 m, 11.6 m and 13.4 m.	1	B	F	C	RP						3	100	90	100	Red
							C	RP										
170.0																		
169.9																		
169.7																		
169.6					F	V												
169.4					F	V												
169.3	7																	
169.1					F	V												
169.0																		
168.9				1	B	F	C	RP						4	100	62	100	Red
168.8							M	SU										
168.8																		
168.6																		
168.5	8																	
168.0					F	V												
167.9																		
167.6																		
167.6																		
167.3	9			1	B	F	C	SU						5	95	94	100	Red
167.3							W	SP										
167.1																		
167.0																		
166.5																		
166.4	10																	
166.2																		
166.2																		
				1	B	F	W	SP						6	100	100	100	Red
							W	SP										
165.4																		

ROCK CORE LOG

BH 203

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.3	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/19/23	01/19/23	D. Panchal	4A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 75 - Truck	HQ	2 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
165.3	11																	
165.1			**QUEENSTON FORMATION**															
165.0					F	V												
164.8			Shale with interbedded siltstone, and clay layers.															
164.7																		
164.5																		
164.5	12		Shale (74%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.5 m and between moderately weathered and unweathered below.	1	B	F	C W	SP SP						7	100	97	100	Red
164.3																		
164.0			Limestone (6%) fine grained, grey, medium strength, unweathered															
163.5																		
163.5	13		Siltstone (19%) fine grained, grey, medium strength, unweathered.															
163.0			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.		F	V												
162.9				1	B	F	M	SP						8	100	98	100	Red
162.7							M	SP										
162.6			Vertical fractures were noted at ~5.1 m, 5.2 m, 5.4 m, 6.4 m, 6.8 m, 7.0 m, 7.2 m, 8.4 m, 11.6 m and 13.4 m.															
162.5																		
162.4	14																	
161.7																		
161.6																		
161.3	15			1	B	F	W W	SP SP						9	100	100	100	Red
161.1																		
161.0																		
160.7			End of Borehole at 15.7 m															
	16																	
	17																	
	18																	

Log of Borehole 204

Project No. GTR-00257769-H0 | Drawing No. 5

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

Date Drilled: January 19 - 22, 2024

Drill Type: Hollow 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)
		~140 mm **ASPHALT** over	176.51	0
		FILL - sand and gravel granular, brown, moist	~175.8	
		FILL - clayey silt, trace sand, reddish brown, moist	~175.5	1
		SILT TILL - some clay, trace sand, reddish brown, very dense		2
		- trace shale fragments		3
		Coring Commenced	~173.2	
		SHALE BDEROCK - Queenston Formation, occasional limestone and sandstone layers, reddish brown		4
		See Core Log for Details		5
				6
				7
				8
				9
				10
				11
				12
				13
				14
				15
		End of Borehole	~160.8	

SPT (N Value): 20 40 60 80
Shear Strength kPa: 100 200
51
89
50/75 mm
65/75 mm
50/125 mm

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

Sample

Natural Unit Weight kN/m³

Notes:
1. Borehole advanced to completion at ~15.7 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.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp. Brampton

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

LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

ROCK CORE LOG

BH 204

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.5	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/22/23	01/22/23	D. Panchal	5A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	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
174.0																		
	3		See Borehole Log for Details															
173.2			**QUEENSTON FORMATION**	1	B	F	C	RU						1	100	0	95	Red
173.1					F	V	C	RU										
173.1																		
173.0																		
172.9			Shale with interbedded siltstone, and clay layers.		F	V												
172.9	4																	
172.6			Shale (74%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.9 and between moderately weathered and unweathered below.															
172.6				1	B	F	M	RU						2	100	90	100	Red
172.3					F	V	C	RP										
172.2																		
171.7			Limestone (3%) fine grained, grey, medium strength, unweathered		F	V												
171.6	5																	
171.5			Siltstone (22%) fine grained, grey, medium strength, unweathered.		F	V												
171.4																		
171.0			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
171.0																		
170.8																		
170.7			Vertical fractures were noted at ~ 3.5 m, 3.9 m, 4.3 m, 4.8 m, 5.1 m, 6.5 m, 7.0 m, 9.6 m and 10.5 m.	1	B	F	C	RP						3	100	92	100	Red
170.4	6						C	RP										
170.4			A Rubble layers, heavily weathered, low strength was noted at ~10.1 m (110 mm).															
170.3																		
170.2					F	V												
170.1																		
170.0																		
169.8					F	V												
169.5	7																	
169.1				1	B	F	C	RP						4	100	83	100	Red
169.0							C	SU										
168.7																		
168.7																		
168.4	8																	
168.4																		
168.0																		
167.9																		
167.6				1	B	F	M	SU						5	100	100	100	Red
167.5	9						M	SP										
167.5																		
167.4																		
167.3																		
167.2																		
166.9					F	V												
166.8																		
166.8	10																	
166.7																		
166.5																		
166.4				1	B	F	M	SP						6	100	97	100	Red

ROCK CORE LOG

BH 204

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.5	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/22/23	01/22/23	D. Panchal	5A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 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
166.3			**QUEENSTON FORMATION**		F	V	M	SP										
166.1																		
166.0																		
166.0	11		Shale with interbedded siltstone, and clay layers.															
165.5																		
165.4			Shale (74%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.9 and between moderately weathered and unweathered below.															
165.1																		
165.0																		
164.7																		
164.6	12		Limestone (3%) fine grained, grey, medium strength, unweathered	1	B	F	W	SP						7	100	100	100	Red
164.5							W	SP										
164.2			Siltstone (22%) fine grained, grey, medium strength, unweathered.															
163.9			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
163.6																		
163.5	13		Vertical fractures were noted at ~ 3.5 m, 3.9 m, 4.3 m, 4.8 m, 5.1 m, 6.5 m, 7.0 m, 9.6 m and 10.5 m.															
163.5																		
163.3																		
163.2			A Rubble layers, heavily weathered, low strength was noted at ~10.1 m (110 mm).	1	B	F	M	SP						8	100	97	100	Red
162.8							M	SP										
162.8																		
162.4	14																	
162.3																		
161.7																		
161.7	15			1	B	F	W	SP						9	100	100	100	Red
161.3							W	SP										
161.1																		
160.8			End of Borehole at 15.7 m															
	16																	
	17																	
	18																	

exp.

Log of Borehole 205

Project No. GTR-00257769-H0 | Drawing No. 6

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

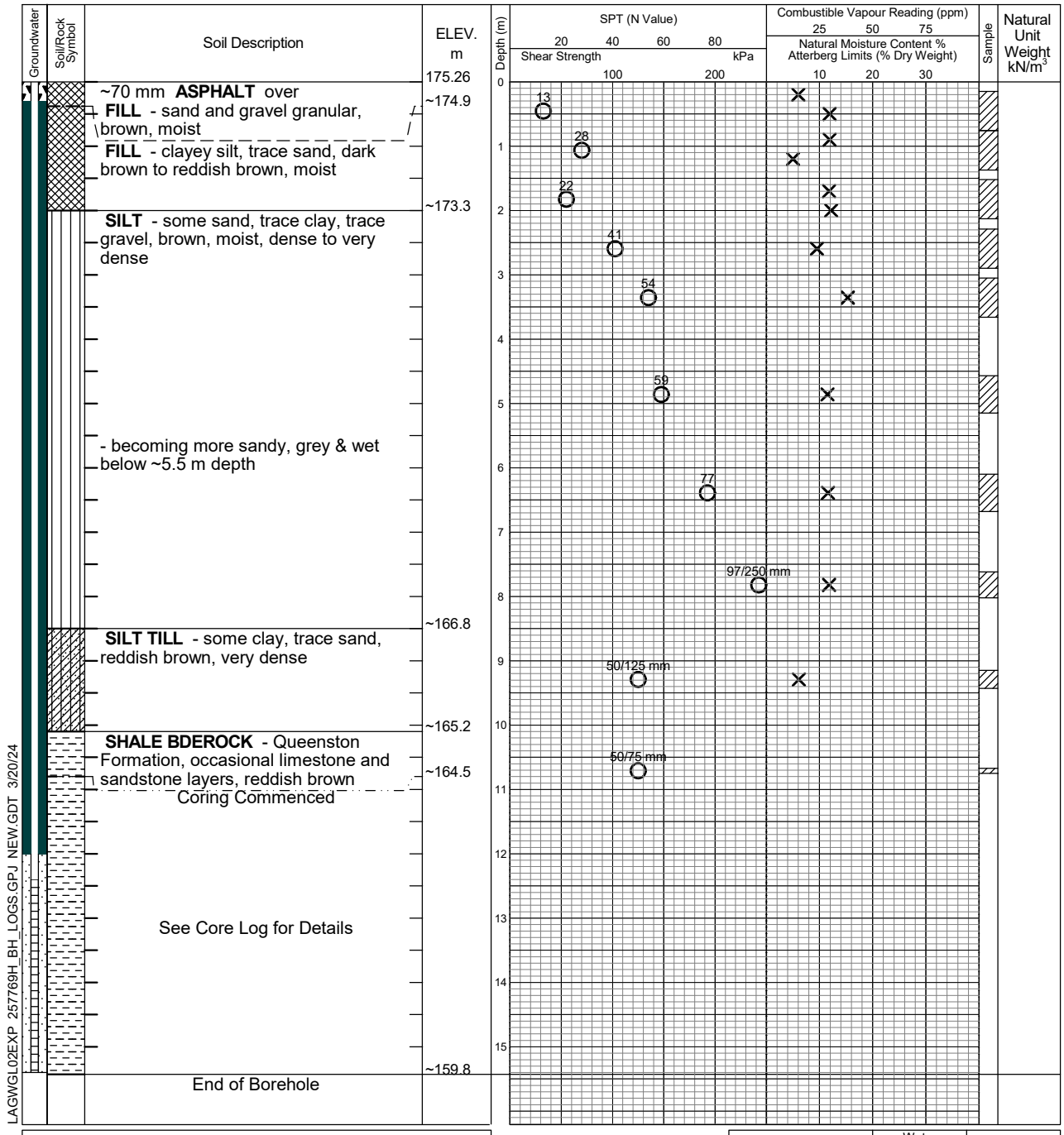
Date Drilled: January 12, 2024

Drill Type: Hollow 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 ~15.4 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.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp. Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
January 29, 2024	~5.3	Well
February 4, 2024	~5.6	Well

LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

ROCK CORE LOG

BH 205

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	175.3	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/12/23	01/12/23	D. Panchal	6A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	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
165.0																		
			See Borehole Log for Details															
164.5																		
164.4	11		**QUEENSTON FORMATION**	1	B F	F V	VC C	RU RP						1	92	0	90	Red
164.1																		
164.0			Shale with interbedded siltstone, and clay layers.															
163.8																		
163.6			Shale (62%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~11.7 m and between moderately weathered and unweathered below.		F	V												
163.6				1	B	F	C C	RP SU						2	100	78	100	Red
163.1	12																	
163.0			Limestone (11%) fine grained, grey, medium strength, unweathered															
162.8																		
162.7			Siltstone (26%) fine grained, grey, medium strength, unweathered.		F	V												
			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
162.1	13																	
161.9			Vertical fractures were noted at ~ 11.0 m, 11.6 m, 12.5 m, 13.4 m and 14.2 m.	1	F	V	M	SU						3	100	87	100	Red
161.8					B	F	M	SP	NC	50 mm								
161.7			A Clay (1%) layer, heavily weathered, very low strength was noted at ~13.5 m.															
161.6																		
161.2	14		A Rubble layer, heavily weathered, low strength was noted at ~10.8 m (80 mm).															
161.2																		
161.1					F	V												
161.0																		
160.9																		
160.7																		
160.6				1	B	F	VC C	SP SP						4	100	71	100	Red
160.5	15																	
159.9																		
159.8			End of Borehole at 15.4 m															
	16																	
	17																	
	18																	

Log of Borehole 206

Project No. GTR-00257769-H0 Drawing No. 7

Project: Geotechnical Investigation Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

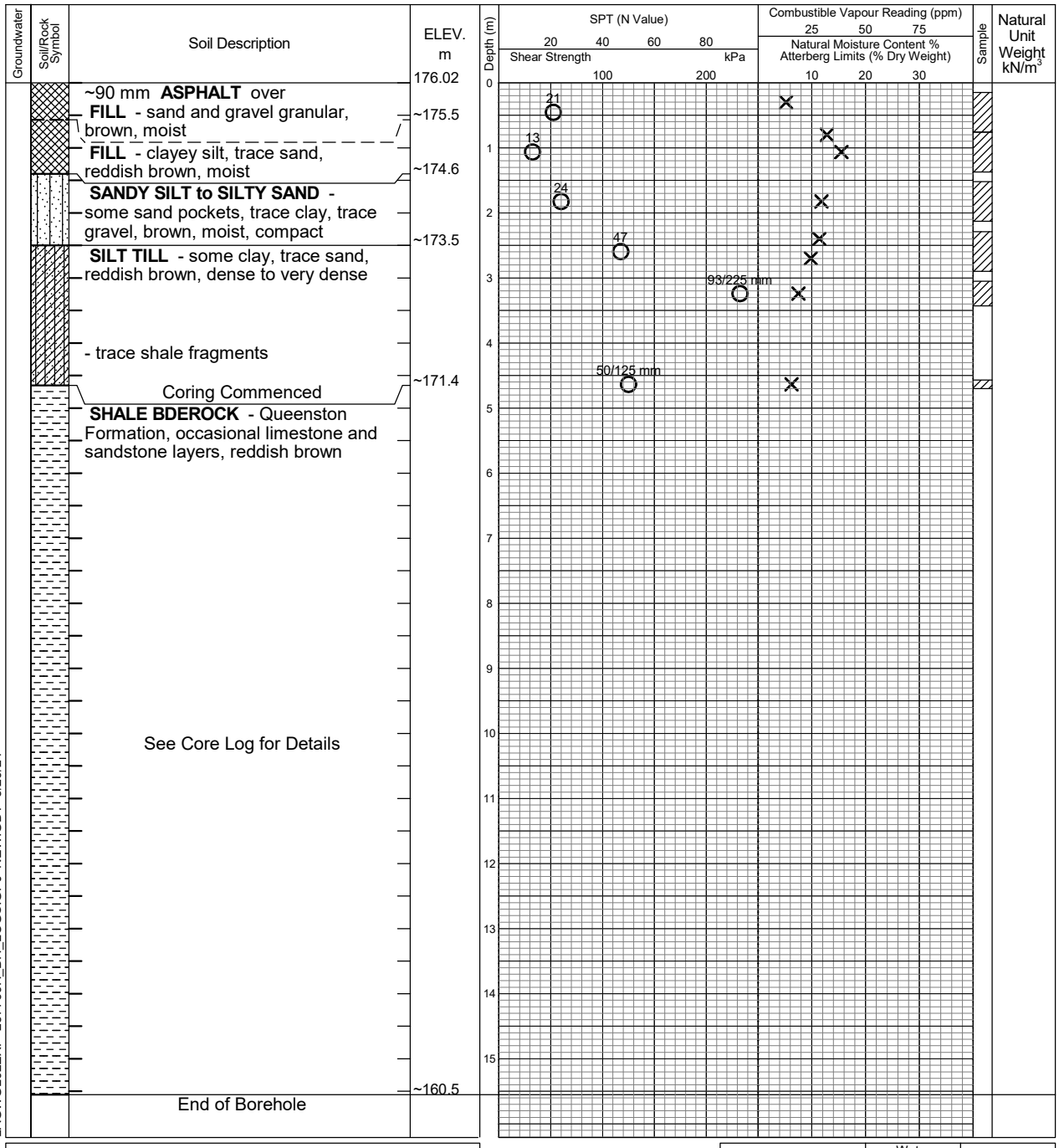
Date Drilled: January 11, 2024

Drill Type: Hollow 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 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

Notes:
1. Borehole advanced to completion at ~15.6 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.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

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

ROCK CORE LOG

BH 206

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.0	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/11/23	01/12/23	D. Panchal	7A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	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
171.8			See Borehole Log for Details															
171.4			**QUEENSTON FORMATION**															
171.1				1	B	F	VC	RU						1	100	88	95	
171.1	5						C	RP										
170.9			Shale with interbedded siltstone, and clay layers.															
170.9																		
170.7			Shale (86%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.5 m and between moderately weathered and unweathered below.															
170.6																		
				1	B	F	C	RP						2	100	73	100	
170.1	6				F	V	C	RP										
169.9			Limestone (4%) fine grained, grey, medium strength, unweathered		F	V												
169.8																		
169.6			Siltstone (8%) fine grained, grey, medium strength, unweathered.		F	V												
169.5																		
169.4			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
169.3					F	V												
169.1	7				F	V												
			Vertical fractures were noted at ~6.0 m, 6.2 m, 6.5 m, 6.9 m, 7.2 m, 7.4 m, 8.2 m, 10.1 m and 12.1 m.	1	B	F	C	RP						3	100	70	100	
168.4			Rubble layers, heavily weathered, very low strength were noted at ~9.9 m (80 mm) and 10.3 m (160 mm).		F	V	C	RP										
168.4																		
168.0	8																	
168.0					F	V												
167.9																		
167.8																		
167.4																		
167.3																		
				1	B	F	C	RP						4	100	97	100	
	9						M	SU										
166.9																		
166.8																		
166.1																		
166.1	10				F	V												
165.8																		
165.7				1	B	F	C	SU						5	100	73	100	
165.4							M	SU										
165.3																		
165.0	11																	
164.9																		
164.7																		
164.6																		
164.4																		
164.2					F	V								6	100	92	100	
164.1	12			1	B	F	M	SU										

EXP_ROCKCORE 257769H_ROCK_LOGS.GPJ CORE_LOG.GDT 3/20/24

exp.

ROCK CORE LOG

BH 206

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.0	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/11/23	01/12/23	D. Panchal	7A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 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
163.8			**QUEENSTON FORMATION**				M	SP										
163.7																		
163.6			Shale with interbedded siltstone, and clay layers.															
	13		Shale (86%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.5 m and between moderately weathered and unweathered below.	1	B	F	W	SP						7	100	100	100	
162.5							W	SP										
162.4			Limestone (4%) fine grained, grey, medium strength, unweathered															
162.2																		
162.1	14		Siltstone (8%) fine grained, grey, medium strength, unweathered.															
161.8																		
161.6			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
161.5																		
161.4			Vertical fractures were noted at ~6.0 m, 6.2 m, 6.5 m, 6.9 m, 7.2 m, 7.4 m, 8.2 m, 10.1 m and 12.1 m.	1	B	F	W	SP						8	100	100	100	
161.0	15						W	SP										
160.9			Rubble layers, heavily weathered, very low strength were noted at ~9.9 m (80 mm) and 10.3 m (160 mm).															
160.5			End of Borehole at 15.6 m															
	16																	
	17																	
	18																	
	19																	
	20																	

Log of Borehole 207

Project No. GTR-00257769-H0 | Drawing No. 8

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

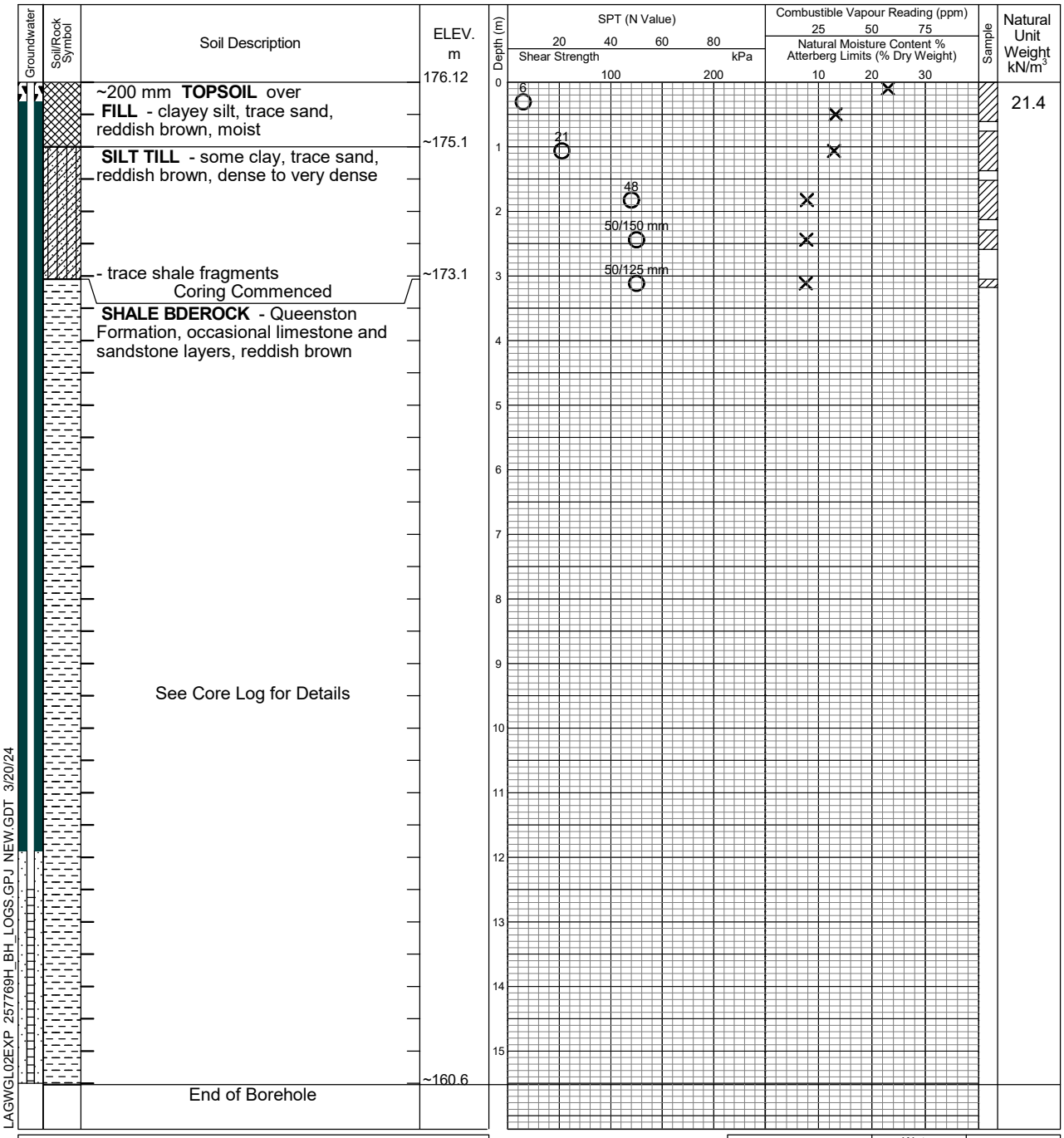
Date Drilled: January 10 - 11, 2024

Drill Type: Hollow 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 ~15.5 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.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
January 29, 2024	~6.1	Well
February 4, 2024	~7.4	Well

LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

ROCK CORE LOG

BH 207

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.1	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/11/23	01/11/23	D. Panchal	8A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	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
173.6																		
			See Borehole Log for Details															
173.1	3		**QUEENSTON FORMATION**	1	B	F	C C	RU RP						1	100	100	95	Red
			Shale with interbedded siltstone, and clay layers.															
	4		Shale (73%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~3.4 m and between moderately weathered and unweathered below.	1	B	F	C C	RP RP						2	100	82	100	Red
171.8																		
171.8			Limestone (3%) fine grained, grey, medium strength, unweathered		F	V												
171.7																		
171.6																		
171.4			Siltstone (24%) fine grained, grey, medium strength, unweathered.		F	V												
171.3	5				F	V												
171.2			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
170.8					F	V												
170.6			Vertical fractures were noted at ~4.5 m, 4.8 m, 5.0 m, 5.3 m, 5.6 m, 6.8 m, 9.2 m, 12.4 m, 13.4 m and 14.8 m.		F	V												
170.4				1	B	F	C C	RP SU						3	100	85	100	Red
170.0	6																	
170.0																		
169.8																		
169.6																		
169.4					F	V												
169.2	7																	
169.0																		
168.9																		
168.8				1	B	F	C M	SU SU						4	100	93	100	Red
168.6																		
168.5																		
168.4																		
	8																	
168.0																		
167.9																		
167.5																		
167.5				1	B	F	W M	SU SP						5	100	97	100	Red
167.2																		
167.1	9																	
167.0					F	V												
166.9																		
166.7																		
166.7																		
166.2																		
166.2	10																	
165.9																		
165.8				1	B	F	W	SP						6	100	100	100	Red

exp.

ROCK CORE LOG

BH 207

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.1	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/11/23	01/11/23	D. Panchal	8A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 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
			QUEENSTON FORMATION				W	SP										
164.9	11		Shale with interbedded siltstone, and clay layers.															
164.8			Shale (73%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~3.4 m and between moderately weathered and unweathered below.															
164.5																		
164.4																		
164.3				1	B	F	W	SP						7	100	93	100	Red
164.1	12		Limestone (3%) fine grained, grey, medium strength, unweathered				C	SU										
164.0																		
163.9																		
163.8			Siltstone (24%) fine grained, grey, medium strength, unweathered.															
163.8																		
163.7			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
163.5																		
163.4	13		Vertical fractures were noted at ~4.5 m, 4.8 m, 5.0 m, 5.3 m, 5.6 m, 6.8 m, 9.2 m, 12.4 m, 13.4 m and 14.8 m.															
162.8				1	B	F	M	SU						8	100	93	100	Red
162.7					F	V	M	SP										
162.6																		
	14																	
161.7																		
161.5																		
161.4																		
161.3				1	F	V	M	SP						9	100	95	100	Red
	15				B	F	M	SP										
161.0																		
160.9																		
160.6			End of Borehole at 15.5 m															
	16																	
	17																	
	18																	

Log of Borehole 208

Project No. GTR-00257769-H0 Drawing No. 9

Project: Geotechnical Investigation Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

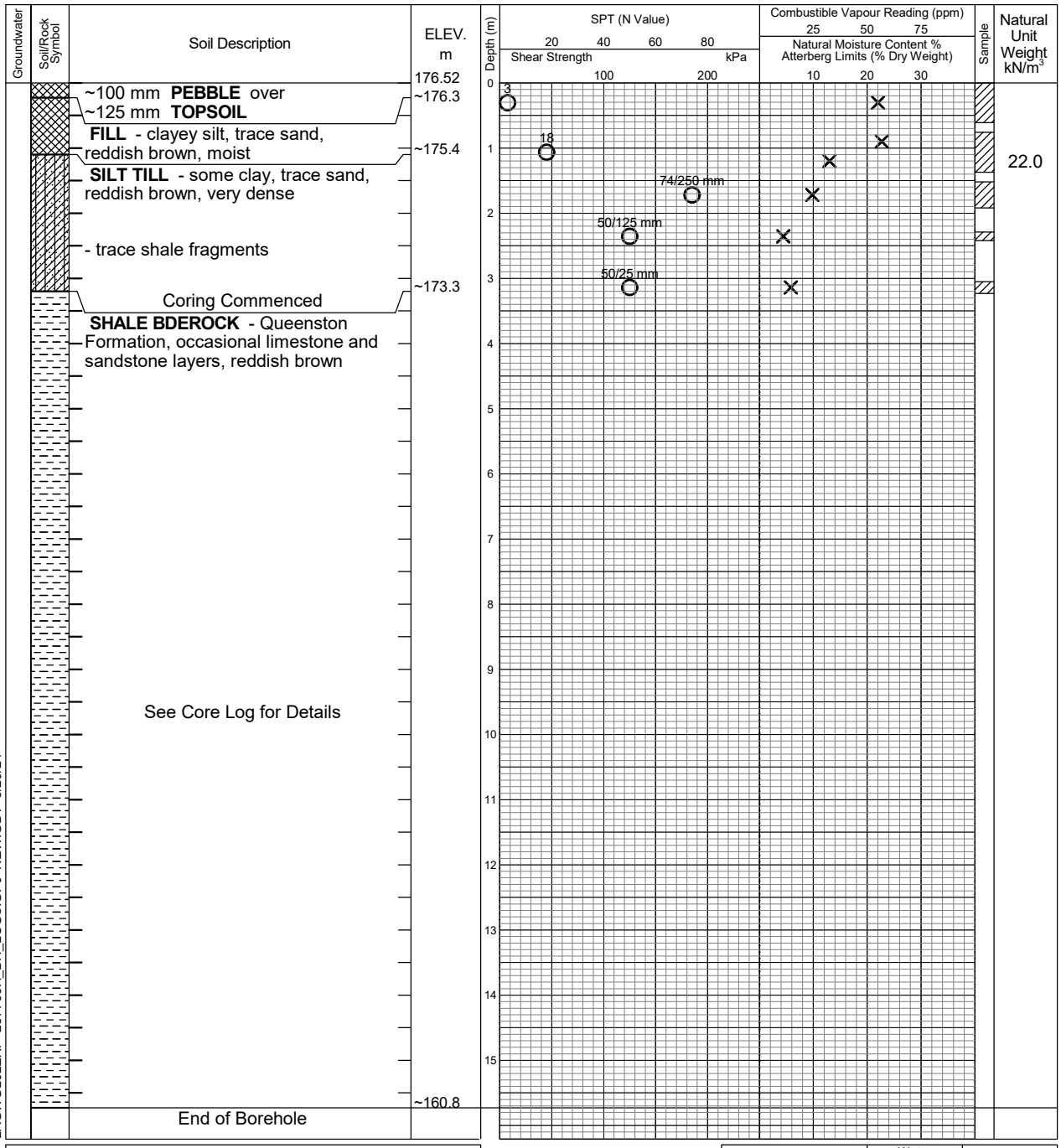
Date Drilled: January 10, 2024

Drill Type: Hollow 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



Notes:
1. Borehole advanced to completion at ~15.7 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.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

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

LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

ROCK CORE LOG

BH 208

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.5	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/10/23	01/10/23	D. Panchal	9A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	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
173.8																		
	3		See Borehole Log for Details															
173.3			**QUEENSTON FORMATION**															
173.2				1	B	F	C	RU						1	100	53	100	Red
173.2							C	RU										
172.9			Shale with interbedded siltstone, and clay layers.															
172.8																		
172.5	4		Shale (87%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.1 m and between moderately weathered and unweathered below.															
172.5																		
172.4				1	B	F	C	RU						2	100	88	100	Red
172.3					F	V	C	RP										
171.9			Limestone (3%) fine grained, grey, medium strength, unweathered		F	V												
171.9																		
171.7																		
171.6	5		Siltstone (9%) fine grained, grey, medium strength, unweathered.															
171.3																		
171.2			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
170.9																		
170.8			Vertical fractures were noted at ~4.4 m, 4.7 m, 6.4 m, 7.1 m, 8.4 m, 10.8 m and 14.6 m.	1	B	F	M	RP						3	100	93	100	Red
170.5	6		A Clay (1%) layer, heavily weathered, very low strength was noted at ~15.7 m.				C	RP										
170.4																		
170.1					F	V												
170.1																		
169.8																		
169.6	7				F	V												
169.2				1	B	F	C	RP						4	100	70	100	Red
169.1							M	SU										
169.0																		
168.9																		
168.8																		
168.8	8																	
168.7																		
168.1					F	V												
168.0																		
167.8																		
167.6	9			1	B	F	C	SU						5	100	95	100	Red
167.3							M	SP										
167.3																		
166.5	10																	
166.3				1	B	F	W	SP						6	100	97	100	Red
							M	SP										

exp.

ROCK CORE LOG

BH 208

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.5	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/10/23	01/10/23	D. Panchal	9A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 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
165.8			**QUEENSTON FORMATION**		F	V												
165.7	11																	
165.4			Shale with interbedded siltstone, and clay layers.															
165.2			Shale (87%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.1 m and between moderately weathered and unweathered below.	1	B	F	W W	SP SP						7	100	100	100	Red
164.4	12		Limestone (3%) fine grained, grey, medium strength, unweathered															
164.2			Siltstone (9%) fine grained, grey, medium strength, unweathered.															
163.8			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
163.7																		
163.5	13		Vertical fractures were noted at ~4.4 m, 4.7 m, 6.4 m, 7.1 m, 8.4 m, 10.8 m and 14.6 m.															
163.4																		
163.2																		
163.1			A Clay (1%) layer, heavily weathered, very low strength was noted at ~15.7 m.	1	B	F	W W	SP SP						8	100	100	100	Red
162.7																		
162.6	14																	
					F	V												
161.6	15			1	B	F	M VC	SP SU						9	100	93	100	Red
161.5																		
161.4																		
161.3																		
161.2																		
161.1																		
160.9									NC	50 mm								
160.9			End of Borehole at 15.7 m															
160.8	16																	
160.8																		
	17																	
	18																	

EXP_ROCKCORE 257769H_ROCK_LOGS.GPJ CORE_LOG.GDT 3/20/24

exp.

Log of Borehole 209D

Project No. GTR-00257769-H0 | Drawing No. 10

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

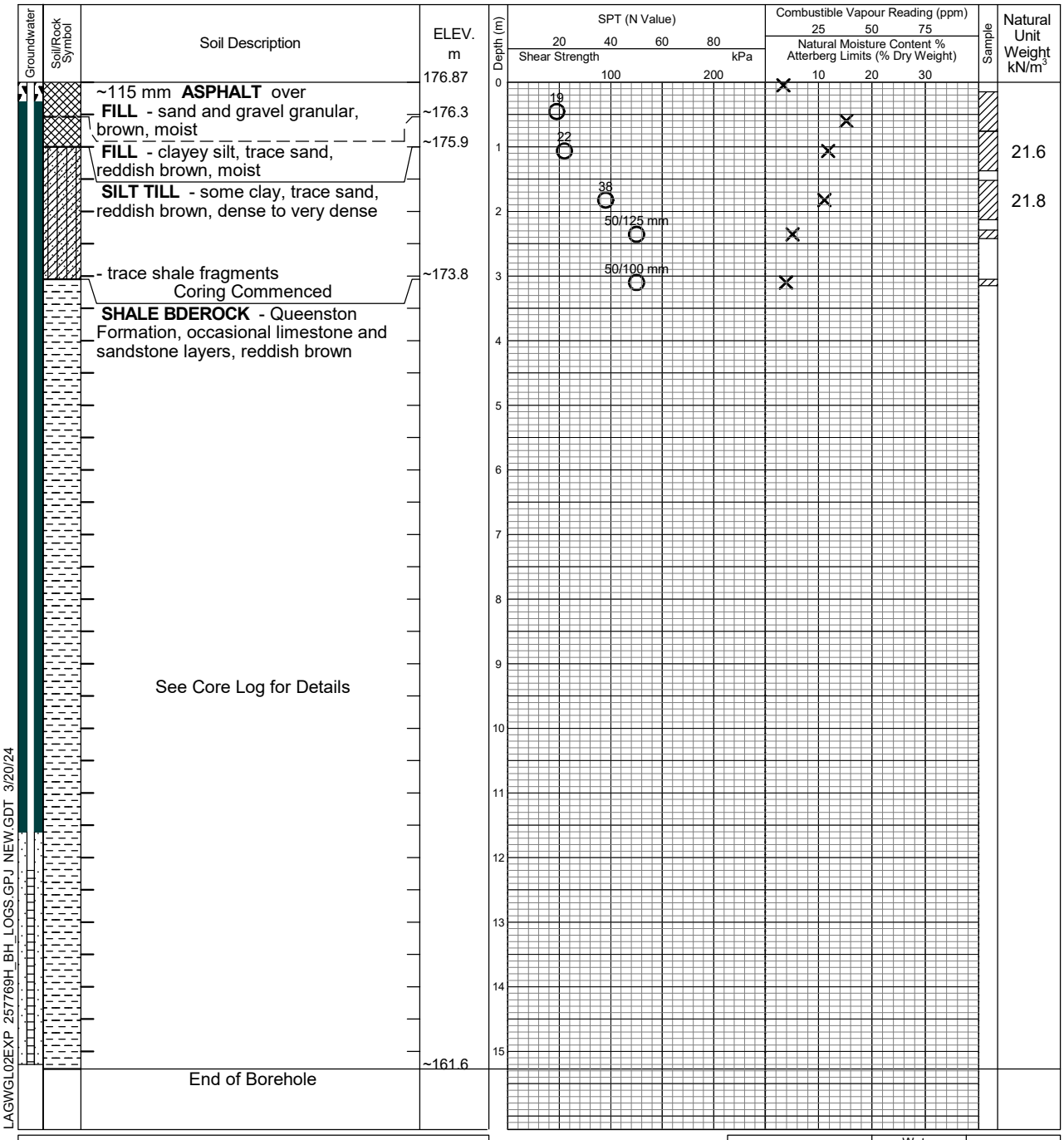
Date Drilled: January 15, 2024

Drill Type: Hollow 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 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

Notes:
1. Borehole advanced to completion at ~15.3 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.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp. Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
January 29, 2024	~7.9	Well
February 4, 2024	~8.0	Well

ROCK CORE LOG

BH 209D

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.9	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/15/23	01/15/23	D. Panchal	10A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	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
174.4																		
			See Borehole Log for Details															
173.8	3		**QUEENSTON FORMATION**															
173.7					F	V												
173.7				1	B	F	VC	RU						1	100	68	95	Red
173.4							C	RU										
173.3			Shale with interbedded siltstone, and clay layers.		F	V												
173.0			Shale (98%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.4 m and between moderately weathered and unweathered below.															
173.0	4																	
172.7					F	V												
172.6				1	B	F	C	RU						2	100	92	100	Red
			Limestone (1%) fine grained, grey, medium strength, unweathered				M	RP										
			Siltstone (1%) fine grained, grey, medium strength, unweathered.															
	5		Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
171.5																		
171.4			Vertical fractures were noted at ~3.2 m, 3.5 m, 4.2 m, 6.2 m and 6.7 m.															
171.1																		
171.0	6			1	B	F	M	RP						3	100	98	100	Red
170.7							C	RP										
170.6					F	V												
170.5																		
170.4																		
170.2					F	V												
170.0	7													4	100	97	100	Red
169.6				1	B	F	C	RP										
169.4							C	SU										
169.0																		
168.9	8																	
168.9																		
168.8																		
168.7																		
168.5																		
168.3																		
168.3																		
	9			1	B	F	W	SU						5	100	100	100	Red
							W	SP										
167.5																		
167.3																		
167.1																		
167.1																		
166.8	10																	
166.8																		
166.5				1	B	F	M	SP						6	100	100	100	Red

exp.

ROCK CORE LOG

BH 209D

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.9	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/15/23	01/15/23	D. Panchal	10A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 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
166.4							M	SP										
166.2			**QUEENSTON FORMATION**															
166.1																		
165.9	11																	
165.7			Shale with interbedded siltstone, and clay layers.															
165.5																		
165.4			Shale (98%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.4 m and between moderately weathered and unweathered below.															
165.1																		
165.0	12			1	B	F	M	SP						7	100	97	100	Red
			Limestone (1%) fine grained, grey, medium strength, unweathered				M	SP										
164.6																		
164.5			Siltstone (1%) fine grained, grey, medium strength, unweathered.															
164.3																		
164.1			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
163.9	13																	
163.7			Vertical fractures were noted at ~3.2 m, 3.5 m, 4.2 m, 6.2 m and 6.7 m.															
163.3				1	B	F	W	SP						8	100	100	100	Red
							W	SP										
163.1	14																	
162.6																		
162.5																		
162.4																		
162.3				1	B	F	W	SP						9	100	100	100	Red
	15						W	SP										
161.6			End of Borehole at 15.3 m															
	16																	
	17																	
	18																	

Log of Borehole 209S

Project No. GTR-00257769-H0 Drawing No. 11

Project: Geotechnical Investigation Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

Date Drilled: January 15, 2024

Drill Type: Hollow 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
			176.87	0	20 40 60 80 / 100 200	25 50 75 / 10 20 30		
		See Log of Borehole 209D for Details		1				
				2				
				3				
				4				
				5				
			~170.8	6				
		End of Borehole						

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.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp. Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
January 29, 2024	No Free Water	Well
February 4, 2024	No Free Water	Well

LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

Log of Borehole 210

Project No. GTR-00257769-H0 Drawing No. 12

Project: Geotechnical Investigation Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

Date Drilled: January 8 - 9, 2024

Drill Type: Hollow 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	176.76	0
		FILL - clayey silt, trace sand, reddish brown, moist	~176.0	
		SILT TILL - some clay, trace sand, reddish brown, very dense		1
		- trace shale fragments		2
		Coring Commenced	~173.6	3
		SHALE BDEROCK - Queenston Formation, occasional limestone and sandstone layers, reddish brown		4
		See Core Log for Details		5
				6
				7
				8
				9
				10
				11
				12
				13
				14
				15
		End of Borehole	~161.0	

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

7
63
50/100 mm
50/25 mm
50/100 mm

Sample

Natural Unit Weight kN/m³: 21.4

LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

Notes:
1. Borehole advanced to completion at ~15.7 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.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

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

ROCK CORE LOG

BH 210

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.8	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/09/23	01/09/23	D. Panchal	12A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	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
174.3																		
	3		See Borehole Log for Details															
173.6			**QUEENSTON FORMATION**															
173.5				1	B	F	C	RU						1	100	100	95	Red
173.4							C	RP										
173.4					F	V												
173.3			Shale with interbedded siltstone, and clay layers.															
173.1																		
172.8	4		Shale (78%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.5 m and between moderately weathered and unweathered below.															
172.7				1	B	F	C	RP						2	100	100	100	Red
							M	SU										
			Limestone (7%) fine grained, grey, medium strength, unweathered															
171.9																		
171.7	5		Siltstone (15%) fine grained, grey, medium strength, unweathered.															
			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
171.3																		
171.2			Vertical fractures were noted at ~3.6 m and 13.5 m.															
				1	B	F	M	SU						3	100	100	100	Red
170.8	6						M	SP										
170.7																		
170.0																		
169.9																		
169.8	7																	
169.7				1	B	F	M	SP						4	100	100	100	Red
							W	SP										
169.3																		
169.0																		
168.7	8																	
168.7																		
168.5																		
168.4																		
				1	B	F	W	SP						5	100	100	100	Red
167.8	9						W	SP										
167.7																		
167.1																		
167.1																		
167.0																		
166.9	10																	
				1	B	F	W	SP						6	100	100	100	Red
166.4							W	SP										

EXP_ROCKCORE 257769H_ROCK_LOGS.GPJ CORE_LOG.GDT 3/20/24

exp.

ROCK CORE LOG

BH 210

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.8	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/09/23	01/09/23	D. Panchal	12A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 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
166.3			**QUEENSTON FORMATION**															
165.9																		
165.9	11		Shale with interbedded siltstone, and clay layers.															
			Shale (78%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.5 m and between moderately weathered and unweathered below.	1	B	F	W W	SP SP						7	100	100	100	Red
165.2																		
165.2																		
164.9																		
164.8	12		Limestone (7%) fine grained, grey, medium strength, unweathered															
			Siltstone (15%) fine grained, grey, medium strength, unweathered.		F	V												
			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
164.0																		
163.8	13		Vertical fractures were noted at ~3.6 m and 13.5 m.															
				1	B	F	M M	SP SP						8	100	100	100	Red
163.3																		
163.2																		
163.1																		
	14																	
162.6																		
162.2																		
162.1																		
	15			1	B	F	W W	SP SP						9	100	100	100	Red
161.6																		
161.4																		
161.0			End of Borehole at 15.7 m															
	16																	
	17																	
	18																	

Log of Borehole 211

Project No. GTR-00257769-H0 | Drawing No. 13

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

Date Drilled: January 8, 2024

Drill Type: Hollow 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

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
~150 mm **TOPSOIL** over **FILL** - clayey silt, trace sand, reddish brown, moist	176.86	0	8			21.4
SILT TILL - some clay, trace sand, reddish brown, very dense	~175.9	1	55			
		2	50/150 mm			
- trace shale fragments		3	50/100 mm			
Coring Commenced	~173.7		50/150 mm			
SHALE BDEROCK - Queenston Formation, occasional limestone and sandstone layers, reddish brown		4				
		5				
		6				
		7				
		8				
		9				
See Core Log for Details		10				
		11				
		12				
		13				
		14				
		15				
	~161.5					
End of Borehole						

Notes:
1. Borehole advanced to completion at ~15.4 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.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp. Brampton

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

LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

ROCK CORE LOG

BH 211

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.9	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/08/23	01/08/23	D. Panchal	13A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	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
174.4																		
			See Borehole Log for Details															
	3																	
173.7			**QUEENSTON FORMATION**															
173.6				1	B	F	C	RU						1	94	94	90	Red
173.5							C	RP										
173.3			Shale with interbedded siltstone, and clay layers.		F	V												
173.1																		
	4		Shale (87%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.8 and between moderately weathered and unweathered below.		F	V												
				1	B	F	C	RP						2	100	90	100	Red
							M	SU										
	5		Limestone (6%) fine grained, grey, medium strength, unweathered															
			Siltstone (7%) fine grained, grey, medium strength, unweathered.															
			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
171.2			Vertical fractures were noted at ~3.6 m, 4.2 m and 6.9 m.															
171.2				1	B	F	M	SU						3	100	97	100	Red
	6						C	SU										
170.0					F	V												
169.9	7																	
169.4				1	B	F	M	SU						4	100	100	100	Red
169.2							M	SP										
169.0																		
168.9	8																	
168.3																		
168.3																		
	9			1	B	F	W	SP						5	100	100	100	Red
167.7							W	SP										
167.6																		
167.3																		
167.2																		
	10																	
166.7																		
166.7																		
166.4														6	100	100	100	Red

exp.

ROCK CORE LOG

BH 211

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.9	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/08/23	01/08/23	D. Panchal	13A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 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
166.2			**QUEENSTON FORMATION**	1	B	F	W	SP										
							W	SP										
165.9																		
165.8	11		Shale with interbedded siltstone, and clay layers.															
			Shale (87%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.8 and between moderately weathered and unweathered below.															
165.2																		
165.1																		
164.8	12			1	B	F	W	SP						7	100	100	100	Red
164.8			Limestone (6%) fine grained, grey, medium strength, unweathered				W	SP										
			Siltstone (7%) fine grained, grey, medium strength, unweathered.															
164.1			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
163.8	13																	
			Vertical fractures were noted at ~3.6 m, 4.2 m and 6.9 m.															
163.4				1	B	F	W	SP						8	100	100	100	Red
163.2							W	SP										
162.8	14																	
162.8																		
162.3																		
162.2				1	B	F	W	SP						9	100	100	100	Red
161.9	15						W	SP										
161.8																		
161.5			End of Borehole at 15.4 m															
	16																	
	17																	
	18																	

Log of Borehole 212

Project No. GTR-00257769-H0 | Drawing No. 14

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

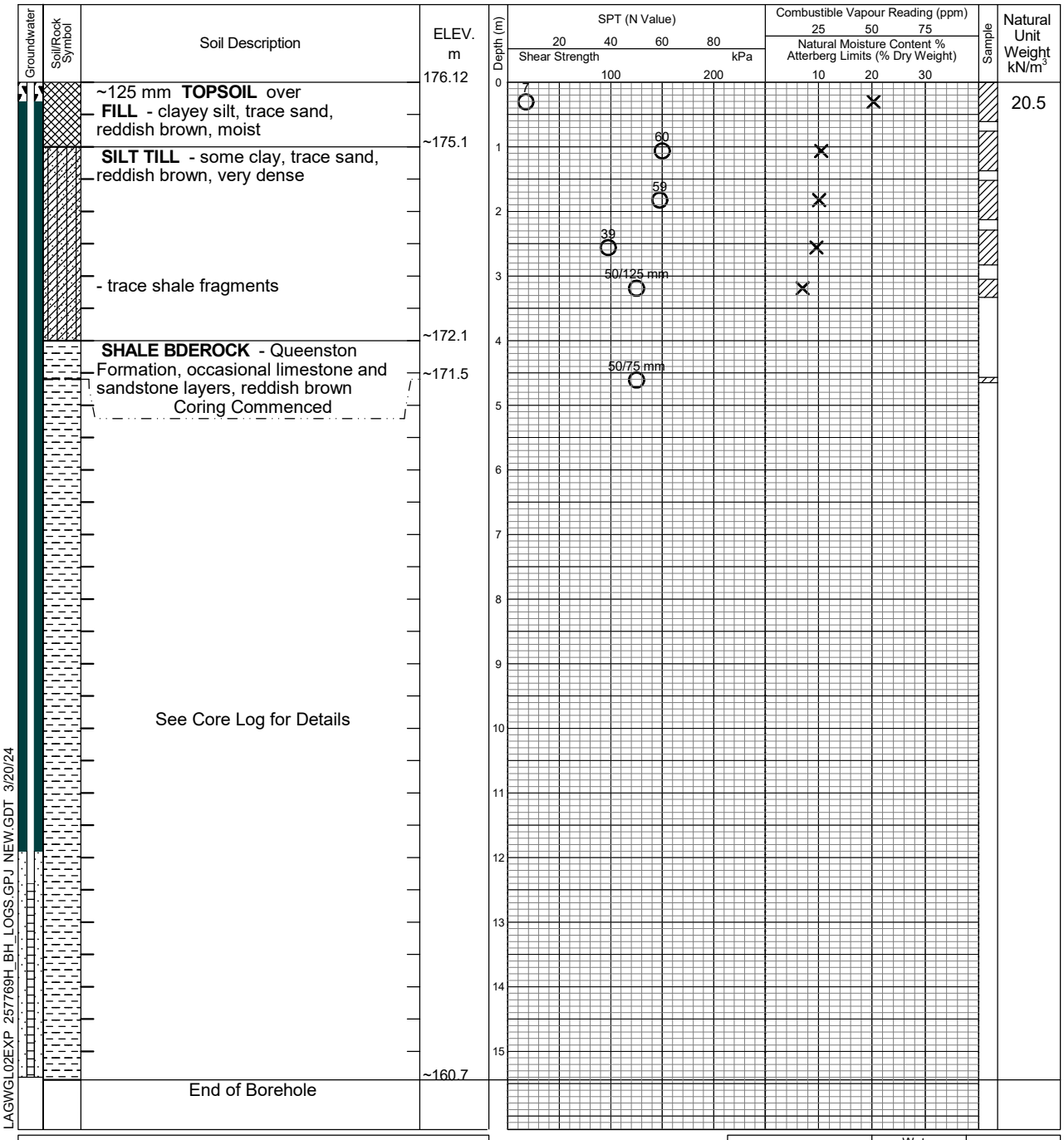
Date Drilled: January 5, 2024

Drill Type: Hollow 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 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

Notes:
1. Borehole advanced to completion at ~15.4 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.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
January 29, 2024	~5.7	Well
February 4, 2024	~5.8	Well

ROCK CORE LOG

BH 212

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.1	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/05/23	01/05/23	D. Panchal	14A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	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
171.9			See Borehole Log for Details															
171.5			**QUEENSTON FORMATION**	1	B	F	C C	RU RP						1	100	74	95	Red
171.1	5		Shale with interbedded siltstone, and clay layers.															
171.0			Shale (71%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.7 m and between moderately weathered and unweathered below.						NC	20 mm								
170.7																		
170.7																		
170.5																		
170.4				1	B	F	C C	RP RP						2	100	100	100	Red
170.0	6		Limestone (3%) fine grained, grey, medium strength, unweathered															
170.0																		
169.6			Siltstone (25%) fine grained, grey, medium strength, unweathered.		F	V												
169.5									NC	20 mm								
169.5			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.						NC	60 mm								
169.3																		
169.3	7																	
169.1			Vertical fractures were noted at ~6.6 m, 7.1 m, 7.6 m, 9.1 m and 10.2 m.		F	V												
169.0				1	B	F	C C	RP SU						3	100	74	100	Red
168.7			A Clay (1%) layers, heavily weathered, very low strength were noted at ~5.4 m, 6.6 m and 6.8 m.															
168.7					F	V												
168.6																		
168.5																		
168.3	8																	
168.1																		
167.6																		
167.6																		
167.2				1	B	F	W M	SU SP						4	100	89	100	Red
167.2	9																	
167.1					F	V												
166.9																		
166.8																		
166.7																		
166.5																		
166.0	10				F	V												
165.7				1	B	F	M W	SP SP						5	100	91	100	Red
165.1	11																	
165.0																		
164.9																		
164.7																		
	12			1	B	F	W W	SP SP						6	100	100	100	Red

ROCK CORE LOG

BH 212

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.1	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/05/23	01/05/23	D. Panchal	14A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 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
163.9			**QUEENSTON FORMATION**															
163.7			Shale with interbedded siltstone, and clay layers.															
163.4	13		Shale (71%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.7 m and between moderately weathered and unweathered below.	1	B	F	W W	SP SP						7	100	100	100	Red
163.0			Limestone (3%) fine grained, grey, medium strength, unweathered															
162.0	14		Siltstone (25%) fine grained, grey, medium strength, unweathered.															
161.9			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
161.1	15		Vertical fractures were noted at ~6.6 m, 7.1 m, 7.6 m, 9.1 m and 10.2 m.	1	B	F	W W	SP SP						8	100	100	100	Red
160.9			A Clay (1%) layers, heavily weathered, very low strength were noted at ~5.4 m, 6.6 m and 6.8 m.															
160.7			End of Borehole at 15.4 m															
	16																	
	17																	
	18																	
	19																	
	20																	

Log of Borehole 213

Project No. GTR-00257769-H0 | Drawing No. 15

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

Date Drilled: January 4 - 5, 2024

Drill Type: Hollow 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

Soil Description	ELEV. m	Depth (m)	Natural Unit Weight kN/m³
~150 mm **TOPSOIL** over **FILL** - clayey silt, trace sand, reddish brown, moist	176.15	0	21.8
SILT TILL - some clay, trace sand, reddish brown, compact to very dense	~175.4	1	22.5
- trace shale fragments		2	
Coring Commenced	~171.4	3	
SHALE BDEROCK - Queenston Formation, occasional limestone and sandstone layers, reddish brown		4	
See Core Log for Details		5	
		6	
		7	
		8	
		9	
		10	
		11	
		12	
		13	
		14	
End of Borehole	~160.9	15	

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

10
70/275 mm
98/275 mm
50/50 mm
50/50 mm
50/125 mm
50/100 mm

Notes:
1. Borehole advanced to completion at ~15.3 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.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp. Brampton

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

LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

ROCK CORE LOG

BH 213

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.2	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/05/23	01/05/23	D. Panchal	15A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	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
172.0																		
			See Borehole Log for Details															
171.4			**QUEENSTON FORMATION**															
	5			1	B	F	M	RU						1	100	100	95	Red
							M	RP										
170.9			Shale with interbedded siltstone, and clay layers.		F	V												
170.9																		
170.7			Shale (78%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.6 and between moderately weathered and unweathered below.															
170.6																		
170.4									NC	20								
170.4	6			1	B	F	C	RP	NC	mm				2	100	97	100	Red
170.2							M	SU		20								
170.2			Limestone (2%) fine grained, grey, medium strength, unweathered							mm								
169.8																		
169.7			Siltstone (20%) fine grained, grey, medium strength, unweathered.															
			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to															
169.1	7		very close intervals.						NC	20								
169.1										mm								
169.0			A Vertical fracture was noted at ~5.3 m.															
168.9																		
168.9			Clay (1%) layers, heavily weathered, very low strength were noted at ~5.8 m, 5.9 m and 7.0 m.	1	B	F	C	SU						3	100	90	100	Red
168.8							M	SP										
168.7																		
168.6	8																	
168.4																		
167.5																		
167.3																		
	9			1	B	F	W	SP						4	100	100	100	Red
167.0							W	SP										
166.9																		
166.3																		
166.2	10																	
165.7																		
165.6				1	B	F	W	SP						5	100	100	100	Red
							W	SP										
	11																	
164.5																		
164.4																		
	12			1	B	F	W	SP						6	100	100	100	Red

EXP_ROCKCORE 257769H_ROCK_LOGS.GPJ CORE_LOG.GDT 3/20/24

exp.

ROCK CORE LOG

BH 213

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.2	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/05/23	01/05/23	D. Panchal	15A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 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
163.9			**QUEENSTON FORMATION**				W	SP										
163.8																		
163.6			Shale with interbedded siltstone, and clay layers.															
163.2	13		Shale (78%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.6 and between moderately weathered and unweathered below.															
162.9																		
162.7																		
			Limestone (2%) fine grained, grey, medium strength, unweathered	1	B	F	M	SP						7	100	100	100	Red
162.4							W	SP										
162.3	14		Siltstone (20%) fine grained, grey, medium strength, unweathered.															
			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
			A Vertical fracture was noted at ~5.3 m.	1	B	F	M	SP						8	100	100	100	Red
161.3							M	SP										
161.2	15		Clay (1%) layers, heavily weathered, very low strength were noted at ~5.8 m, 5.9 m and 7.0 m.															
160.9			End of Borehole at 15.3 m															
	16																	
	17																	
	18																	
	19																	
	20																	

Log of Borehole 214D

Project No. GTR-00257769-H0 | Drawing No. 16

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

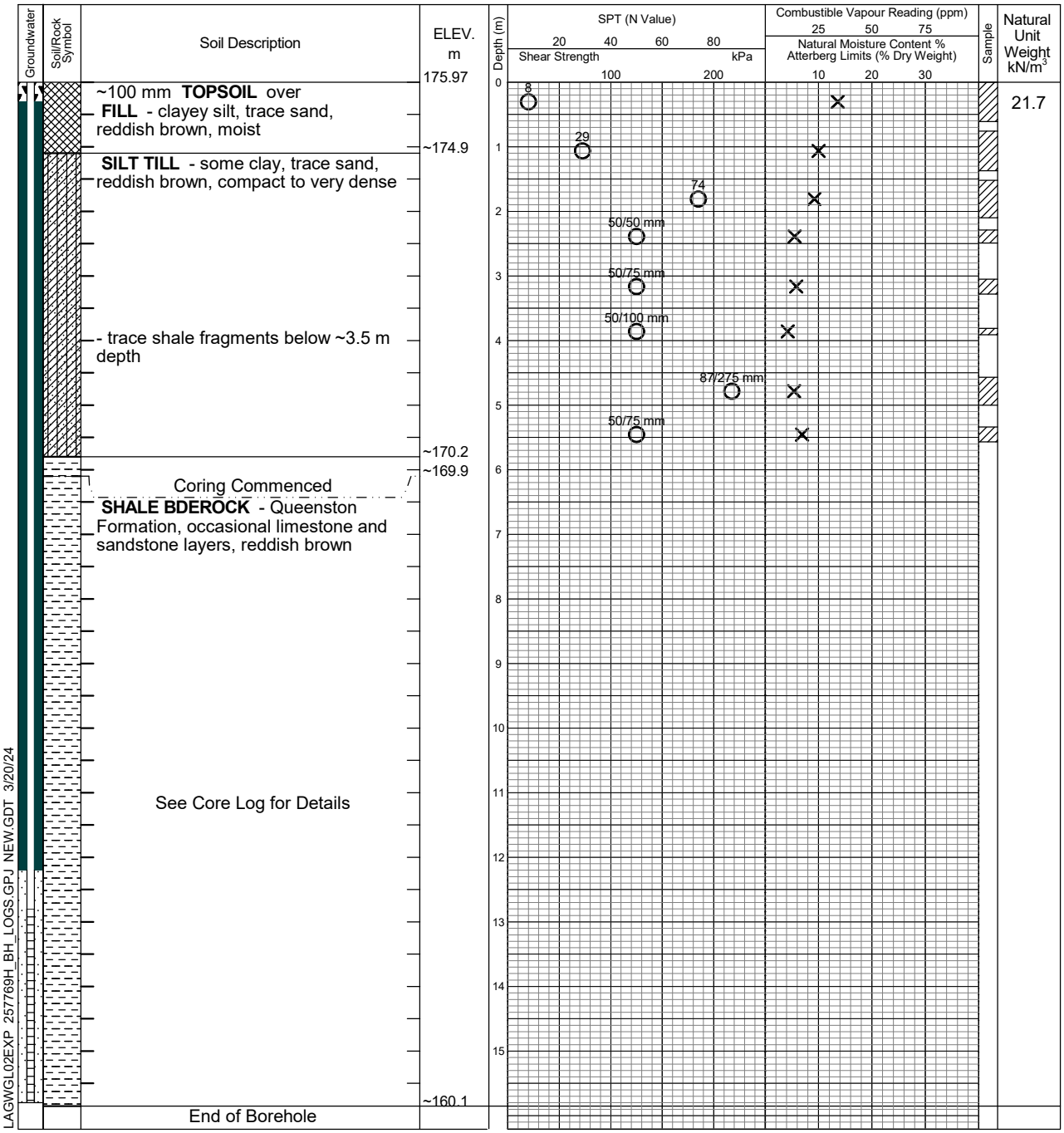
Date Drilled: January 4, 2024

Drill Type: Hollow 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 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

Notes:
1. Borehole advanced to completion at ~15.9 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.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
January 29, 2024	~6.1	Well
February 4, 2024	~6.3	Well

ROCK CORE LOG

BH 214D

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.0	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/04/23	01/04/23	D. Panchal	16A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	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
170.3			See Borehole Log for Details															
	6																	
169.9			**QUEENSTON FORMATION**	1	B	F	C C	RU RP						1	100	88	95	Red
			Shale with interbedded siltstone, and clay layers.															
169.0	7		Shale (91%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~6.6 and between moderately weathered and unweathered below.															
168.9																		
168.8																		
168.7				1	B	F	M	RP						2	100	97	100	Red
168.6			Limestone (1%) fine grained, grey, medium strength, unweathered				M	SP										
168.4																		
168.1			Siltstone (8%) fine grained, grey, medium strength, unweathered.															
168.1	8		Discontinuities: bedding joints are rough planar to smooth undulating and at wide to close intervals.															
167.0	9			1	B	F	W	SU						3	100	100	100	Red
166.9							W	SP										
166.6																		
166.5																		
	10																	
				1	B	F	W	SP						4	100	100	100	Red
165.3							W	SP										
165.2																		
	11																	
164.5																		
164.4																		
164.0	12			1	B	F	W	SP						5	100	100	100	Red
163.9							W	SP										
163.7																		
163.6																		
163.0	13																	
162.8				1	B	F	W	SP						6	100	100	100	Red

ROCK CORE LOG

BH 214D

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.0	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/04/23	01/04/23	D. Panchal	16A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 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
162.0	14		**QUEENSTON FORMATION**				W	SP										
161.9			Shale with interbedded siltstone, and clay layers.															
161.6			Shale (91%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~6.6 and between moderately weathered and unweathered below.															
161.6	15		Limestone (1%) fine grained, grey, medium strength, unweathered	1	B	F	W	SP						7	100	100	100	Red
160.7			Siltstone (8%) fine grained, grey, medium strength, unweathered.				W	SP										
160.5			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to close intervals.															
160.3																		
160.1			End of Borehole at 15.9 m															
	16																	
	17																	
	18																	
	19																	
	20																	
	21																	

Log of Borehole 214S

Project No. GTR-00257769-H0 | Drawing No. 17

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

Date Drilled: January 4, 2024

Drill Type: Hollow 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
		See Log of Borehole 214D for Details	175.97	0	20 40 60 80 / 100 200	25 50 75 / 10 20 30		
				1				
				2				
				3				
				4				
				5				
		End of Borehole	~169.9	6				

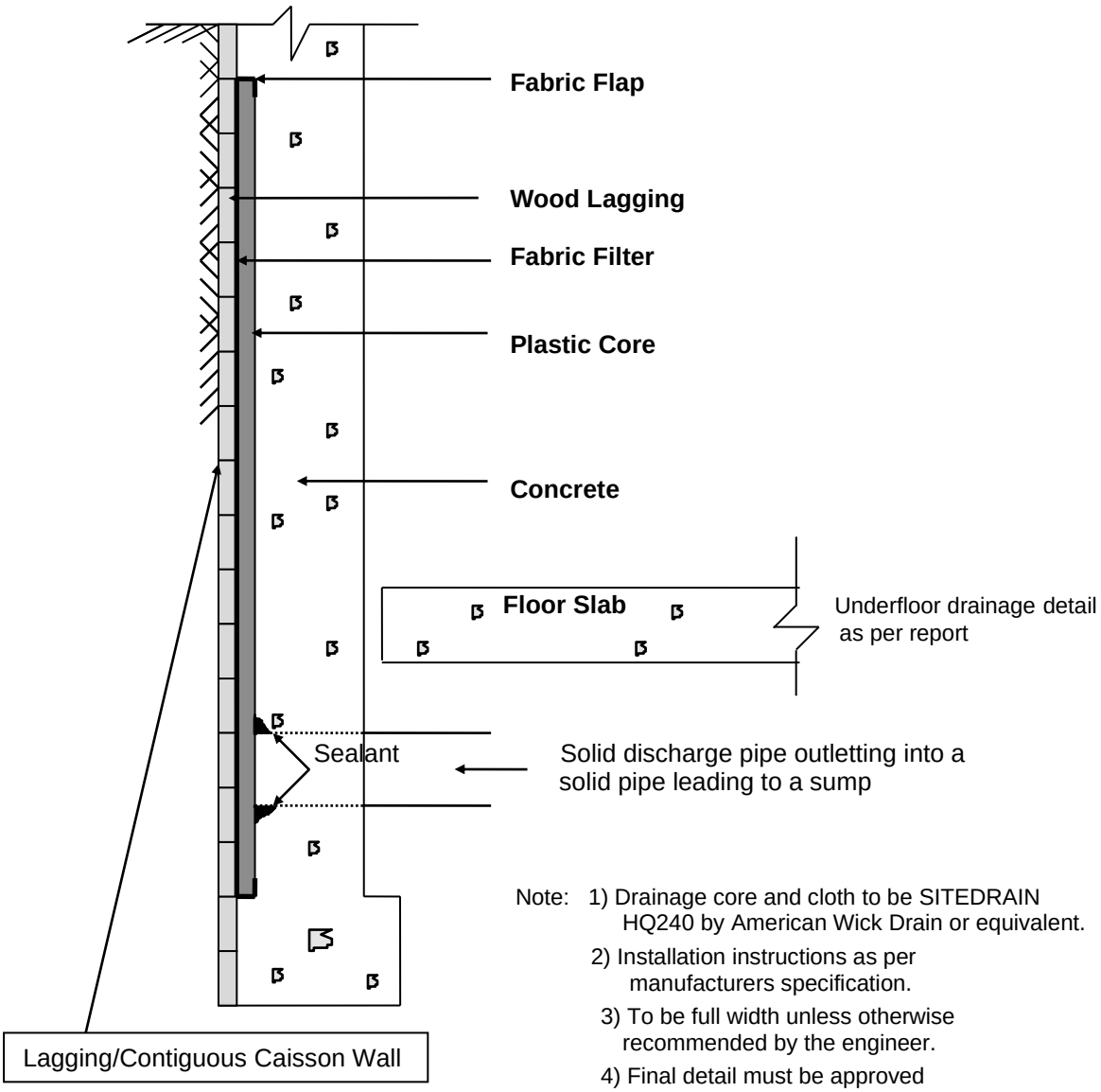
Notes:
1. Borehole advanced to completion at ~6.1 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp. Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
January 29, 2024	~5.9	Well
February 4, 2024	~6.0	Well

LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

Project: BRM-00257769-H0 **Drawing No. 18**



Note: 1) Drainage core and cloth to be SITEDRAIN HQ240 by American Wick Drain or equivalent.

2) Installation instructions as per manufacturers specification.

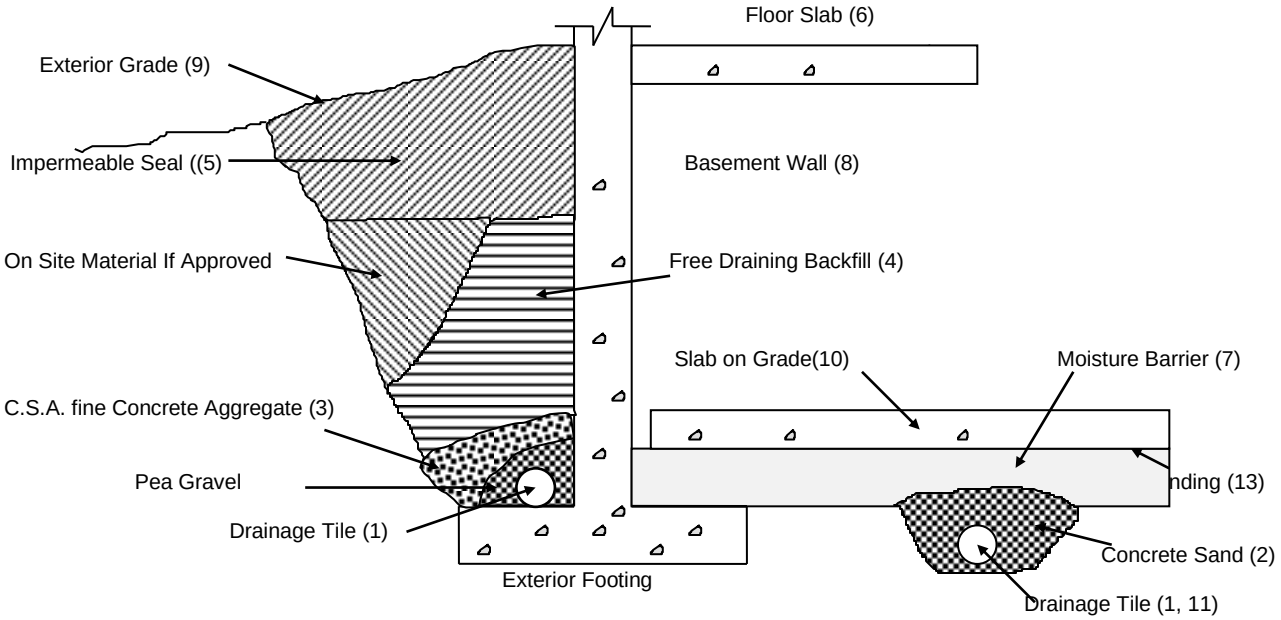
3) To be full width unless otherwise recommended by the engineer.

4) Final detail must be approved before system is considered acceptable.

5) SITEDRAIN HQ240 should be kept a minimum of 1.2 m below exterior finished grade.

SUGGESTED EXTERIOR DRAINAGE AGAINST SHORING SYSTEM

Project: BRM-00257769-H0 **Drawing No. 19**



Notes

1. Drainage tile to consist of 100 mm (4”) diameter weeping tile or equivalent perforated pipe leading to a positive sump or outlet.
2. Concrete sand - 150 mm (6”) top and side of drain. If drain is not on footing, place 100 mm (4 inches) of pea gravel below drain. 20 mm (3/4”) clear stone is an alternative provided it is surrounded by an approved filter fabric (Terrafix 600R or equivalent).
3. C.S.A. fine concrete aggregate to act as filter material. Minimum 300 mm (12”) top and side of tile drain. This may be replaced by an approved filter fabric as indicated in (2).
4. Free Draining backfill - OPSS Granular B or equivalent compacted to the specified density. Do not use heavy compaction equipment within 450 mm (18”) of the wall. Use hand controlled light compaction equipment within 1.8 m (6’) of wall.
5. Impermeable backfill seal - compacted clay, clayey silt or equivalent. If original soil is free-draining, seal may be omitted.
6. Do not backfill until wall is supported by basement and floor slabs or adequate bracing.
7. Moisture barrier to be at least 200 mm (8”) of compacted clear 20 mm (3/4”) stone.
8. Basement wall to be damp-proofed or waterproofed as per report.
9. Exterior grade to slope away from building.
10. Slab on grade should not be structurally connected to the wall or footing.
11. Underfloor drain invert to be at least 300 mm(12”) below underside of floor slab. Drainage tile placed in parallel rows 6 to 8 m (20 to 25’) centres one way. Place drain below subgrade with 150 mm(6”) of concrete sand on top and sides.
12. Do not connect the underfloor drains to perimeter drains.
13. If the 20 mm (3/4”) stone requires surface blinding, use 6 mm (1/4”) clear stone chips.

DRAINAGE AND BACKFILL RECOMMENDATIONS

(not to scale)

Appendix A

Grain Size Analysis Results

exp Services Inc.
1595 Clark Boulevard, Brampton
Ontario, Canada, L6T 4V1
Telephone: (905) 793-9800
Fax: (905) 793-0641

Grain Size Analysis & Hydrometer Test Report

ST08

Sample Test No.: 438426-2 **Report No.:** 1 **Date Reported:** 18-Jan-24

Project No.: gtr-00257769-h0 c300
Project Name: Supplemental Geotechnical Investigation (Lab Testing and Reporting)

Grain Size Proportion (%)

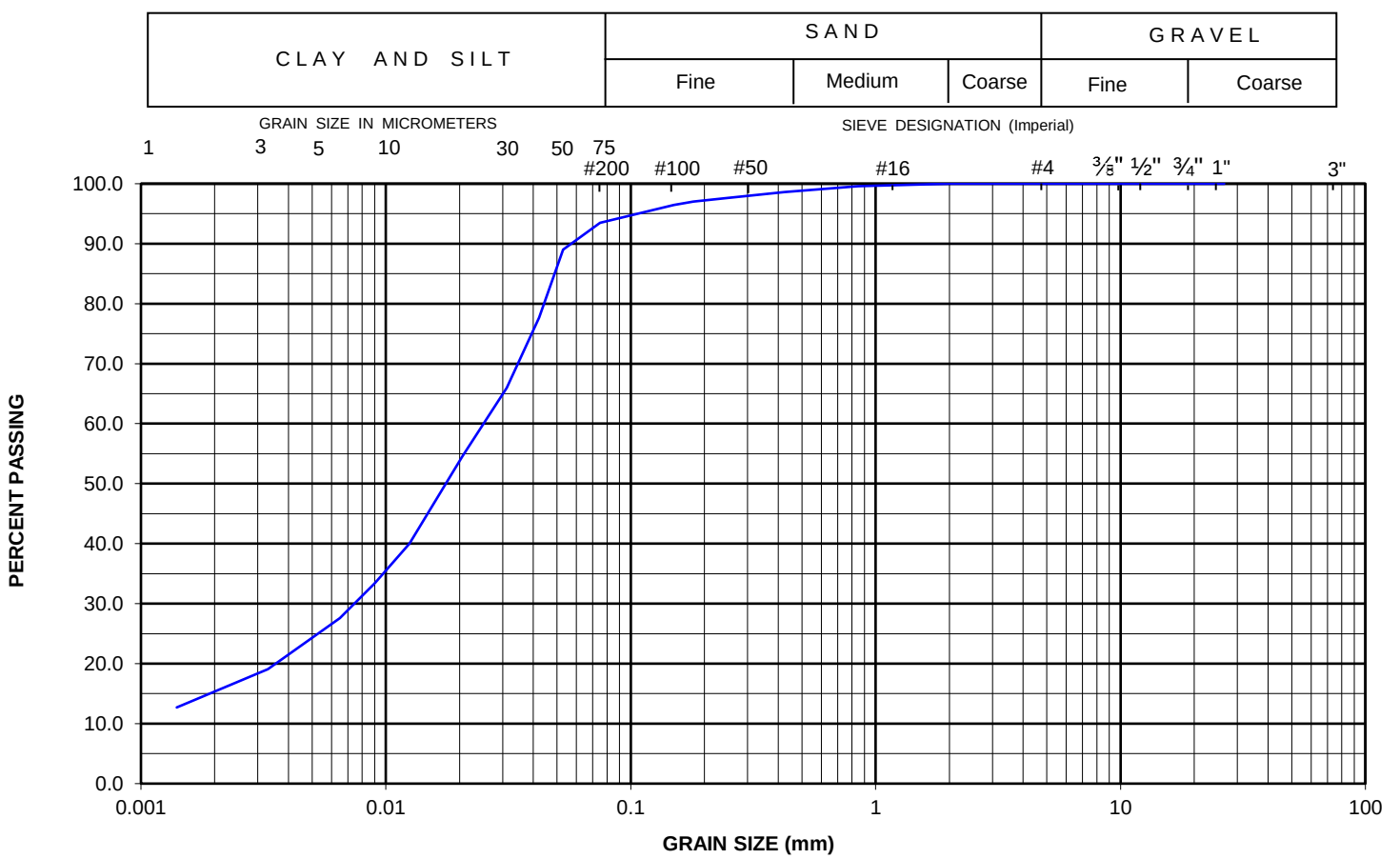
Gravel (> 4.75mm):	
Sand (> 75μm, < 4.75mm):	**6.5**
Silt (> 2μm), < 75μm):	**78.8**
Clay (< 2μm):	**14.7**
Total:	**100.0**

Sample Information

Location: BH 212
Sample Method: SS
Sample No.: 4
Depth: 2.3 - 2.8 m
Sample Description: Silt, some Clay, trace Sand; Reddish Brown
Sampled By: D. P.
Sampling Date: 1/4/2024
Date Received: 1/5/2024
Client Sample ID:
Comments:

Grain Size (mm)	% Passing	Grain Size (mm)	% Passing
26.5	100.0	**0.0422**	77.7
22.4	100.0	**0.0312**	66.0
19	100.0	**0.0205**	54.5
16	100.0	**0.0125**	40.0
13.2	100.0	**0.0090**	33.4
12.5	100.0	**0.0065**	27.6
9.5	100.0	**0.0033**	19.1
6.7	100.0	**0.0014**	12.7
4.75	100.0		
2	100.0		
0.85	99.6		
0.425	98.6		
0.25	97.6		
0.18	97.0		
0.15	96.4		
0.075	93.5		
0.053	89.0		

UNIFIED SOIL CLASSIFICATION SYSTEM



Project Manager: Kevin Leung **Approved By:** *Original Signed By* **Date Approved:** 18-Jan-24
Arcadio Petrola, Lab Supervisor

exp Services Inc.
1595 Clark Boulevard, Brampton
Ontario, Canada, L6T 4V1
Telephone: (905) 793-9800
Fax: (905) 793-0641

Grain Size Analysis & Hydrometer Test Report

ST08

Sample Test No.: 438441-2 **Report No.:** 2 **Date Reported:** 18-Jan-24

Project No.: gtr-00257769-h0 c300
Project Name: Supplemental Geotechnical Investigation (Lab Testing and Reporting)

Grain Size Proportion (%)

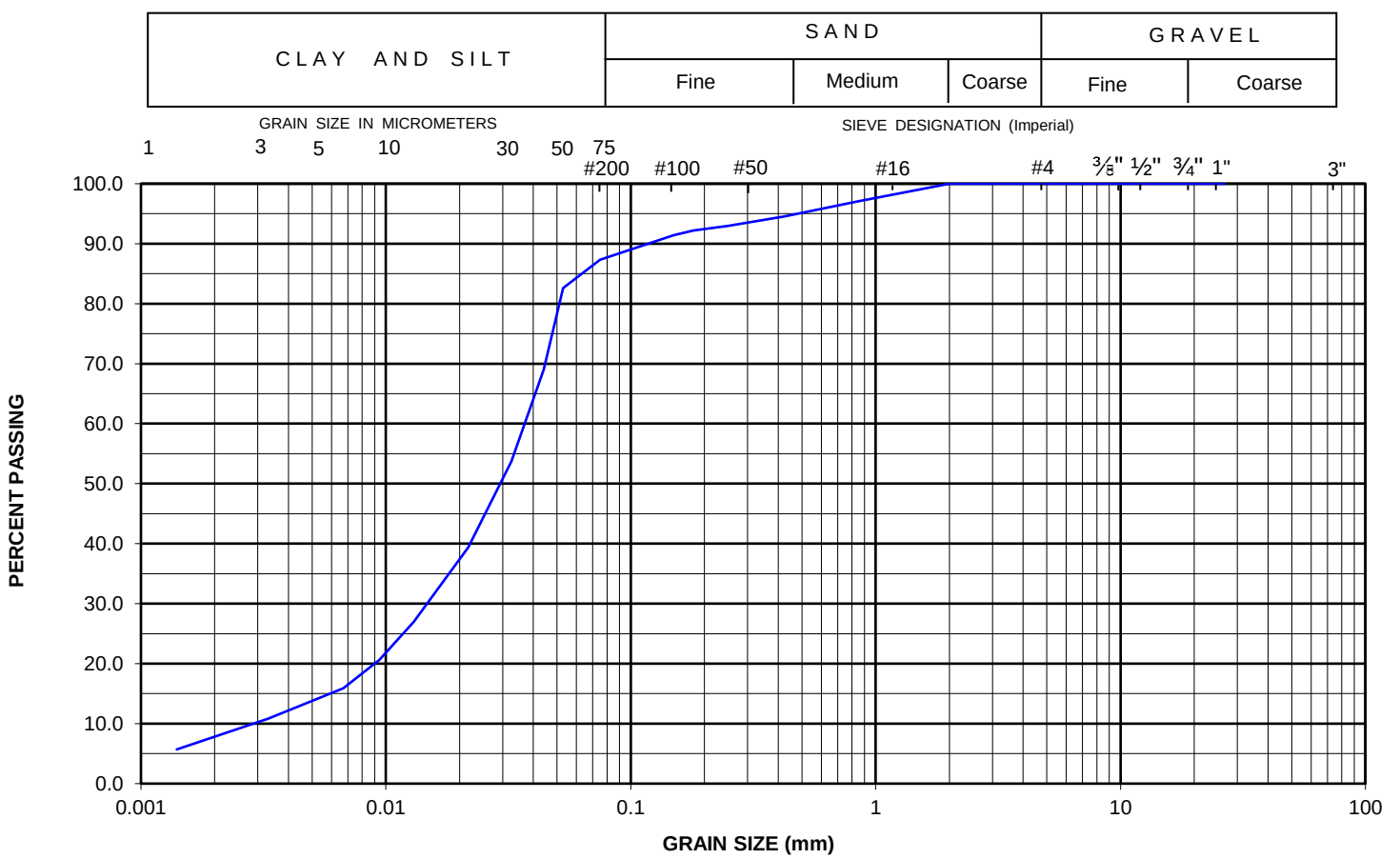
Gravel (> 4.75mm):	
Sand (> 75μm, < 4.75mm):	**12.7**
Silt (> 2μm), < 75μm):	**80.0**
Clay (< 2μm):	**7.3**
Total:	**100.0**

Sample Information

Location: BH 214
Sample Method: SS
Sample No.: 7
Depth: 4.6 - 5.0 m
Sample Description: Silt, some Sand, trace Clay; Reddish Brown
Sampled By: D. P.
Sampling Date: 1/5/2024
Date Received: 1/5/2024
Client Sample ID:
Comments:

Grain Size (mm)	% Passing	Grain Size (mm)	% Passing
26.5	100.0	**0.0441**	69.0
22.4	100.0	**0.0326**	53.7
19	100.0	**0.0217**	39.4
16	100.0	**0.0130**	27.0
13.2	100.0	**0.0094**	20.6
12.5	100.0	**0.0067**	15.9
9.5	100.0	**0.0033**	10.8
6.7	100.0	**0.0014**	5.7
4.75	100.0		
2	100.0		
0.85	97.1		
0.425	94.5		
0.25	93.0		
0.18	92.2		
0.15	91.4		
0.075	87.3		
0.053	82.6		

UNIFIED SOIL CLASSIFICATION SYSTEM



Project Manager: Kevin Leung **Approved By:** *Original Signed By* **Date Approved:** 18-Jan-24
Arcadio Petrola, Lab Supervisor

exp Services Inc.
1595 Clark Boulevard, Brampton
Ontario, Canada, L6T 4V1
Telephone: (905) 793-9800
Fax: (905) 793-0641

Grain Size Analysis & Hydrometer Test Report

ST08

Sample Test No.: 438707-2 **Report No.:** 3 **Date Reported:** 22-Jan-24

Project No.: gtr-00257769-h0 c300
Project Name: Supplemental Geotechnical Investigation (Lab Testing and Reporting)

Grain Size Proportion (%)

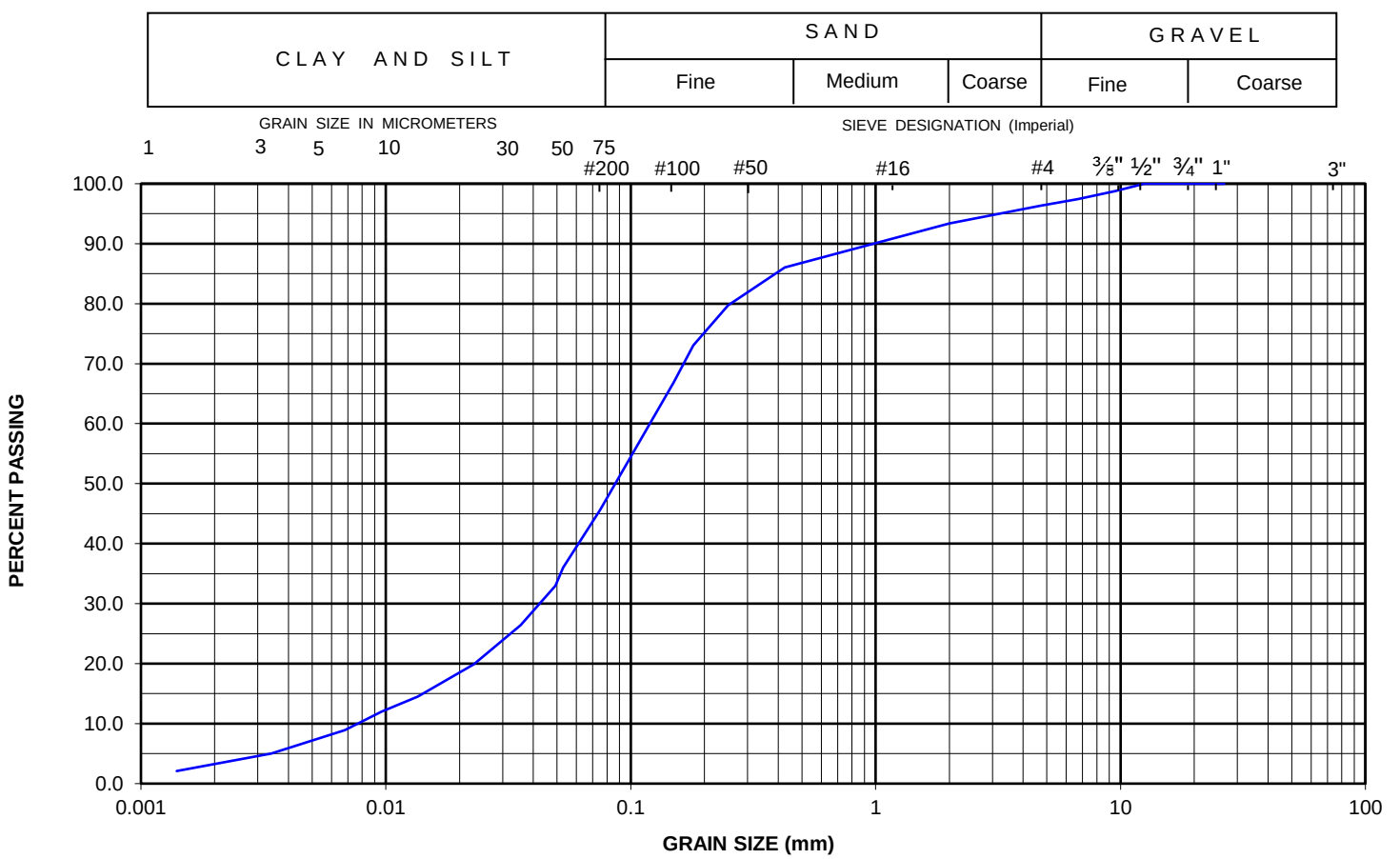
Gravel (> 4.75mm):	**3.6**
Sand (> 75µm, < 4.75mm):	**50.8**
Silt (> 2µm), < 75µm):	**42.6**
Clay (< 2µm):	**3.0**
Total:	**100.0**

Sample Information

Location: BH 205
Sample Method: SS
Sample No.: 8
Depth: 7.6 - 8.0 m
Sample Description: Sand and Silt, trace Gravel and Clay; Brown
Sampled By: D. P.
Sampling Date: 1/12/2024
Date Received: 1/12/2024
Client Sample ID:
Comments:

Grain Size (mm)	% Passing	Grain Size (mm)	% Passing
26.5	100.0	**0.0492**	33.0
22.4	100.0	**0.0355**	26.4
19	100.0	**0.0229**	19.9
16	100.0	**0.0135**	14.5
13.2	100.0	**0.0096**	12.0
12.5	100.0	**0.0068**	8.9
9.5	98.8	**0.0034**	5.0
6.7	97.4	**0.0014**	2.1
4.75	96.4		
2	93.4		
0.85	89.3		
0.425	86.1		
0.25	79.7		
0.18	73.1		
0.15	66.9		
0.075	45.6		
0.053	36.0		

UNIFIED SOIL CLASSIFICATION SYSTEM



Project Manager: Kevin Leung **Approved By:** *Original Signed By* **Date Approved:** 22-Jan-24
Arcadio Petrola, Lab Supervisor

exp Services Inc.
1595 Clark Boulevard, Brampton
Ontario, Canada, L6T 4V1
Telephone: (905) 793-9800
Fax: (905) 793-0641

Grain Size Analysis & Hydrometer Test Report

ST08

Sample Test No.: 438693-2 **Report No.:** 4 **Date Reported:** 22-Jan-24

Project No.: gtr-00257769-h0 c300
Project Name: Supplemental Geotechnical Investigation (Lab Testing and Reporting)

Grain Size Proportion (%)

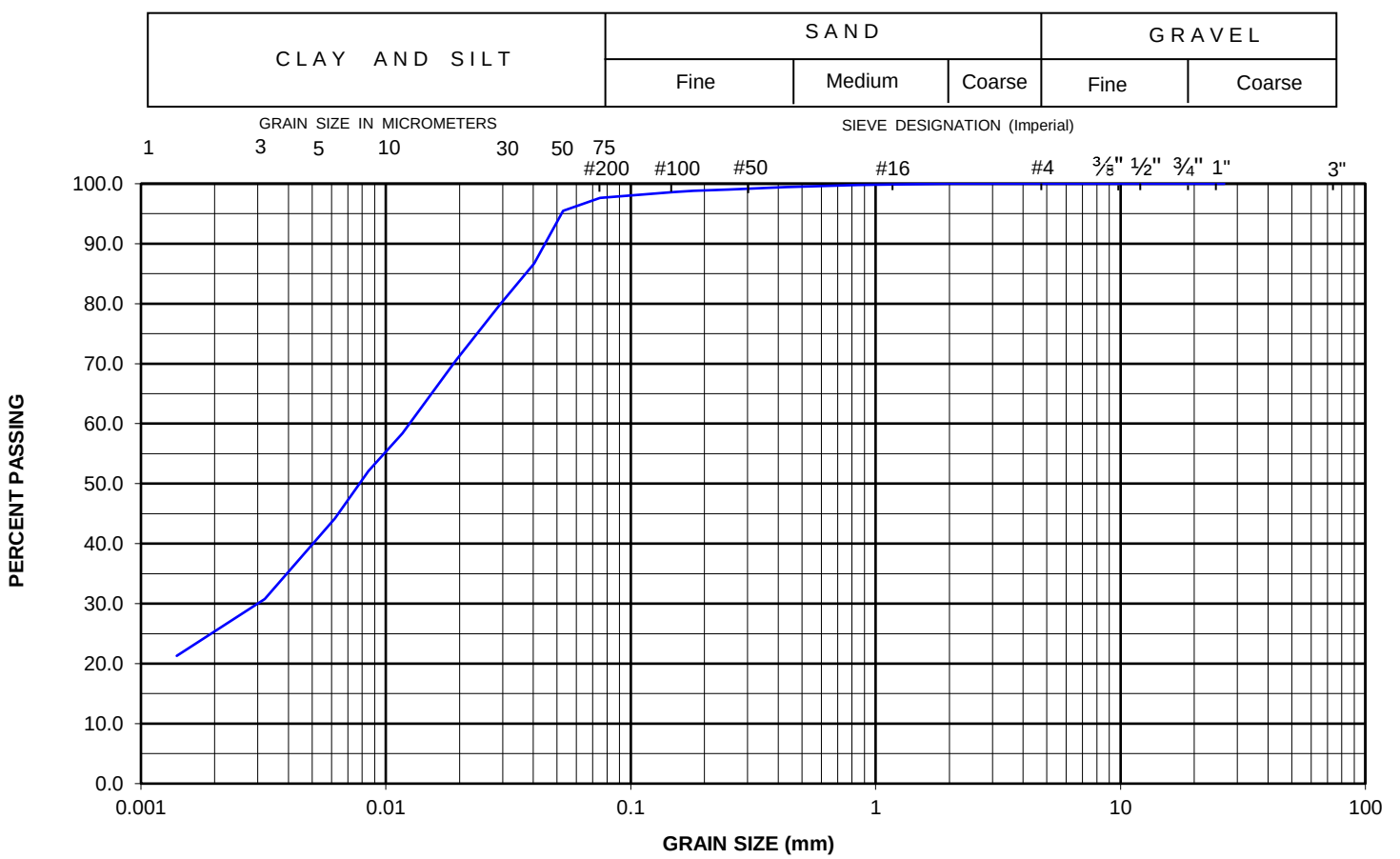
Gravel (> 4.75mm):	
Sand (> 75μm, < 4.75mm):	**2.4**
Silt (> 2μm), < 75μm):	**73.1**
Clay (< 2μm):	**24.5**
Total:	**100.0**

Sample Information

Location: BH 211
Sample Method: SS
Sample No.: 2
Depth: 0.8 - 1.4 m
Sample Description: Clayey Silt, trace Sand; Reddish Brown
Sampled By: D. P.
Sampling Date: 1/10/2024
Date Received: 1/12/2024
Client Sample ID:
Comments:

Grain Size (mm)	% Passing	Grain Size (mm)	% Passing
26.5	100.0	**0.0403**	86.7
22.4	100.0	**0.0294**	80.0
19	100.0	**0.0193**	70.5
16	100.0	**0.0117**	58.4
13.2	100.0	**0.0085**	52.1
12.5	100.0	**0.0062**	44.2
9.5	100.0	**0.0032**	30.8
6.7	100.0	**0.0014**	21.3
4.75	100.0		
2	100.0		
0.85	99.8		
0.425	99.4		
0.25	99.0		
0.18	98.8		
0.15	98.6		
0.075	97.6		
0.053	95.5		

UNIFIED SOIL CLASSIFICATION SYSTEM



Project Manager: Kevin Leung **Approved By:** *Original Signed By* **Date Approved:** 22-Jan-24
Arcadio Petrola, Lab Supervisor

exp Services Inc.
1595 Clark Boulevard, Brampton
Ontario, Canada, L6T 4V1
Telephone: (905) 793-9800
Fax: (905) 793-0641

Grain Size Analysis & Hydrometer Test Report

ST08

Sample Test No.: 438678-2 **Report No.:** 5 **Date Reported:** 22-Jan-24

Project No.: gtr-00257769-h0 c300
Project Name: Supplemental Geotechnical Investigation (Lab Testing and Reporting)

Grain Size Proportion (%)

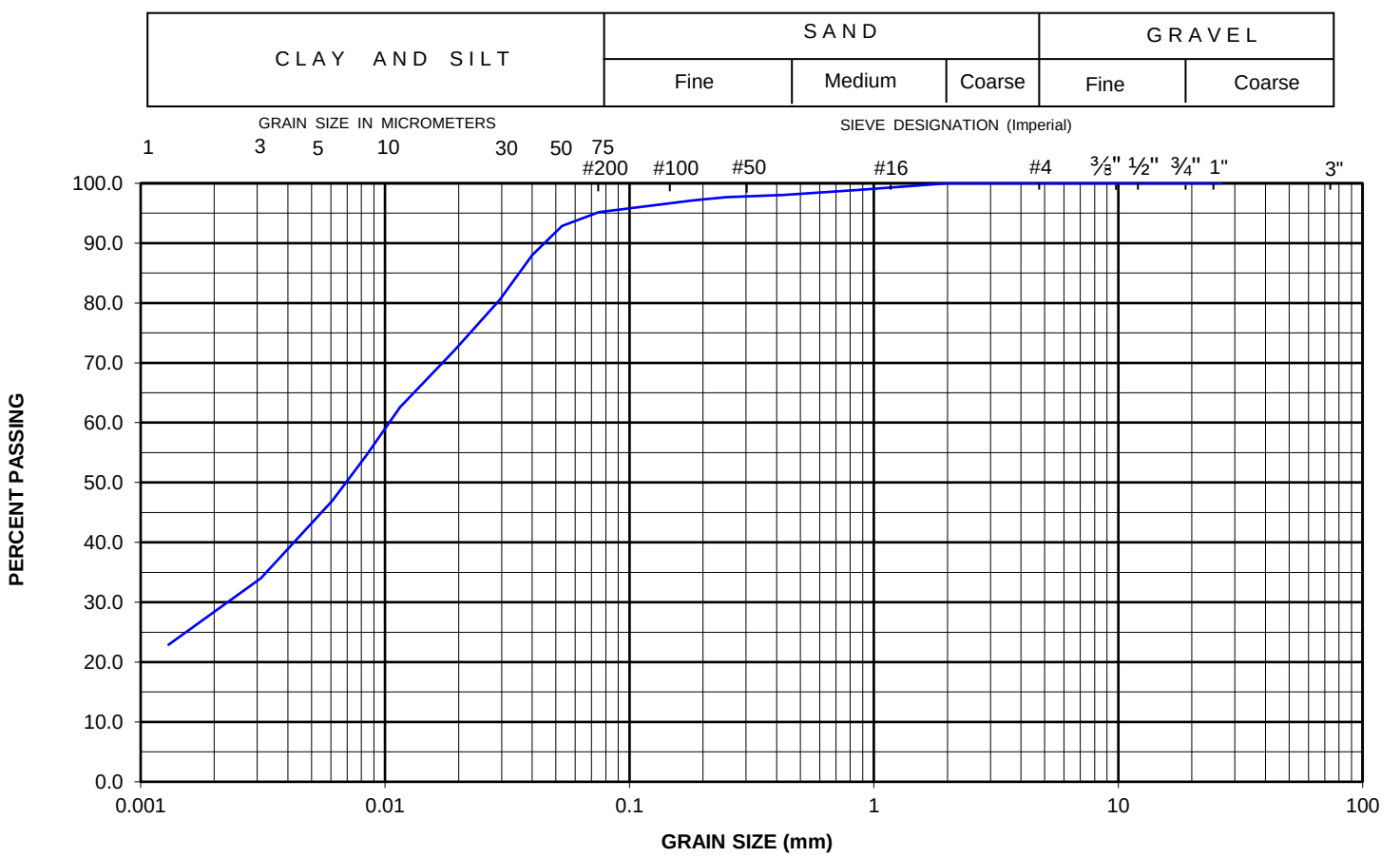
Gravel (> 4.75mm):	
Sand (> 75μm, < 4.75mm):	**4.8**
Silt (> 2μm), < 75μm):	**68.0**
Clay (< 2μm):	**27.2**
Total:	**100.0**

Sample Information

Location: BH 207
Sample Method: SS
Sample No.: 3
Depth: 1.5 - 2.1 m
Sample Description: Clayey Silt, trace Sand; Reddish Brown
Sampled By: D. P.
Sampling Date: 1/8/2024
Date Received: 1/12/2024
Client Sample ID:
Comments:

Grain Size (mm)	% Passing	Grain Size (mm)	% Passing
26.5	100.0	**0.0400**	88.0
22.4	100.0	**0.0294**	80.5
19	100.0	**0.0192**	72.1
16	100.0	**0.0115**	62.6
13.2	100.0	**0.0084**	54.6
12.5	100.0	**0.0061**	47.0
9.5	100.0	**0.0031**	34.0
6.7	100.0	**0.0013**	22.9
4.75	100.0		
2	100.0		
0.85	98.8		
0.425	98.1		
0.25	97.7		
0.18	97.1		
0.15	96.7		
0.075	95.2		
0.053	92.9		

UNIFIED SOIL CLASSIFICATION SYSTEM



Project Manager: Kevin Leung **Approved By:** *Original Signed By* **Date Approved:** 22-Jan-24
Arcadio Petrola, Lab Supervisor

exp Services Inc.
1595 Clark Boulevard, Brampton
Ontario, Canada, L6T 4V1
Telephone: (905) 793-9800
Fax: (905) 793-0641

Grain Size Analysis & Hydrometer Test Report

ST08

Sample Test No.: 438704-2 **Report No.:** 6 **Date Reported:** 22-Jan-24

Project No.: gtr-00257769-h0 c300
Project Name: Supplemental Geotechnical Investigation (Lab Testing and Reporting)

Grain Size Proportion (%)

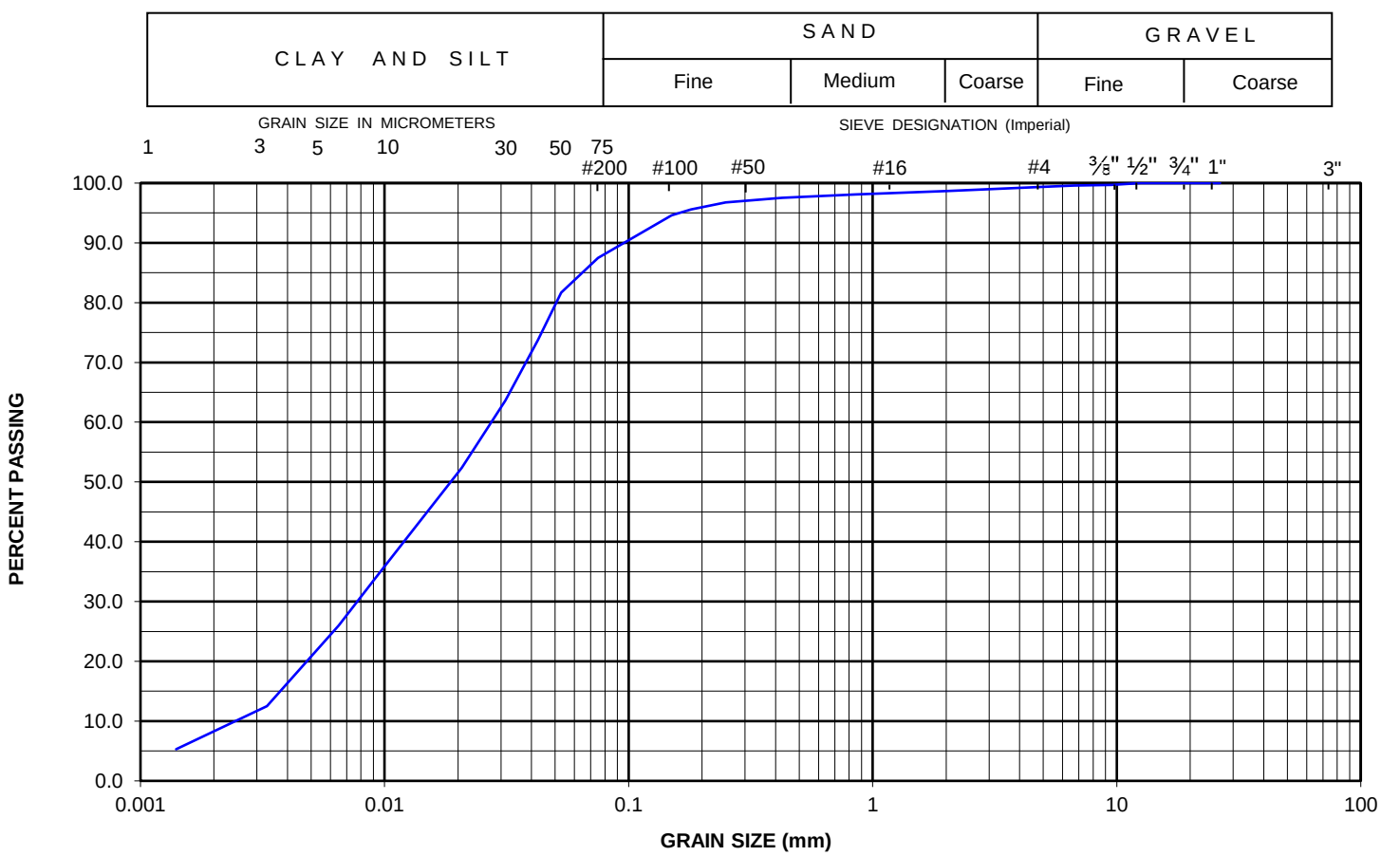
Gravel (> 4.75mm):	**0.7**
Sand (> 75μm, < 4.75mm):	**11.8**
Silt (> 2μm), < 75μm):	**79.9**
Clay (< 2μm):	**7.6**
Total:	**100.0**

Sample Information

Location:	BH 205
Sample Method:	SS
Sample No.:	5
Depth:	3.1 - 3.7 m
Sample Description:	Silt, some Sand, trace Clay and Gravel; Brown
Sampled By:	D. P.
Sampling Date:	1/12/2024
Date Received:	1/12/2024
Client Sample ID:	
Comments:	

Grain Size (mm)	% Passing	Grain Size (mm)	% Passing
26.5	100.0	**0.0425**	73.7
22.4	100.0	**0.0313**	63.6
19	100.0	**0.0207**	52.4
16	100.0	**0.0124**	40.8
13.2	100.0	**0.0090**	33.5
12.5	100.0	**0.0065**	26.0
9.5	99.7	**0.0033**	12.5
6.7	99.6	**0.0014**	5.3
4.75	99.3		
2	98.7		
0.85	98.1		
0.425	97.5		
0.25	96.8		
0.18	95.6		
0.15	94.6		
0.075	87.5		
0.053	81.7		

UNIFIED SOIL CLASSIFICATION SYSTEM



Project Manager: Kevin Leung **Approved By:** *Original Signed By*
Arcadio Petrola, Lab Supervisor
Date Approved: 22-Jan-24

exp Services Inc.
1595 Clark Boulevard, Brampton
Ontario, Canada, L6T 4V1
Telephone: (905) 793-9800
Fax: (905) 793-0641

Grain Size Analysis & Hydrometer Test Report

ST08

Sample Test No.: 439055-2 **Report No.:** 7 **Date Reported:** 26-Jan-24

Project No.: gtr-00257769-h0 c300
Project Name: Supplemental Geotechnical Investigation (Lab Testing and Reporting)

Grain Size Proportion (%)

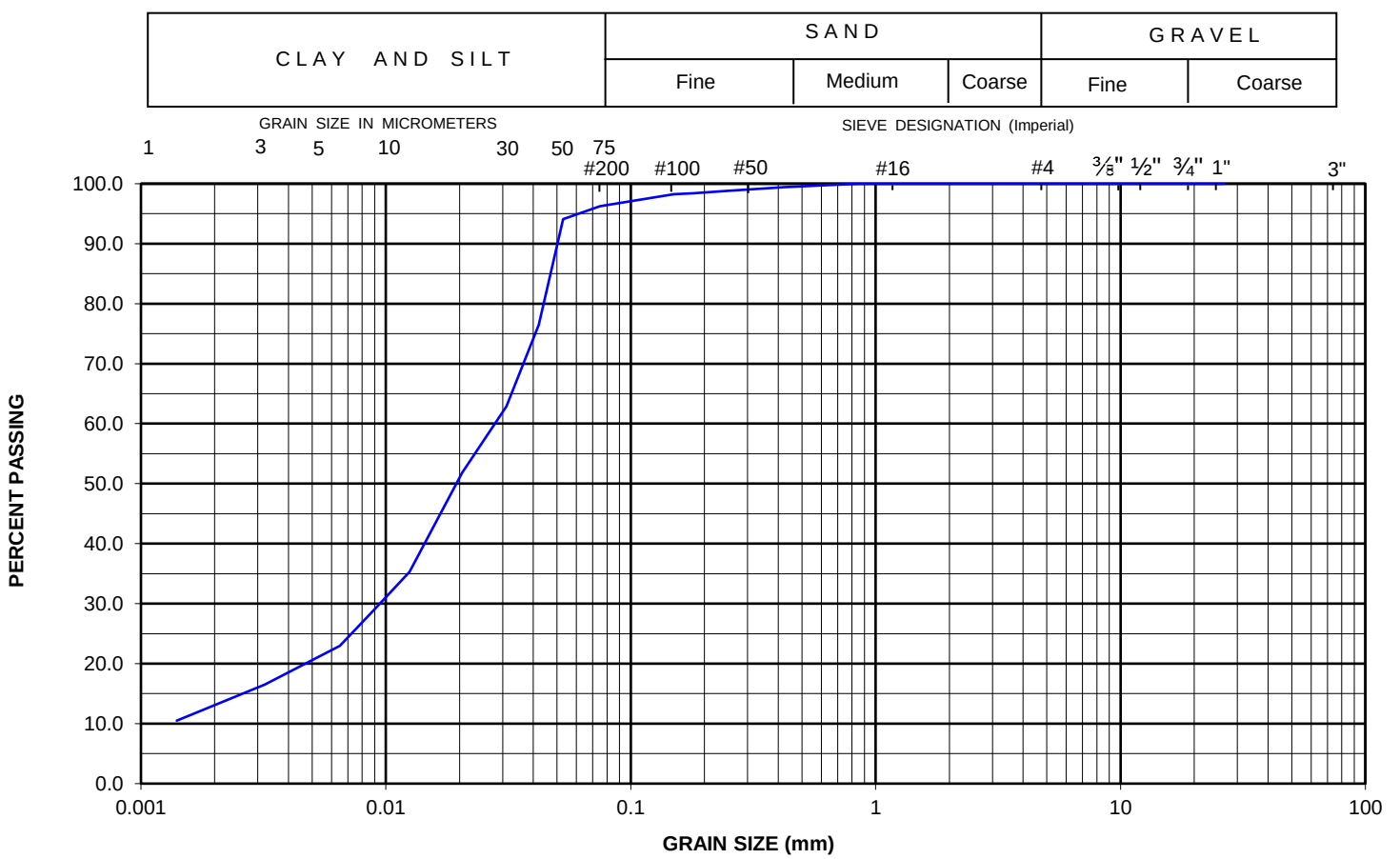
Gravel (> 4.75mm):	
Sand (> 75μm, < 4.75mm):	**3.7**
Silt (> 2μm), < 75μm):	**83.8**
Clay (< 2μm):	**12.5**
Total:	**100.0**

Sample Information

Location: BH 203
Sample Method: SS
Sample No.: 2
Depth: 0.8 - 1.4 m
Sample Description: Silt, some Clay, trace Sand; Reddish Brown
Sampled By: D. P.
Sampling Date: 1/17/2024
Date Received: 1/17/2024
Client Sample ID:
Comments:

Grain Size (mm)	% Passing	Grain Size (mm)	% Passing
26.5	100.0	**0.0421**	76.5
22.4	100.0	**0.0311**	62.9
19	100.0	**0.0205**	51.8
16	100.0	**0.0125**	35.3
13.2	100.0	**0.0090**	29.1
12.5	100.0	**0.0065**	23.0
9.5	100.0	**0.0032**	16.5
6.7	100.0	**0.0014**	10.5
4.75	100.0		
2	100.0		
0.85	100.0		
0.425	99.4		
0.25	98.8		
0.18	98.4		
0.15	98.2		
0.075	96.3		
0.053	94.1		

UNIFIED SOIL CLASSIFICATION SYSTEM



Project Manager: Kevin Leung **Approved By:** *Original Signed By* **Date Approved:** 26-Jan-24
Arcadio Petrola, Lab Supervisor

Appendix B

Certificate of Analysis

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: EXP SERVICES INC
1595 CLARK BLVD.
BRAMPTON, ON L6T4V1
(905) 793-9800
ATTENTION TO: Alessandro Girardo
PROJECT: GTR-00257769-H0
AGAT WORK ORDER: 24T116256
SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganic Team Lead
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
DATE REPORTED: Feb 09, 2024
PAGES (INCLUDING COVER): 13
VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

Notes

Disclaimer:

- *All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.*
- *All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.*
- *AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.*
- *This Certificate shall not be reproduced except in full, without the written approval of the laboratory.*
- *The test results reported herewith relate only to the samples as received by the laboratory.*
- *Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.*
- *All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.*
- *For environmental samples in the Province of Quebec: The analysis is performed on and results apply to samples as received. A temperature above 6°C upon receipt, as indicated in the Sample Reception Notification (SRN), could indicate the integrity of the samples has been compromised if the delay between sampling and submission to the laboratory could not be minimized.*

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 24T116256

PROJECT: GTR-00257769-H0

CLIENT NAME: EXP SERVICES INC

ATTENTION TO: Alessandro Girardo

SAMPLING SITE:5100 Erin Mills

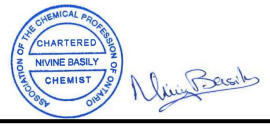
SAMPLED BY:

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2024-01-31 **DATE REPORTED: 2024-02-09**

					SAMPLE DESCRIPTION:	BH202-SS2	BH205-SS2	BH205-SS6	BH209-SS2	BH203-SS2	BH211-SS2
					SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil
					DATE SAMPLED:	2024-01-30	2024-01-30	2024-01-30	2024-01-30	2024-01-30	2024-01-30
Parameter	Unit	G / S: A	G / S: B	RDL		5614359	5614370	5614371	5614372	5614373	5614382
Antimony	µg/g	1.3	7.5	0.8		<0.8[<A]	<0.8[<A]	<0.8[<A]	<0.8[<A]	<0.8[<A]	<0.8[<A]
Arsenic	µg/g	18	18	1		6[<A]	3[<A]	2[<A]	5[<A]	5[<A]	5[<A]
Barium	µg/g	220	390	2.0		70.1[<A]	51.4[<A]	22.4[<A]	65.7[<A]	72.5[<A]	74.4[<A]
Beryllium	µg/g	2.5	4	0.5		0.8[<A]	<0.5[<A]	<0.5[<A]	0.8[<A]	0.7[<A]	0.7[<A]
Boron	µg/g	36	120	5		20[<A]	8[<A]	<5[<A]	14[<A]	18[<A]	17[<A]
Boron (Hot Water Soluble)	µg/g	NA	1.5	0.10		0.21[<B]	0.16[<B]	<0.10[<B]	0.11[<B]	0.18[<B]	0.11[<B]
Cadmium	µg/g	1.2	1.2	0.5		<0.5[<A]	<0.5[<A]	<0.5[<A]	<0.5[<A]	<0.5[<A]	<0.5[<A]
Chromium	µg/g	70	160	5		26[<A]	18[<A]	8[<A]	24[<A]	26[<A]	24[<A]
Cobalt	µg/g	21	22	0.8		14.4[<A]	7.3[<A]	3.3[<A]	15.4[<A]	14.9[<A]	14.3[<A]
Copper	µg/g	92	140	1.0		7.6[<A]	14.1[<A]	7.3[<A]	9.7[<A]	8.0[<A]	8.8[<A]
Lead	µg/g	120	120	1		9[<A]	5[<A]	2[<A]	9[<A]	10[<A]	9[<A]
Molybdenum	µg/g	2	6.9	0.5		1.2[<A]	0.5[<A]	<0.5[<A]	1.1[<A]	1.1[<A]	0.7[<A]
Nickel	µg/g	82	100	1		31[<A]	16[<A]	6[<A]	32[<A]	31[<A]	30[<A]
Selenium	µg/g	1.5	2.4	0.8		<0.8[<A]	<0.8[<A]	<0.8[<A]	<0.8[<A]	<0.8[<A]	<0.8[<A]
Silver	µg/g	0.5	20	0.5		<0.5[<A]	<0.5[<A]	<0.5[<A]	<0.5[<A]	<0.5[<A]	<0.5[<A]
Thallium	µg/g	1	1	0.5		<0.5[<A]	<0.5[<A]	<0.5[<A]	<0.5[<A]	<0.5[<A]	<0.5[<A]
Uranium	µg/g	2.5	23	0.50		0.64[<A]	0.60[<A]	<0.50[<A]	0.64[<A]	0.61[<A]	0.81[<A]
Vanadium	µg/g	86	86	2.0		31.7[<A]	27.7[<A]	16.9[<A]	31.8[<A]	32.5[<A]	40.8[<A]
Zinc	µg/g	290	340	5		65[<A]	37[<A]	19[<A]	67[<A]	71[<A]	61[<A]
Chromium, Hexavalent	µg/g	0.66	8	0.2		<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]
Cyanide, WAD	µg/g	0.051	0.051	0.040		<0.040[<A]	<0.040[<A]	<0.040[<A]	<0.040[<A]	<0.040[<A]	<0.040[<A]
Mercury	µg/g	0.27	0.27	0.10		<0.10[<A]	<0.10[<A]	<0.10[<A]	<0.10[<A]	<0.10[<A]	<0.10[<A]
Electrical Conductivity (2:1)	mS/cm	0.57	0.7	0.005		0.282[<A]	1.04[>B]	1.10[>B]	0.697[A-B]	0.486[<A]	0.141[<A]
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	5	N/A		3.08[A-B]	7.94[>B]	12.8[>B]	12.3[>B]	5.96[>B]	2.08[<A]
pH, 2:1 CaCl2 Extraction	pH Units			NA		7.45	8.10	7.50	7.43	7.40	7.15

Certified By:



AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 24T116256

PROJECT: GTR-00257769-H0

CLIENT NAME: EXP SERVICES INC

ATTENTION TO: Alessandro Girardo

SAMPLING SITE:5100 Erin Mills

SAMPLED BY:

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2024-01-31 **DATE REPORTED: 2024-02-09**

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use, B Refers to O. Reg. 406/19 TABLE 2.1: Full Depth Potable Ground Water Condition Volume Independent - RP Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5614359-5614382 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio. SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 24T116256

PROJECT: GTR-00257769-H0

CLIENT NAME: EXP SERVICES INC

ATTENTION TO: Alessandro Girardo

SAMPLING SITE:5100 Erin Mills

SAMPLED BY:

Sulphate

DATE RECEIVED: 2024-01-31 **DATE REPORTED: 2024-02-09**

		SAMPLE DESCRIPTION:		BH202-SS2	BH205-SS6
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2024-01-30	2024-01-30
Parameter	Unit	G / S	RDL	5614359	5614371
Sulphate (2:1)	µg/g		2	13	49

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5614359-5614371 Sulphate was determined on the extract obtained from the 2:1 leaching procedure (2 parts DI water: 1 part soil).

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Exceedance Summary

AGAT WORK ORDER: 24T116256

PROJECT: GTR-00257769-H0

CLIENT NAME: EXP SERVICES INC

ATTENTION TO: Alessandro Girardo

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
5614359	BH202-SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	3.08
5614370	BH205-SS2	ON 406/19 T2.1 RP	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	1.04
5614370	BH205-SS2	ON 406/19 T2.1 RP	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	7.94
5614370	BH205-SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.04
5614370	BH205-SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	7.94
5614371	BH205-SS6	ON 406/19 T2.1 RP	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	1.10
5614371	BH205-SS6	ON 406/19 T2.1 RP	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	12.8
5614371	BH205-SS6	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.10
5614371	BH205-SS6	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	12.8
5614372	BH209-SS2	ON 406/19 T2.1 RP	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	12.3
5614372	BH209-SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.697
5614372	BH209-SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	12.3
5614373	BH203-SS2	ON 406/19 T2.1 RP	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	5.96
5614373	BH203-SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	5.96

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24T116256

PROJECT: GTR-00257769-H0

ATTENTION TO: Alessandro Girardo

SAMPLING SITE:5100 Erin Mills

SAMPLED BY:

Soil Analysis

RPT Date: Feb 09, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Soil)															
Antimony	5615305		<0.8	<0.8	NA	< 0.8	105%	70%	130%	104%	80%	120%	96%	70%	130%
Arsenic	5615305		4	4	NA	< 1	124%	70%	130%	101%	80%	120%	100%	70%	130%
Barium	5615305		133	138	3.7%	< 2.0	106%	70%	130%	102%	80%	120%	113%	70%	130%
Beryllium	5615305		1.0	0.9	NA	< 0.5	106%	70%	130%	117%	80%	120%	93%	70%	130%
Boron	5615305		7	9	NA	< 5	86%	70%	130%	107%	80%	120%	85%	70%	130%
Boron (Hot Water Soluble)	5614359	5614359	0.21	0.21	NA	< 0.10	101%	60%	140%	105%	70%	130%	95%	60%	140%
Cadmium	5615305		<0.5	<0.5	NA	< 0.5	114%	70%	130%	100%	80%	120%	101%	70%	130%
Chromium	5615305		34	35	2.9%	< 5	100%	70%	130%	99%	80%	120%	99%	70%	130%
Cobalt	5615305		12.4	12.7	2.4%	< 0.8	111%	70%	130%	103%	80%	120%	101%	70%	130%
Copper	5615305		17.9	18.7	4.4%	< 1.0	99%	70%	130%	99%	80%	120%	93%	70%	130%
Lead	5615305		15	15	0.0%	< 1	116%	70%	130%	93%	80%	120%	87%	70%	130%
Molybdenum	5615305		<0.5	<0.5	NA	< 0.5	119%	70%	130%	105%	80%	120%	107%	70%	130%
Nickel	5615305		23	24	4.3%	< 1	114%	70%	130%	105%	80%	120%	104%	70%	130%
Selenium	5615305		<0.8	<0.8	NA	< 0.8	121%	70%	130%	102%	80%	120%	101%	70%	130%
Silver	5615305		<0.5	<0.5	NA	< 0.5	105%	70%	130%	101%	80%	120%	97%	70%	130%
Thallium	5615305		<0.5	<0.5	NA	< 0.5	104%	70%	130%	97%	80%	120%	90%	70%	130%
Uranium	5615305		0.87	0.83	NA	< 0.50	124%	70%	130%	108%	80%	120%	108%	70%	130%
Vanadium	5615305		50.1	49.9	0.4%	< 2.0	109%	70%	130%	107%	80%	120%	99%	70%	130%
Zinc	5615305		75	78	3.9%	< 5	108%	70%	130%	102%	80%	120%	100%	70%	130%
Chromium, Hexavalent	5620358		<0.2	<0.2	NA	< 0.2	104%	70%	130%	87%	80%	120%	73%	70%	130%
Cyanide, WAD	5615066		<0.040	<0.040	NA	< 0.040	107%	70%	130%	101%	80%	120%	92%	70%	130%
Mercury	5615305		<0.10	<0.10	NA	< 0.10	120%	70%	130%	102%	80%	120%	108%	70%	130%
Electrical Conductivity (2:1)	5614359	5614359	0.282	0.345	20.1%	< 0.005	89%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	5614359	5614359	3.08	3.34	8.1%	NA									
pH, 2:1 CaCl2 Extraction	5615975		6.32	6.60	4.3%	NA	102%	80%	120%						
Sulphate															
Sulphate (2:1)	5615730		72	72	0.0%	< 2	103%	70%	130%	92%	80%	120%	94%	70%	130%

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.
Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By:

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24T116256

PROJECT: GTR-00257769-H0

ATTENTION TO: Alessandro Girardo

SAMPLING SITE:5100 Erin Mills

SAMPLED BY:

Trace Organics Analysis

RPT Date: Feb 09, 2024

PARAMETER	Batch	Sample Id	DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
			Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	5620834		<0.05	<0.05	NA	< 0.05	71%	50%	140%	85%	50%	140%	73%	50%	140%
Acenaphthylene	5620834		<0.05	<0.05	NA	< 0.05	67%	50%	140%	103%	50%	140%	95%	50%	140%
Acenaphthene	5620834		<0.05	<0.05	NA	< 0.05	95%	50%	140%	100%	50%	140%	83%	50%	140%
Fluorene	5620834		<0.05	<0.05	NA	< 0.05	107%	50%	140%	105%	50%	140%	88%	50%	140%
Phenanthrene	5620834		<0.05	<0.05	NA	< 0.05	83%	50%	140%	75%	50%	140%	93%	50%	140%
Anthracene	5620834		<0.05	<0.05	NA	< 0.05	113%	50%	140%	95%	50%	140%	80%	50%	140%
Fluoranthene	5620834		<0.05	<0.05	NA	< 0.05	108%	50%	140%	88%	50%	140%	75%	50%	140%
Pyrene	5620834		<0.05	<0.05	NA	< 0.05	90%	50%	140%	73%	50%	140%	98%	50%	140%
Benz(a)anthracene	5620834		<0.05	<0.05	NA	< 0.05	113%	50%	140%	73%	50%	140%	78%	50%	140%
Chrysene	5620834		<0.05	<0.05	NA	< 0.05	74%	50%	140%	80%	50%	140%	100%	50%	140%
Benzo(b)fluoranthene	5620834		<0.05	<0.05	NA	< 0.05	106%	50%	140%	85%	50%	140%	73%	50%	140%
Benzo(k)fluoranthene	5620834		<0.05	<0.05	NA	< 0.05	95%	50%	140%	108%	50%	140%	80%	50%	140%
Benzo(a)pyrene	5620834		<0.05	<0.05	NA	< 0.05	83%	50%	140%	100%	50%	140%	75%	50%	140%
Indeno(1,2,3-cd)pyrene	5620834		<0.05	<0.05	NA	< 0.05	101%	50%	140%	95%	50%	140%	80%	50%	140%
Dibenz(a,h)anthracene	5620834		<0.05	<0.05	NA	< 0.05	97%	50%	140%	100%	50%	140%	108%	50%	140%
Benzo(g,h,i)perylene	5620834		<0.05	<0.05	NA	< 0.05	98%	50%	140%	95%	50%	140%	100%	50%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with VOC) (Soil)															
F1 (C6 to C10)	5613514		<5	<5	NA	< 5	86%	60%	140%	105%	60%	140%	102%	60%	140%
F2 (C10 to C16)	5614495		< 10	< 10	NA	< 10	115%	60%	140%	110%	60%	140%	110%	60%	140%
F3 (C16 to C34)	5614495		< 50	< 50	NA	< 50	112%	60%	140%	118%	60%	140%	120%	60%	140%
F4 (C34 to C50)	5614495		< 50	< 50	NA	< 50	72%	60%	140%	83%	60%	140%	81%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Soil)															
Dichlorodifluoromethane	5613514		<0.05	<0.05	NA	< 0.05	108%	50%	140%	102%	50%	140%	85%	50%	140%
Vinyl Chloride	5613514		<0.02	<0.02	NA	< 0.02	95%	50%	140%	103%	50%	140%	113%	50%	140%
Bromomethane	5613514		<0.05	<0.05	NA	< 0.05	97%	50%	140%	97%	50%	140%	90%	50%	140%
Trichlorofluoromethane	5613514		<0.05	<0.05	NA	< 0.05	103%	50%	140%	91%	50%	140%	110%	50%	140%
Acetone	5613514		<0.50	<0.50	NA	< 0.50	94%	50%	140%	105%	50%	140%	112%	50%	140%
1,1-Dichloroethylene	5613514		<0.05	<0.05	NA	< 0.05	100%	50%	140%	86%	60%	130%	86%	50%	140%
Methylene Chloride	5613514		<0.05	<0.05	NA	< 0.05	108%	50%	140%	96%	60%	130%	94%	50%	140%
Trans- 1,2-Dichloroethylene	5613514		<0.05	<0.05	NA	< 0.05	82%	50%	140%	90%	60%	130%	85%	50%	140%
Methyl tert-butyl Ether	5613514		<0.05	<0.05	NA	< 0.05	69%	50%	140%	97%	60%	130%	72%	50%	140%
1,1-Dichloroethane	5613514		<0.02	<0.02	NA	< 0.02	102%	50%	140%	93%	60%	130%	93%	50%	140%
Methyl Ethyl Ketone	5613514		<0.50	<0.50	NA	< 0.50	105%	50%	140%	94%	50%	140%	110%	50%	140%
Cis- 1,2-Dichloroethylene	5613514		<0.02	<0.02	NA	< 0.02	66%	50%	140%	77%	60%	130%	66%	50%	140%
Chloroform	5613514		<0.04	<0.04	NA	< 0.04	84%	50%	140%	75%	60%	130%	106%	50%	140%
1,2-Dichloroethane	5613514		<0.03	<0.03	NA	< 0.03	78%	50%	140%	67%	60%	130%	97%	50%	140%
1,1,1-Trichloroethane	5613514		<0.05	<0.05	NA	< 0.05	87%	50%	140%	60%	60%	130%	88%	50%	140%
Carbon Tetrachloride	5613514		<0.05	<0.05	NA	< 0.05	101%	50%	140%	88%	60%	130%	81%	50%	140%

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24T116256

PROJECT: GTR-00257769-H0

ATTENTION TO: Alessandro Girardo

SAMPLING SITE:5100 Erin Mills

SAMPLED BY:

Trace Organics Analysis (Continued)

RPT Date: Feb 09, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Benzene	5613514		<0.02	<0.02	NA	< 0.02	67%	50%	140%	109%	60%	130%	91%	50%	140%
1,2-Dichloropropane	5613514		<0.03	<0.03	NA	< 0.03	70%	50%	140%	102%	60%	130%	87%	50%	140%
Trichloroethylene	5613514		<0.03	<0.03	NA	< 0.03	82%	50%	140%	100%	60%	130%	98%	50%	140%
Bromodichloromethane	5613514		<0.05	<0.05	NA	< 0.05	88%	50%	140%	86%	60%	130%	93%	50%	140%
Methyl Isobutyl Ketone	5613514		<0.50	<0.50	NA	< 0.50	99%	50%	140%	95%	50%	140%	96%	50%	140%
1,1,2-Trichloroethane	5613514		<0.04	<0.04	NA	< 0.04	80%	50%	140%	90%	60%	130%	100%	50%	140%
Toluene	5613514		<0.05	<0.05	NA	< 0.05	111%	50%	140%	101%	60%	130%	105%	50%	140%
Dibromochloromethane	5613514		<0.05	<0.05	NA	< 0.05	89%	50%	140%	94%	60%	130%	93%	50%	140%
Ethylene Dibromide	5613514		<0.04	<0.04	NA	< 0.04	84%	50%	140%	102%	60%	130%	74%	50%	140%
Tetrachloroethylene	5613514		< 0.05	< 0.05	NA	< 0.05	89%	50%	140%	90%	60%	130%	93%	50%	140%
1,1,1,2-Tetrachloroethane	5613514		<0.04	<0.04	NA	< 0.04	84%	50%	140%	97%	60%	130%	103%	50%	140%
Chlorobenzene	5613514		<0.05	<0.05	NA	< 0.05	76%	50%	140%	104%	60%	130%	81%	50%	140%
Ethylbenzene	5613514		<0.05	<0.05	NA	< 0.05	83%	50%	140%	96%	60%	130%	82%	50%	140%
m & p-Xylene	5613514		<0.05	<0.05	NA	< 0.05	106%	50%	140%	108%	60%	130%	106%	50%	140%
Bromoform	5613514		<0.05	<0.05	NA	< 0.05	92%	50%	140%	90%	60%	130%	85%	50%	140%
Styrene	5613514		<0.05	<0.05	NA	< 0.05	89%	50%	140%	79%	60%	130%	85%	50%	140%
1,1,2,2-Tetrachloroethane	5613514		<0.05	<0.05	NA	< 0.05	98%	50%	140%	94%	60%	130%	90%	50%	140%
o-Xylene	5613514		<0.05	<0.05	NA	< 0.05	99%	50%	140%	91%	60%	130%	104%	50%	140%
1,3-Dichlorobenzene	5613514		<0.05	<0.05	NA	< 0.05	89%	50%	140%	97%	60%	130%	87%	50%	140%
1,4-Dichlorobenzene	5613514		<0.05	<0.05	NA	< 0.05	90%	50%	140%	74%	60%	130%	83%	50%	140%
1,2-Dichlorobenzene	5613514		<0.05	<0.05	NA	< 0.05	83%	50%	140%	75%	60%	130%	103%	50%	140%
n-Hexane	1		< 0.05	< 0.05	NA	< 0.05	93%	50%	140%	85%	60%	130%	101%	50%	140%
4-Bromofluorobenzene	5613514		77	73	5.7%	< 1	NA			NA			106%		
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)															
F1 (C6 to C10)	5613514		<5	<5	NA	< 5	86%	60%	140%	105%	60%	140%	102%	60%	140%
O. Reg. 153(511) - PCBs (Soil)															
Polychlorinated Biphenyls	5620362		< 0.1	< 0.1	NA	< 0.1	106%	50%	140%	91%	50%	140%	93%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By:

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24T116256

PROJECT: GTR-00257769-H0

ATTENTION TO: Alessandro Girardo

SAMPLING SITE:5100 Erin Mills

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Antimony	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Arsenic	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Barium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Beryllium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron (Hot Water Soluble)	MET-93-6104	modified from EPA 6010D and MSA PART 3, CH 21	ICP/OES
Cadmium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cobalt	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Copper	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Lead	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Molybdenum	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Nickel	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Selenium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Silver	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Thallium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Uranium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Vanadium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Zinc	MET 93 -6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium, Hexavalent	INOR-93-6068	modified from EPA 3060 and EPA 7196	SPECTROPHOTOMETER
Cyanide, WAD	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	SEGMENTED FLOW ANALYSIS
Mercury	MET-93-6103	modified from EPA 7471B and SM 3112 B	ICP-MS
Electrical Conductivity (2:1)	INOR-93-6075	modified from MSA PART 3, CH 14 and SM 2510 B	PC TITRATE
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES
pH, 2:1 CaCl2 Extraction	INOR-93-6075	modified from EPA 9045D, MCKEAGUE 3.11 E3137	PC TITRATE
Sulphate (2:1)	INOR-93-6004	modified from SM 4110 B	ION CHROMATOGRAPH

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24T116256

PROJECT: GTR-00257769-H0

ATTENTION TO: Alessandro Girardo

SAMPLING SITE:5100 Erin Mills

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
2-and 1-methyl Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Polychlorinated Biphenyls	ORG-91-5113	modified from EPA SW-846 3570 & 8082A	GC/ECD
Decachlorobiphenyl	ORG-91-5113	modified from EPA SW-846 3541 & 8082A	GC/ECD
F1 (C6 to C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24T116256

PROJECT: GTR-00257769-H0

ATTENTION TO: Alessandro Girardo

SAMPLING SITE:5100 Erin Mills

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Dichlorodifluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trans- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl tert-butyl Ether	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Cis- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24T116256

PROJECT: GTR-00257769-H0

ATTENTION TO: Alessandro Girardo

SAMPLING SITE:5100 Erin Mills

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
1,1,1,2-Tetrachloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene (Cis + Trans)	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5002	modified from EPA 5035A & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5002	modified from EPA 5035A & EPA 8260D	(P&T)GC/MS

AGAT Laboratories

Have feedback? Scan here for a quick survey!

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Report Information:

Company: EXP SERVICES INC
Contact:
Address: 1595 CLARK BLVD, BRAMPTON, ON L6T 4V1
Phone: 905-793-9800 Fax:
Reports to be sent to:
1. Email: alessandro.girardo@exp.com
2. Email:

Project Information:

Project: GTR-00257769-H0
Site Location: 5100 ERIN MILLS
Sampled By:
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☐ No ☐

Company: EXP SERVICES INC
Contact: ACCOUNTS PAYABLE
Address:
Email: AP@EXP.COM, KAREN.BURKE@EXP.COM

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04
Table 1 *Indicate One*
☐ Ind/Com ☒ Res/Park ☐ Agriculture
Soil Texture *(Check One)* ☒ Coarse ☐ Fine

☒ Regulation 406
Table 2.1 Res. *Indicate One*

☐ Regulation 558

☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm
Region

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
Indicate One

Is this submission for a Record of Site Condition? ☒ Yes ☐ No

Report Guideline on Certificate of Analysis ☐ Yes ☐ No

Sample Matrix Legend

GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Laboratory Use Only

Work Order #: 24T116256
Cooler Quantity: 1 large
Arrival Temperatures: 5.6 | 5.8 | 6.0
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: loose ice

Turnaround Time (TAT) Required:

Regular TAT ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*

For 'Same Day' analysis, please contact your AGAT CPM

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs	O. Reg 153: VOC	O. Reg 153: PAHs	O. Reg 153: PCBs	PCBs: Aroclors ☐	O. Reg 558A: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Regulation 406 SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Regulation 406 Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: ☐ Moisture ☐ Sulphide	✓	Potentially Hazardous or High Concentration (Y/N)
1. BH202-SS2	01/30/24	AM/PM	2	S	Limited Supply		✓				✓								
2. BH202-SS3		AM/PM	3					✓	✓	✓									
3. BH205-SS1		AM/PM	1									✓							
4. BH205-SS2		AM/PM	5		Limited Sample		✓		✓	✓	✓								
5. BH205-SS6		AM/PM					✓		✓	✓	✓								
6. BH209-SS2		AM/PM					✓		✓	✓	✓								
7. BH203-SS2		AM/PM	2		Limited Sample		✓				✓								
8. BH203-SS3		AM/PM	3						✓	✓									
9. BH210-SS2		AM/PM	3						✓	✓									
10. BH211-SS2		AM/PM	2		Limited Sample		✓				✓								
11.		AM/PM																	

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
				Jan 31	11:53
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

Page 1 of 1

N°: T-152429

Pink Copy - Client | Yellow Copy - AGAT | White Copy - AGAT

Appendix C

EXP 2020 Borehole Logs

Log of Borehole BH 3

Project No. BRM-00257769-A1 | Drawing No. 4

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: 5100 Erin Mills Parkway

Erin Mills Town Centre

Date Drilled: March 4, 2020

Drill Type: Solid Stem Auger

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)
			175.99	0
		TOPSOIL: ~ 100 mm	~175.9	
		CLAYEY SILT TILL, trace gravel, trace shale fragments, reddish brown, firm to very stiff		1
			~174.7	
		Inferred Queenston Shale Bedrock, completely weathered.		
			~174.1	
		END OF BOREHOLE		

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
Sample
Natural Unit Weight kN/m³

6
22
98/254mm

Date	Water Level (m)	Hole Open to (m)
On Completion	Dry	Open

EXPLOGBRAMPTON BOREHOLE LOGS_MAR25.GPJ NEW.GDT 3/26/20

Log of Borehole BH 4

Project No. BRM-00257769-A1 | Drawing No. 5

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: 5100 Erin Mills Parkway

Erin Mills Town Centre

Date Drilled: March 4, 2020

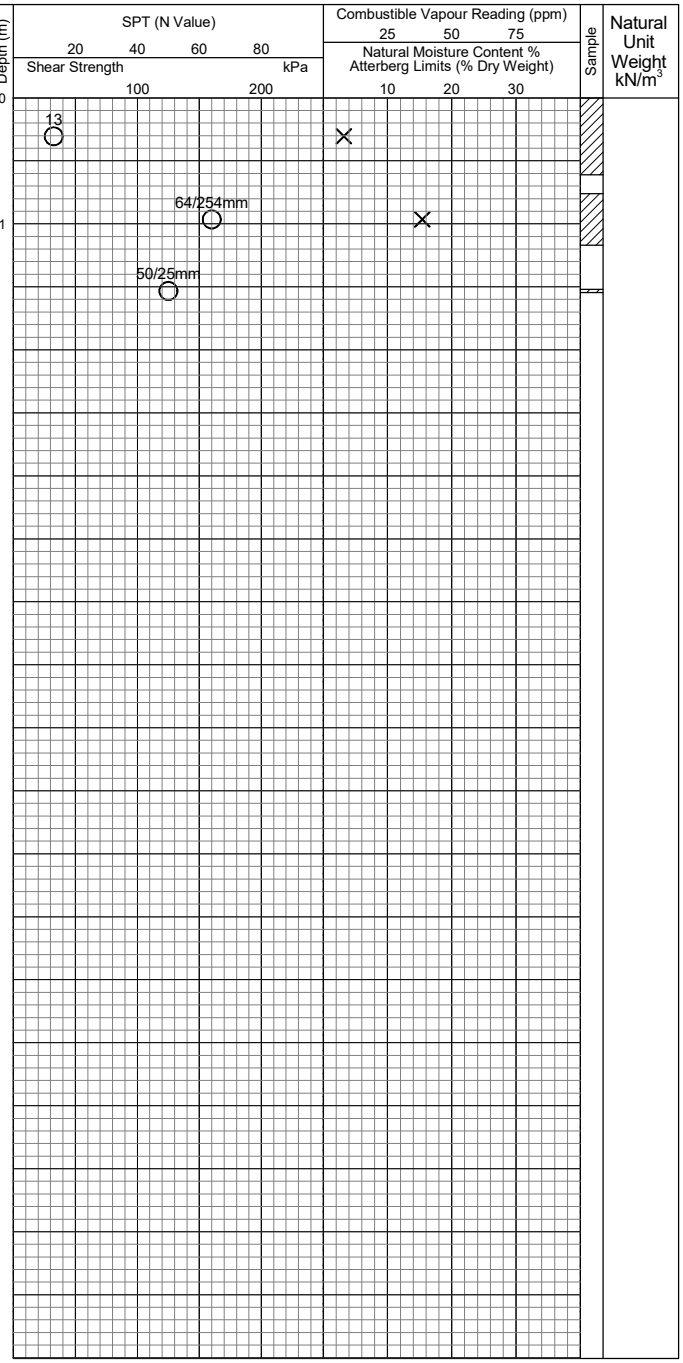
Drill Type: Solid Stem Auger

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
			176.53
		ASPHALTIC CONCRETE: ~ 120 mm	~176.4
		GRANULAR: ~ 150 mm	~176.3
		CLAYEY SILT TILL, reddish brown, moist, very stiff	~175.5
		Inferred Queenston Shale Bedrock, completely weathered.	~175.0
		END OF BOREHOLE	



Date	Water Level (m)	Hole Open to (m)
On Completion	Dry	Open

EXPLOGBRAMPTON BOREHOLE LOGS_MAR25.GPJ NEW.GDT 3/26/20

Log of Borehole BH 5

Project No. BRM-00257769-A1 Drawing No. 6

Project: Geotechnical Investigation Sheet No. 1 of 1

Location: 5100 Erin Mills Parkway

Erin Mills Town Centre

Date Drilled: March 4, 2020

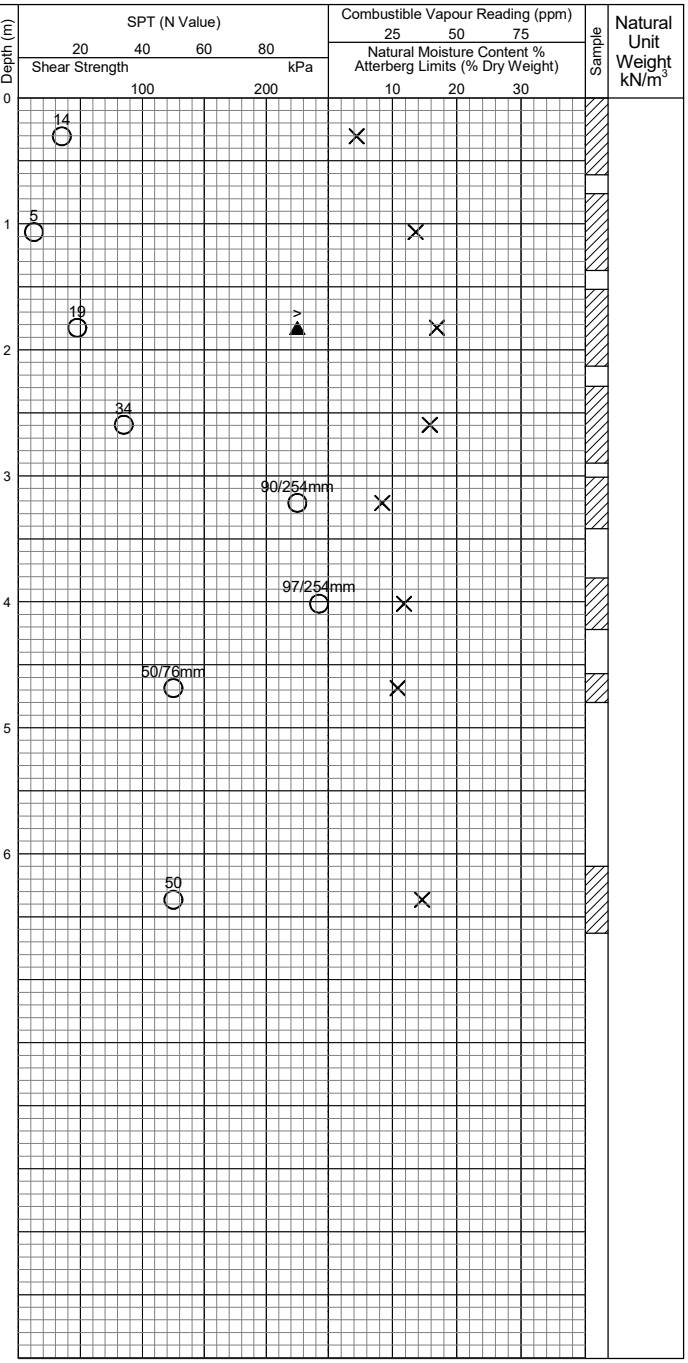
Drill Type: Solid Stem Auger

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
		175.10	
		ASPHALTIC CONCRETE: ~ 100 mm	~175.0
		GRANULAR: ~ 200 mm	~174.8
		CLAYEY SILT TILL, trace gravel, trace to some sand, moist, firm to very dense	
			~172.9
		SILT, some sand, to fine sandy silt, reddish brown, moist to wet, dense to very dense	
		- trace clay	~168.5
		END OF BOREHOLE	



Date	Water Level (m)	Hole Open to (m)
On Completion	1.2	
March 10, 2020	Dry	
March 16, 2020	Dry	
March 19, 2020	Dry	

EXPLOGBRAMPTON BOREHOLE LOGS_MAR25.GPJ NEW.GDT 3/26/20

Log of Borehole BH 20

Project No. BRM-00257769-A1 | Drawing No. 21

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: 5100 Erin Mills Parkway

Erin Mills Town Centre

Date Drilled: March 5, 2020

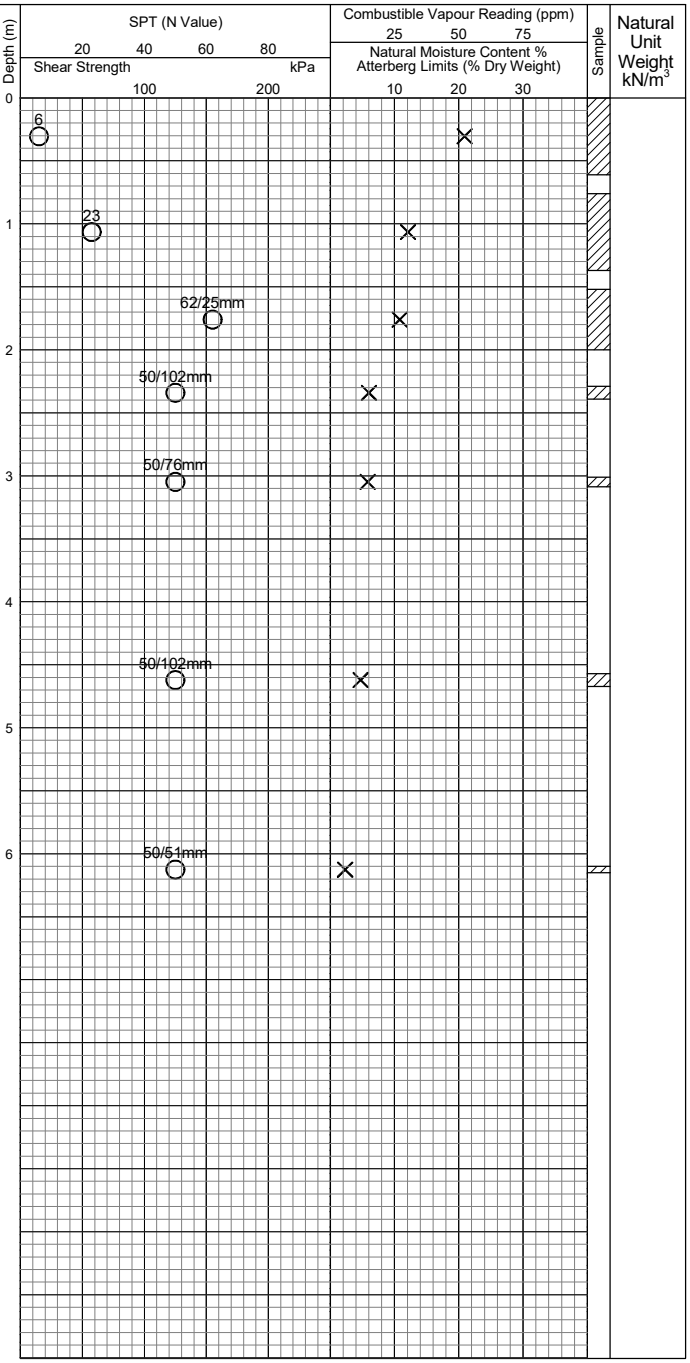
Drill Type: Solid Stem Auger

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 ▲

Soil Description	ELEV. m
	177.19
TOPSOIL: ~ 100 mm	~177.1
CLAYEY SILT TILL, trace sand, trace gravel, trace shale fragments, reddish brown, moist, very stiff to hard	
	~175.4
Inferred Queenston Shale Bedrock, completely weathered.	
	~171.0
END OF BOREHOLE	



Date	Water Level (m)	Hole Open to (m)
On Completion	Dry	5.8
March 10, 2020	Dry	
March 16, 2020	Dry	
March 19, 2020	Dry	

EXPLOGBRAMPTON BOREHOLE LOGS_MAR25.GPJ NEW.GDT 3/26/20

Log of Borehole 101

Project No. GTR-00257769-G0 | Drawing No. 2

Project: Geotechnical Investigation | Sheet No. 1 of 2

Location: 5100 Erin Mills Parkway

Date Drilled: Oct 24, 2022

Drill Type: Hollow Stem Auger

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

Soil Description	ELEV. m
	175.11
ASPHALTIC CONCRETE: ~100 mm	~175.0
GRANULAR: ~360 mm	~174.7
FILL: clayey silt, trace sand, trace gravel, containing shale fragments, reddish brown, moist, stiff.	~173.0
SANDY SILT TO SILTY SAND: trace gravel, containing shale fragments, reddish brown, moist, dense to very dense.	~169.4
becoming wet	~166.6
CLAYEY SILT TILL/SHALE COMPLEX: trace sand, trace gravel, containing shale fragments, reddish brown, moist, hard	

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

Depth (m): 0 1 2 3 4 5 6 7 8 9 10

SPT values: 12, 14, 14, 32, 90/280mm, 50/127mm, 50/127mm, 50/127mm, 50/140mm

Continued Next Page

Elapsed Time	Water Level (m)	Hole Open to (m)
Upon completion	~10.3m	
Oct 31, 2022	5.75	

EXPLOGBRAMPTON (2022)ERIN MILLS PARKWAY - BH LOGS.GPJ NEW.GDT 11/4/22

Log of Borehole 101

Project No. GTR-00257769-G0 Drawing No. 2

Project: Geotechnical Investigation Sheet No. 2 of 2

Groundwater	Soil/Rock Symbol	Soil Description	ELEV. m	Depth (m)	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
			165.11	10				
			~164.4					
		SHALE BEDROCK: Queenston Formation, redish brown.		11	50/100mm	×		
				12	50/51mm			
			~162.4					
		END OF BOREHOLE						

Elapsed Time	Water Level (m)	Hole Open to (m)
Upon completion Oct 31, 2022	~10.3m 5.75	

EXPLOGBRAMPTON (2022)ERIN MILLS PARKWAY - BH LOGS.GPJ NEW.GDT 11/4/22